INFORMATION SHEET

PRESIDING: Chair Mitchell, Presiding; Commissioners Brown-Bland, Gray, Clodfelter, Duffley, Hughes, McKissick
PLACE: Held Via Videoconference
DATE: Thursday, September 3, 2020
TIME: 9:00 a.m. – 12:30 p.m.
DOCKET NOS.: E-7, Sub 1214; E-7, Sub 1213; E-7, Sub 1187
COMPANY: Duke Energy Carolinas, LLC; Duke Energy Progress, LLC
DESCRIPTION: E-7, Sub 1213, In the Matter of Petition of Duke Energy Carolinas, LLC, for Approval of Prepaid Advantage Program; E-7, Sub 1214, In the Matter of Application of Duke Energy Carolinas, LLC, for Adjustment of Rates and Charges Applicable to Electric Utility Service in North Carolina; E-7, Sub 1187, In the Matter of Application of Duke Energy Carolinas, LLC, for an Accounting Order to Defer Incremental Storm Damage Expenses Incurred as a Result of Hurricane Florence and Michael and Winter Storm Diego

VOLUME NUMBER: 11

APPEARANCES
(See attached.)

WITNESSES
(See attached.)

EXHIBITS
(See attached.)
**NOTE: Oliver Exhibit 7 is admitted but due to the size of this document, please refer to its original filing on 9/30/2019 in the docket system. ktm**

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COPIES ORDERED: Downey, Culpepper, Holt, Cummings, Edmondson, Grantmyre, Dodge, Jost, Little, Luhr, Force, Townsend, Robinson, Kells, Mehta, Lee, Cress, Ross, Ledford, Smith, Schauer, Heslin, Su, Crystal and Beverly
**CONFIDENTIAL TRANSCRIPTS and EXHIBITS ORDERED**: Robinson, Heslin, Somers, Kells, Jagannathan, Mehta, Lee, Cress, Ross, Jenkins, Beverly, Ledford, Smith, Crystal, Su, Force, Townsend, Downey, Culpepper, Cummings, Dodge, Edmondson, Grantmyre, Holt, Jost, Little, Luhr, and Schauer

| | |
|---|---|
| REPORTED BY: Joann Bunze | TRANSCRIPT PAGES: 161 |
| TRANSCRIBED BY: Joann Bunze | PREFILED PAGES: 888 |
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REDACTED

PLACE: Held via Videoconference

DATE: Thursday, September 3, 2020

TIME: 9:00 A.M. - 12:30 P.M.

DOCKET NO.: E-7, Sub 1214

E-7, Sub 1213

E-7, Sub 1187

BEFORE: Chair Charlotte A. Mitchell, Presiding

Commissioner ToNola D. Brown-Bland

Commissioner Lyons Gray

Commissioner Daniel G. Clodfelter

Commissioner Kimberly W. Duffley

Commissioner Jeffrey A. Hughes

Commissioner Floyd B. McKissick, Jr.

IN THE MATTER OF:

DOCKET NO. E-7, SUB 1214

Application of Duke Energy Carolinas, LLC,

for Adjustment of Rates and Charges Applicable

to Electric Utility Service in North Carolina

Noteworthy Reporting Services, LLC

DOCKET NO. E-7, SUB 1213

Petition of Duke Energy Carolinas, LLC,

for Approval of Prepaid Advantage Program

DOCKET NO. E-7, SUB 1187

Application of Duke Energy Carolinas, LLC,

for an Accounting Order to Defer Incremental Storm Damage Expenses Incurred as a Result of Hurricanes Florence and Michael and Winter Storm Diego

VOLUME 11

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North Carolina Department of Justice

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**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1214**

| | | |
|---|---|---|
| In the Matter of: | ) | |
| | ) | **APPLICATION TO ADJUST** |
| Application of Duke Energy Carolinas, LLC | ) | **RETAIL RATES, REQUEST FOR** |
| For Adjustment of Rates and Charges Applicable | ) | **AN ACCOUNTING ORDER AND** |
| to Electric Service in North Carolina | ) | **TO CONSOLIDATE DOCKETS** |

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1214**

| | | |
|---|---|---|
| In the Matter of:<br><br>Application of Duke Energy Carolinas, LLC For Adjustment of Rates and Charges Applicable to Electric Service in North Carolina | )<br>)<br>)<br>)<br>)<br>)<br>)<br>) | **DUKE ENERGY CAROLINAS, LLC'S CORRECTIONS TO E-1 ITEM 14, E-1 ITEM 23, E-1 ITEM 33, E-1 ITEM 38, AND THE DIRECT TESTIMONY OF JANICE HAGER** |

**<u>CORRECTIONS TO E-1 ITEM 14, E-1 ITEM 23, E-1 ITEM 33, E-1 ITEM 38 AND THE DIRECT TESTIMONY OF JANICE HAGER</u>**

Duke Energy Carolinas, LLC ("DE Carolinas" or "Company") provides the following Corrections to E-1 Item 14, E-1 Item 23, E-1 Item 33, E-1 Item 38 and the Direct Testimony of Janice Hager:

1. Since the filing on September 30, 2019, the Company has determined that the Lead Lag Study required certain revisions. An updated Lead Lag Study was completed by E&Y January 2020 and the revisions are fully described in the Supplemental Testimony of Nicholas A. Speros which is also being filed in a separate filing in this docket today. As a result of the updated Lead Lag Study, the Company has revised the following files submitted in the Company's response to E-1 Item 14 as follows:

   a. Replace "DEC Summary and Lead Lag Schedules NC 1 SCP 2018 PB COS.xlsx" with DEC Summary and Lead Lag Schedules NC 1 SCP 2018 PB COS Supplemental.xlsx

   b. Replace "E&Y Duke Lead Lag Report – DEC.pdf" with "E&Y Duke Lead Lag Report – DEC 2020.pdf"

c. Replace "E&Y Duke Lead Lag Report_Summary and Revenue and Expense Lead Lag.xlsx" with E&Y Duke Lead Lag Report_Summary and Revenue and Expense Lead Lag Supp.xlsx"

2. Since the filing on September 30, 2019, the Company has determined that the attachment provided in response to E-1 Item 23, E-1 Item 33d and E-1 Item 38 contained incorrect information relating to DE Carolinas' Long-Term Debt for Years 2021, 2022 and 2023. As a result, the Company has corrected the values provided in the Excel attachment as follows:

a. Page 1, Line 14 For "Long Term Debt" change value for Year 2021 from $450 to $1,000, change value for Year 2022 from $750 to $409, change value for Year 2023 from $300 to $1,850, and change value for 2019-2023 Totals from $3,000 to $4,759

b. Page 1, Line 19 For "Total" change value for Year 2021 from $(475) to $75, change value for Year 2022 from $(362) to $(704), change value for Year 2023 from $(838) to $712, and change value for 2019-2023 Totals from $(2,039) to $(280)

3. Witness Hager's testimony has been corrected to remove the discussion of the allocation for the proposed EDIT-2 Rider from her testimony. A complete and accurate description of how the Company proposes to spread the EDIT-2 Rider amongst customer classes is included in the Supplemental Testimony of Michael J. Pirro, which is also being filed in a separate filing in this docket today. As a result, the Company has corrected Witness Hager's Direct Testimony by removing Section IV. C. 4. "Excess Deferred Income Tax Rider Rate Allocations" on page 17, lines 11-

and changing Section IV C. 5 to Section IV. C. 4 before “Conclusion on Allocation Methodology.”

**DUKE ENERGY CAROLINAS, LLC** **Item No. 14**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Prepare a complete detailed lead-lag study for the test year for total company electric. North Carolina retail, other retail jurisdictions, and FERC wholesale including all workpapers in support thereof.
Note: Nantahala Power and Light Company is not subject to this requirement.

**Corrected Response:**

As a result of the revised 2020 Lead/Lag Study filed with the Supplemental Testimony of Nicholas A. Speros, the following files have been revised:

DEC Summary and Lead Lag Schedules NC 1 SCP 2018 PB COS Supplemental.xlsx

DEC Summary and
Lead Lag Schedules

E&Y Duke Lead Lag Report – DEC 2020.pdf

E&Y Duke Lead Lag
Report - DEC 2020.p

E&Y Duke Lead Lag Report_Summary and Revenue and Expense Lead Lag Supp.xlsx

EY Duke Lead Lag
Report_Summary an

**E-1 Item 14 Supplemental**

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital for NC Retail Operations - Lead Lag Summary**
**For the Test Year Ended December 31, 2018**
**Dollars in Thousands**

| No. | Description | Actual Annual Amount [A] | Lead (Lag) Days [B] | Weighted Amount [C] |
|---|---|---|---|---|
| | **Calculation of NC Retail Amount:** | | | |
| 1 | Total Revenue Lag | | 40.09 | |
| 2 | | | | |
| 3 | Operation and Maintenance Expense | 2,559,661,028 | 30.71 | 78,598,071,979 |
| 4 | Depreciation and Amortization | 838,804,844 | 0.00 | 0 |
| 5 | Taxes Other Than Income Taxes | 194,680,961 | 168.11 | 32,727,032,211 |
| 6 | Interest on Customer Deposits | 7,129,673 | 218.40 | 1,557,120,627 |
| 7 | Income Taxes | 224,997,489 | 0.48 | 107,265,513 |
| 8 | Investment of Tax Credit | (3,525,573) | 0.00 | 0 |
| 9 | Net Operating Income | 1,082,335,768 | 24.97 | 27,025,316,831 |
| 10 | Total Requirements (Sum L3 through L9) | 4,904,084,190 | 28.55 | 140,014,807,161 |
| 11 | | | | |
| 12 | Revenue Lag Days (L1) | | 40.09 | |
| 13 | Requirements Lead Days (-L10) | | (28.55) | |
| 14 | Net Lag Days (L12 + L13) | | 11.54 | |
| 15 | Daily Requirements (Line 10, Col. A divided by 365) | | | 13,435,847 |
| 16 | | | | |
| 17 | Estimated Cash Working Capital Requirements (L14 x L15) | | | 155,063,806 |
| 18 | Add: Cash Working Capital Related to NC Sales Tax | | | 6,203,981 |
| 19 | Total Cash Working Capital Requirements (L17 + L18) | | | 161,267,787 |
| 20 | | | | |
| 21 | **Calculation of Total Company and Jurisdictional Amounts:** | | | |
| 22 | NC Retail Factor "All - Rate Base x CWC" Allocation Factor | | | 68.1442% |
| 23 | | | | |
| 24 | Total Company Cash Working Capital Requirements (L19 / L22) | | | $ 236,656,522 |

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital for NC Retail Operations - Lead Lag Summary**
**For the Test Year Ended December 31, 2018**

**APPENDIX A**
**Lead Lag Details**
**E-1 Item 14**

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2018 | NC Retail Jurisdictional Amount | Lead \ Lag Days | | Weighted Amount |
|---|---|---|---|---|---|---|---|---|
| | 1 | **OPERATING REVENUES:** | | | | | | |
| | 2 | | | | | | | |
| | 3 | CBIS & MBAS Billing System | | | | | | |
| Calc | 4 | Service Lag | | | | 15.21 | A | |
| | 5 | Billing Lag | | | | | | |
| | 6 | Total Retail Sales | | (6,617,355,082) | (4,886,228,916) | | | |
| | 7 | Cycle & Non-Cycle Read Customers | | (6,579,977,534) | (4,855,121,776) | | | |
| | 8 | Hourly Pricing (HP, HPX, HPF) | | (33,609,940) | (9,036,798) | | | |
| | 9 | Parallel Generation (PG) - NCR | | (1,425,423) | (603,536) | | | |
| | 10 | Governmental Lighting (PL) | | (37,377,549) | (31,107,140) | | | |
| 1 | 11 | Total Billing Lag | | (6,652,390,445) | (4,895,869,251) | 1.74 | A | |
| | 12 | | | | | | | |
| | 13 | Unbilled Revenue | | 32,577,374 | 27,354,997 | | | |
| | 14 | | | | | | | |
| 2 | 15 | Collection Lag | | | | 22.63 | A | |
| | 16 | | | | | | | |
| | 17 | Total Revenue Lag Elec Delivery Rate Schedule (L11 / L13) | | (6,619,813,071) | (4,868,514,254) | 39.58 | A | (192,687,679,965) |
| | 18 | | | | | | | |
| | 19 | BPM Billing System | | | | | | |
| 3 | 20 | Total Revenue Lag Sales for Resale BPM | | (612,313,814) | (61,599,694) | 35.44 | A | (2,183,093,169) |
| | 21 | | | | | | | |
| | 22 | Total Miscellaneous Rider Revenue | 0456500 - 0456570 | 45,795,105 | 38,868,996 | 0.00 | A | - |
| | 23 | | | | | | | |
| | 24 | Provisions For Rate Refunds | 0449100 | 184,514,676 | 117,321,050 | 39.58 | A | 4,643,567,162 |
| | 25 | | | | | | | |
| | 26 | Forfeited Discounts | 0450100, 0450200 | (20,000,193) | (15,256,492) | 70.00 | A | (1,067,954,434) |
| | 27 | | | | | | | |
| | 28 | Miscellaneous Revenues | 0451100, 0451200 | (12,508,218) | (9,541,484) | 76.00 | A | (725,152,776) |
| | 29 | | | | | | | |
| | 30 | Rent - Joint Use | 0454004 | (104,523) | (103,360) | 45.21 | A | (4,672,921) |
| | 31 | | | | | | | |
| | 32 | Rent from Electric Property | | | | | | |
| | 33 | Total Acct 0454.1 Extra Facilities | 0454100/0454110 | (32,846,750) | (25,058,426) | 30.13 | B | (754,946,400) |
| | 34 | | | | | | | |
| 5 | 35 | Pole & Line Attachments | 0454200 | (35,152,691) | (27,655,060) | 143.39 | A | (3,965,458,982) |
| | 36 | | | | | | | |
| 5 | 37 | 0454300 - Tower Lease Revenues | 0454300 | (11,698,937) | (6,161,063) | (93.97) | A | 578,955,117 |
| | 38 | 0454400 - Other Electric Rents | 0454400 | (4,366,722) | (2,957,123) | 45.21 | A | (133,691,545) |
| | 39 | 0454500 - Leased Facilities Fee - Catawba (NCWHL & SCWHL) | 0454500 | (661,663) | 0 | | | |
| | 40 | 0454510 - Return and Dep - Catawba Gen Plt | 0454510 | (16,633,684) | (11,264,251) | (15.21) | A | 171,329,263 |
| | 41 | 0454600 - Lease Revenue - CERT | 0454600 | 0 | 0 | | | |
| | 42 | 0454601 -Other Miscellaneous Revenue | 0454720 | 4,041 | 2,737 | 0.00 | A | - |
| | 43 | Total Acct 454 (L30 through L42) | | (101,460,929) | (73,196,547) | | | (4,108,485,468) |
| | 44 | | | | | | | |
| | 45 | Subsidiary Cost of Capital | 0455000 | 0 | 0 | 0.00 | A | - |
| | 46 | | | | | | | |
| | 47 | Other Electric Revenues | 0456100 | 1,738 | 1,196 | 0.00 | A | - |
| | 48 | | | | | | | |
| | 49 | Distribution Charge - Network | | | | | | |
| | 50 | North Carolina | 0456102 | (1,993,462) | 0 | 0.00 | A | - |
| | 51 | South Carolina | 0456102 | (1,541,297) | 0 | 0.00 | A | - |
| | 52 | Total Acct 456.102 (L50 + L51) | | (3,534,759) | 0 | | | 0 |
| | 53 | | | | | | | |
| | 54 | Metering - Network NCWHL | 0456103 | (18,384) | 0 | 0.00 | A | |
| | 55 | Metering - Network SCWHL | 0456103 | (48,823) | 0 | 0.00 | A | |
| | 56 | Comp For Serv To Other (Catawba) | 0456300 | (17,988,996) | (12,182,062) | (15.21) | A | 185,289,162 |
| | 57 | | | | | | | |

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital for NC Retail Operations - Lead Lag Summary**
**For the Test Year Ended December 31, 2018**

**APPENDIX A**
**Lead Lag Details**
**E-1 Item 14**

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2018 | NC Retail Jurisdictional Amount | Lead \ Lag Days | | Weighted Amount |
|---|---|---|---|---|---|---|---|---|
| | 58 | Other Electric Revenues | 0456610 | (5,374,341) | (3,639,478) | 36.03 | A | (131,130,393) |
| | 59 | | | | | | | |
| | 60 | Gross Up-Contr in Aid of Const | 0456630 | (1,413,537) | (1,045,394) | (15.21) | A | 15,900,436 |
| | 61 | | | | | | | |
| | 62 | Deferred Dsm Costs - NC | 0456640 | 377,472 | 377,472 | 0.00 | A | - |
| | 63 | Deferred Dsm Costs - SC | 0456650 | 0 | 0 | 0.00 | A | - |
| 8 | 64 | Other Revenue Affiliate | 0456949 | (12,890,259) | (8,729,222) | 40.21 | A | (351,001,998) |
| | 65 | Other Transmission Revenues | 0456111 | (1,915,987) | (1,915,987) | 0.00 | A | - |
| | 66 | | | | | | | |
| | 67 | Revenues from Transmission of Electricity to Others | | | | | | |
| | 68 | Other Variable Revenues-Reg | 0456001 | (566,153) | (373,000) | 40.41 | A | (15,072,930) |
| | 69 | I/C Joint Disp - Trans NW Rev | 0456016 | 228,224 | 150,361 | 40.41 | A | 6,076,092 |
| | 70 | Transmission Study Revenue | 0456050 | (1,738) | (1,145) | 40.41 | A | (46,272) |
| | 71 | Trans of Elec to Others-NCWHL | | (63,177,874) | 0 | 40.41 | A | - |
| | 72 | Trans of Elec to Others-SCWHL | | (26,446,167) | 0 | 40.41 | A | - |
| | 73 | Trans Charge PTP-Non-Firm-BPM & WO Sharing | | (4,808,507) | (4,808,507) | 40.41 | A | (194,311,776) |
| | 74 | Total Revenues from Transm of Electricity to Others (L68 through L73) | | (94,772,216) | (5,032,291) | | | (203,354,887) |
| | 75 | Total Acct 456 (L47 + L52 through L65 + L74) | | (137,578,092) | (32,165,765) | | | (484,297,679) |
| | 76 | **Utility Oper Revenues (L17 + L20 + L22 + L24 + L26 + L28 + L43 + L45 + L75)** | | (7,273,364,536) | (4,904,084,190) | 40.09 | | (196,613,096,329) |
| | 77 | | | | | | | |
| 5 | 78 | **OPERATION AND MAINTENANCE EXPENSE:** | | | | | | |
| | 79 | | | | | | | |
| | 80 | **Fuel Used in Electric Generation** | | | | | | |
| | 81 | | | | | | | |
| | 82 | Fossil | | | | | | |
| 6 | 83 | Beneficial Reuse - Coal Ash | 0501007 | 69,033,482 | 45,325,026 | 20.79 | A | 942,307,301 |
| | 84 | Contra Fuel Exp BR Ash - SC | 0501008 | (16,395,042) | 0 | | | - |
| | 85 | Contra Fuel Exp BR Ash - WS | 0501009 | (115,964) | 0 | | | - |
| | 86 | Contra Fuel Exp BR Ash - NC | 0501009 | (41,063,333) | (41,063,333) | 20.79 | A | (853,706,688) |
| 6 | 87 | Coal Consumed Fossil Steam | 0501110 | 676,787,906 | 444,355,827 | 20.79 | A | 9,238,157,634 |
| 6 | 88 | Oil Consumed - Fossil Steam | 0501310 | 8,586,389 | 5,637,530 | 10.00 | A | 56,375,299 |
| 6 | 89 | Oil Light-Off - Fossil Steam | 0501330 | 7,287,851 | 4,784,954 | 10.00 | A | 47,849,541 |
| | 90 | Emission Allowances | 0509000 | 4,202 | 2,768 | 0.00 | A | - |
| | 91 | NOx Emission Expense | 0509210 | 0 | 0 | 0.00 | A | - |
| | 92 | RECS Consumption Expense | 0509213 | 17,165,794 | 15,895,665 | 0.00 | A | - |
| | 93 | Commissions/Brokerage Expense | 0557450 | 11,250 | 7,412 | 26.80 | A | 198,638 |
| | 94 | EA & Coal Broker Fees | 0557451 | 4,883 | 3,217 | 0.00 | A | - |
| | 95 | | | | | | | |
| | 96 | Nuclear | | | | | | |
| | 97 | Burnup of Owned Fuel | 0518100 | 275,311,826 | 180,760,343 | 0.00 | A | - |
| | 98 | Canister Design Expense | 0518620 | 813,802 | 536,159 | 0.00 | A | - |
| | 99 | | | | | | | |
| | 100 | Other Production | | | | | | |
| 7 | 101 | Natural Gas | 0547100 | 98,356,933 | 64,577,804 | 38.00 | A | 2,453,956,534 |
| | 102 | Natural Gas - CC | 0547101 | 373,047,230 | 244,930,071 | 38.00 | A | 9,307,342,714 |
| | 103 | Biogas Expense | 0547106 | 3,466,205 | 3,000,967 | 38.00 | A | 114,036,742 |
| | 104 | REC Biogas Contra Expense | 0547107 | (1,879,688) | (1,879,688) | 38.00 | A | (71,428,158) |
| | 105 | IC Gas Purchases | 0547124 | 8,437,660 | 5,539,880 | 38.00 | A | 210,515,422 |
| | 106 | Oil | 0547200 | 25,830,495 | 16,959,421 | 38.00 | A | 644,457,986 |
| | 107 | **Fuel Used in Elec Gen (HFM Greenbook I/S)** | F_FUEL_USED_ELEC_GEN | **1,504,691,880** | **989,374,021** | **22.33** | | **22,090,062,965** |
| | 108 | | | | | | | |
| 8 | 109 | **Purchased Power less Retail Deferred Fuel Exp** | 0555XXX | **501,354,859** | **331,394,103** | **39.00** | A | **12,924,370,029** |
| | 110 | **Retail Deferred Fuel Exp - NCR** | 0557980 | (137,045,952) | (137,045,952) | 22.33 | C | (3,059,867,799) |
| | 111 | **Retail Deferred Fuel Exp - SCR** | 0557980 | (46,511,149) | 0 | 22.33 | C | - |
| | 112 | | | | | | | |
| | 113 | **Total Other O&M Excluding Fuel and Purchased Power** | | | | | | |
| | 114 | | | | | | | |
| | 115 | Labor | | | | | | |

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital for NC Retail Operations - Lead Lag Summary**
**For the Test Year Ended December 31, 2018**

**APPENDIX A**
**Lead Lag Details**
**E-1 Item 14**

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2018 | NC Retail Jurisdictional Amount | Lead \ Lag Days | | Weighted Amount |
|---|---|---|---|---|---|---|---|---|
| 10 | 116 | Payroll Net of Deductions | | 510,909,555 | 345,985,506 | 40.43 | A | 13,988,193,991 |
| 10 | 117 | Payroll Deductions | | 332,314,665 | 225,041,901 | 30.13 | A | 6,780,512,474 |
| | 118 | Total Labor (L116 + L117) | | 843,224,220 | 571,027,406 | 36.37 | | 20,768,706,465 |
| | 119 | | | | | | | |
| 11 | 120 | Pension and Benefits | 0926XXX | 102,239,981 | 69,020,859 | 12.21 | A | 842,744,687 |
| | 121 | | | | | | | |
| 12 | 122 | Regulatory Commission Expense | 0928000 | 11,414,339 | 8,163,068 | 89.82 | A | 733,206,788 |
| | 123 | | | | | | | |
| 17 | 124 | Property Insurance | 0924XXX | 2,399,590 | 1,624,991 | (474.55) | A | (771,139,460) |
| | 125 | | | | | | | |
| 19 | 126 | Injuries & Damages - Workman's Compensation | 0925980 | 7,787,752 | 5,273,828 | (145.50) | A | (767,341,984) |
| | 127 | | | | | | | |
| | 128 | Uncollectible Accounts | 0904000, 0904001 | 16,637,687 | 12,691,514 | 0.00 | A | - |
| | 129 | | | | | | | |
| | 130 | Remaining Other Oper & Maint Expense | | 1,045,897,110 | 708,137,188 | 36.49 | D | 25,837,330,287 |
| | 131 | | | | | | | |
| | 132 | Total O&M Excl. Fuel and Purch. Power | | 2,029,600,678 | 1,375,938,855 | 33.90 | | 46,643,506,784 |
| | 133 | | | | | | | |
| | 134 | **Total Operation and Maintenance Expense (L107 + L109 + L110 + L111 + L130)** | | **3,852,090,316** | **2,559,661,028** | **30.71** | | **78,598,071,979** |
| | 135 | | | | | | | |
| | 136 | Total Depreciation & Amortization & Property Loss | | 1,193,761,593 | 838,804,844 | 0.00 | A | - |
| 10 | 137 | | | 2,897 | 0 | | | |
| 14 | 138 | | | 0 | 0 | | | |
| 14 | 139 | | | 9,701,369 | 0 | | | |
| 14 | 140 | | | 406,487 | 275,271 | | | |
| | 141 | | | (2,924,063) | (1,926,466) | | | |
| | 142 | GENERAL TAXES | | 291,829,421 | 194,680,961 | | | |
| 18 | 143 | | | 0 | 0 | | | |
| | 144 | | | | | | | |
| | 145 | Total Interest on Customer Deposits | | 8,168,669 | 7,129,673 | 218.40 | A | 1,557,120,627 |
| | 146 | | | (79,386,624) | (53,571,666) | | | |
| | 147 | | | 10,428,517 | 7,037,370 | | | |
| | 148 | | | (122,620,892) | (82,747,007) | | | |
| | 149 | | | (782,251) | 0 | | | |
| 16 | 150 | | | 17,545,317 | 11,839,928 | | | |
| | 151 | Net Income Taxes | | 340,714,105 | 224,997,489 | 0.48 | | 107,265,513 |
| | 152 | | | (0) | 0 | | | |
| | 153 | | | | | | | |
| | 154 | Investment of Tax Credit Adj Net | 04114XX | (5,258,630) | (3,525,573) | 0.00 | A | - |
| | 155 | | | | | | | |
| | 156 | **Total Utility Operating Expenses (L132 + L134 + L141 + L143 + L150 + L152)** | | 5,681,305,473 | 3,821,748,421 | 29.56 | | 112,989,490,331 |
| | 157 | | | | | | | |
| | 158 | Interest Expense for Electric Operations | | 465,481,098 | 317,198,554 | 85.20 | E | 27,025,316,831 |
| | 159 | | | | | | | |
| | 160 | Net Utility Operating Income | | 1,592,059,063 | 1,082,335,768 | 0.00 | A | |
| | 161 | | | | | | | |
| | 162 | Total Requirements (L154 + L158) | | 7,273,364,536 | 4,904,084,190 | | | 140,014,807,161 |
| | 163 | | | | | | | |

# Duke Energy Carolinas, LLC

# Lead-Lag Study

January 2020

Building a better working world

Building a better working world

Ernst & Young LLP
100 N Tryon St
Charlotte, NC 28202

Tel: +1 704 372 6300
ey.com



January 8, 2020

Abbe Greenfield
Rate Case Planning & Execution, Duke Energy Carolinas, LLC
526 South Church Street
Charlotte, NC 28202

Mrs. Greenfield:

We have completed our procedures with respect to analyzing a detailed lead-lag study for Duke Energy Carolinas, LLC ("the Company" or "DEC") focused on retail operations in the state of North Carolina. Our procedures were performed in accordance with our Statement of Work, dated April 19, 2018. Our report consists of three parts. We summarize our scope, approach and findings in a narrative executive summary; we present our detailed findings in a schedule that provides the lag and lead days by revenue and expense component used by DEC in its cost of service filings; and we provide an appendix that provides the company's summary calculations with a reference to 19 underlying detail schedules.

The information provided in this report is intended to be used to support the Company's request for a cash working capital allowance to be included in the Company's requested rate base to be authorized by the North Carolina Utility Commission. The report is not intended to be, and should not be, used without our prior written consent by any other party or for any other purpose. Our calculations relied on underlying accounting information provided by the Company. We did not audit that underlying accounting information.

We value the opportunity to work with you and appreciate the cooperation and assistance provided. We would be pleased to discuss any aspect of our work or this report with you or other members of management at your convenience. If you have questions, please call Jake Van Reen at (617) 375-2446.

Thank you,

Jake Van Reen

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# Executive Summary

## 1.1. Organization of Report

This report is composed of three parts: Executive Summary, Detailed Findings, and Appendix.

The Executive Summary provides background on the engagement, the purpose and scope of the lead-lag study, the standards applied and the relation to previous studies, and a discussion of key findings.

The Detailed Findings are provided in a DEC Lead-Lag Summary schedule contained within E-1 Item 14. This schedule provides the lag and lead days by revenue and expense component used by the Company in its cost of service filings. The summary was agreed to the underlying supporting schedules.

## 1.2. Background

Duke Energy Company, LLC ("Duke") engaged Ernst & Young ("EY") to support the preparation of a lead-lag study for Duke's retail operations in the state of North Carolina. The study will be used to support the Company's request for a cash working capital allowance to be included in the requested rate base. This report presents the methodology and approach used in the study and the results covering the twelve-month period ending December 31, 2017, subject to known changes.

The Company last presented a lead-lag study to the North Carolina Utility Commission ("NCUC" or the "Commission") for the twelve-month period ending December 31, 2009. This report presents the lead-lag study in the same general format and applies the same methodologies where applicable. Since that time, there are assumed to have been no significant changes in the operating and regulatory environments that would materially affect the calculation of the cash working capital requirements. To confirm this assumption, EY interviewed Duke personnel and a contractor responsible for compiling the study. EY also analyzed certain of the Company's financial statements and riders to DEC's regulatory requirements for the same purpose.

Changes from report previously filed on May 22, 2019

Total Cash Working Capital Requirements decreased by $8.2M as compared to the previously filed report.

Cash Working Capital Requirements decreased due to the following adjustments:

- Payroll deductions and payroll taxes – Within payroll deductions and payroll taxes, amounts related to incentive compensation were identified. The service period related to these amounts was adjusted to correspond to the service period for incentive compensation. Adjustments to payroll deductions result in a ($10.6M) decrease, while adjustments to payroll taxes result in a ($3.7M) decrease.
- Regulatory commission expense – Regulatory commission expense related to the South Carolina PSC was included in the original study. Removing this item resulting in a ($379K) decrease.

Cash Working Capital Requirements increased due to the following adjustments:

- Pension and benefits – For account 1B410 (Undergrad Tuition Reimbursement), the payment date was adjusted for a January payment. This adjustment results in a $37K increase.
- Property insurance – Line items related to account 0924980 were not calculated correctly in the original study due to an erroneous relative cell reference, resulting in a $5.3M increase.
- Other O&M expense – Other O&M expense in the final Cost of Service decreased by $1.5M from the Cost of Service version used for the original study. Additionally, uncollectible accounts were broken out separately and a zero-day expense lead was applied consistent with NCUC practice. These two adjustments result in a net increase of $1.1M to cash working capital requirements.

## 1.3. Cash Working Capital

### 1.3.1. Purpose of lead-lag study

The lead-lag study is designed to measure the average amount of capital, over and above the investments in plant, and other separately identified rate base items, provided by investors to bridge the gap between the time expenditures are required to provide service and the time collections of revenues are received for the service. This quantity is referred to as cash working capital. Cash working capital is more comprehensive than simply financing the lag between

Company payments and receipts, as investor capital is required to finance the lag in the recovery of the entire cost of service, including depreciation and cost of capital.

### 1.3.2. Cash working capital requirement

A requirement for cash working capital represents the amount necessary to provide the utility with an opportunity to appropriately earn an authorized return on all capital invested in utility operations. Unless all capital supplied by investors has that opportunity, investors will not be fully compensated for the capital supplied and the objective of the cash working capital requirement will not be met. Consequently, the key test of the adequacy of the cash working capital requirement should be whether the inclusion of such an amount when added to net utility plant and other items includible in the rate base will produce a fair representation of the capital on which there should be an opportunity to earn a return.

### 1.3.3. Lead-lag study methodology

To the extent applicable, this study tracks the methodology used in the previous rate filings of the Company and decisions of the NCUC.

The lead-lag study measures the difference in time frames between: (1) when service is rendered and the revenue for that service is received ("revenue lag"); and (2) when the costs of providing service are incurred (including costs of fuel and purchased power, labor, materials, services, etc.) and the time for which those costs are paid ("expense lead"). The difference between these lag periods is expressed in terms of days. The calculated number of days multiplied by the average daily operating revenues or cost of service produces the cash working capital required by the Company.

To fully identify cash working capital requirements, there are additions and deductions to the amount calculated in the lead-lag study. This is done to adjust for items not accounted for in rate base. For example, we must add operational cash requirements and add or deduct any other requirements for, or sources of, cash working capital (such as prepayments, reserves, and items capitalized prior to payment). In previous rate case proceedings, these adjustments have been considered separately from the lead-lag study, so they are not considered in this report.

### 1.3.4. Results of lead-lag study for DEC retail electric operations

The following section provides a summary of the most significant revenue lags and expense leads calculated. Additional detailed identification of the calculated revenue lags and expense leads is included in the attached schedule entitled E-1 Item 14 (“the summary schedule”).

## 1.4. Revenue Lag

The revenue lag measures the time between service delivery to customers and the collection of revenue for service from customers. For the year ending December 31, 2017, approximately 99% of North Carolina retail jurisdictional revenue was received from cycle billed customers (customers billed on a periodic basis) and the large customer billing group, DEC’s Customer Billing Information System (CBIS) and Lodestar Billing Expert systems, respectively.

The revenue lag for these services is the sum of three components: (i) service lag, (ii) billing lag and (iii) collection lag.

The first component is service lag. The Company reads the meters on a monthly basis; therefore the average time between meter reads is 30.42 days (365 days in a year divided by 12 monthly meter reads). Dividing by two provides the midpoint in time, or the average time between when service is provided and the meter read, for a service lag of 15.21 days. (See summary schedule line 4.)

The second component of the total revenue lag is billing lag, the time from the meter reading to when the customer is billed and the bill is posted in the Company’s accounts receivable system. Most customers are billed the next business day after the meter is read. Taking into account weekends and holidays, the calculation of the total billing lag is 1.74 days. (See summary schedule line 11.) This amount differs from the previous study, which deemed the billing lag to be at approximately half a day, as the previous study did not account for weekends and holidays.

The third component of the total revenue lag is the collection lag, the period from the billing date to the time the customer pays their bill (i.e., the date cash payments are credited on the accounts receivable records). This component of the revenue lag is measured by dividing average daily accounts receivable (based on a thirteen-month average) by average daily sales.

Collection policies for retail operations in North Carolina are governed by NCUC rules. We calculated the collection lag to be 22.63 days. (See summary schedule line 15.)

Adding these three components together produced a total lag of 39.58 days in the collection of revenues for services provided to cycle-read and large customer billing group customers on electric delivery rate schedules. (See summary schedule line 17.)

EY did not factor in the potential impact of float. The Company experiences two float periods - the time from when funds are received from customers until the funds clear the banks, and the time between when the Company sends a check to pay for services and when those checks are deposited. In the first instance, the Company's cash requirements are increased by the float (i.e. funds are not actually available until after the deposits clear). However, in the second instance, the Company's cash requirements are reduced by the float. Given the relative levels of electronic funds transfers in the Company's payments versus in its receipts, we are confident that the float for revenue is larger than the float for expense. Accordingly, excluding float in this instance is a conservative assumption that would not harm the ratepayer.

In addition to the above, the Company records a variety of additional and miscellaneous revenues which are also applicable to the North Carolina retail jurisdiction. These include intersystem sales for resale, miscellaneous riders (unbilled fuel and deferred revenue), provisions for refunds, forfeited discounts, rental income, pole and line attachment, and revenue from the transmission of electricity to others. To calculate the overall average revenue lag, we calculated the revenue lags for each of the additional and miscellaneous revenues. The total revenue lag for DEC is 38.01 days. (See summary schedule line 80.)

### 1.5. Expense lead

There are several major categories of expense including:

- O&M Fuel
- O&M Purchased Power
- Labor and Benefits
- Other specifically identified O&M
- Other O&M sampled

- Depreciation and Amortization
- Taxes other than Income
- Interest on Customer Deposits
- Income Taxes
- Net Operating Income

Each of the above are described in more detail below.

### 1.5.1. O&M Fuel

O&M Fuel costs consist of coal, oil, and natural gas purchases. Fuel is the largest cost category, accounting for approximately 20% of the cost of service for the year ending December 31, 2017. Coal costs include two major components: coal commodity purchases and coal transportation costs. The cost of coal purchases and transportation are inventoried and, by NCUC precedent, coal fuel inventories are included in rate base. However, the cash working capital requirement must recognize the cash available to the Company stemming from the time between receipt of coal and the subsequent payment of the fuel or transportation invoice.

DEC receives thousands of coal deliveries at its coal generating stations each year. DEC employs the following coal payment terms: (i) contract deliveries made between the 1st and 15th of the current month are paid by the 30th of the current month or contract deliveries made between the 16th and 31st of the current month are paid by the 15th of the following month (22.5 days); (ii) contract deliveries made between the 1st and 15th of the current month are paid by the 15th of the following month or contract deliveries made between the 16th and 31st of the current month are paid by the 30th of the following month (37.5 days); (iii) contract deliveries made between the 1st and 31st of the current month are paid by the 30th of the following month (45 days); (iv) contract deliveries made between the 1st and 15th of the current month are paid by the 25th of the current month or contract deliveries made between the 16th and 31st of the current month are paid by the 10th of the following month (17.5 days); (v) contract deliveries made between the 1st and 31st of the current month are paid by the 20th of the following month (35 days); and (vi) contract deliveries paid 10 days after ship date (10 days). Vendor contracts require DEC payments to be received by the vendor by the noted due date.

DEC employs the following vendor coal transportation contract terms: (i) coal freight payments 15 days after the ship date (15 days); (ii) coal freight received between the 1st and 15th of the current month are paid by the 30th of the current month or coal freight received between the 16th and 31st of the current month are paid by the 15th of the following month (22.5 days). The weighted average coal and coal freight expense lead is 20.79 days. (See summary schedule line 93.)

Nuclear fees have a calculated expense lead of (34.15) days. (See summary schedule line 119.)

Small amounts of oil and natural gas are also used as a fuel for generation. Unlike coal or oil, natural gas is not stored and inventoried, rather it is purchased as it is used to generate electricity. Therefore, the expense lag for natural gas is computed conventionally as the difference between the service period and the date of payment. Since Duke is not storing natural gas to be used for generation, the service period is considered to be the mid-point of the billing period from the gas supplier, and the payment date is simply the date of payment. We calculated the natural gas invoices and their computed expense leads as 38.00 days. (See summary schedule line 107.)

### 1.5.2. O&M Purchased Power

DEC provided listings of all transactions for each of the purchased power accounts for our analysis. We weighted the individual invoices by dollar amount, resulting in an overall expense lead of 39.00 days. (See summary schedule line 115.)

### 1.5.3. O&M Labor and Benefits

Labor and benefits comprised approximately 12% of the cost of service for the year ending December 31, 2017. Labor costs fall into three categories: net payroll, deductions from payroll, and taxes. In turn, the Company's payroll consists of two primary categories, semi-monthly payroll and bi-weekly payroll, with lesser amounts of incentive pay. We identified each pay period and the payment dates corresponding to that pay period. Similarly, for payroll related deductions we identified when the payments were made for each deduction type corresponding to each pay period, including identifying the deductions related to incentive compensation. We performed similar analyses on taxes, looking at pay periods the taxes applied to and when the tax payments were made, including identifying the taxes related to incentive compensation.

### 1.5.4. Other Specifically Identified O&M

Other specifically identified O&M categories include the following accounts:

- Uncollectible accounts
- Regulatory expenses
- Insurance expenses
- Injuries and damages – workers compensation

Uncollectible accounts expenses result from the timing of the write-off of customer accounts receivable as uncollectible. By NCUC practice, these expenses are valued at zero days expense lead. (See summary schedule line 134.)

We calculated expense lead days for regulatory expenses, insurance expenses and injuries and damages expenses by analyzing service periods, payment amounts and payment patterns. Insurance expenses and injuries and damages are payments for insurance policies. By their nature, insurance policies are paid prior to the service period for coverage; both have negative expense leads. (See summary schedule lines 130 and 132.)

### 1.5.5. Other O&M Sampled

To determine the expense lead for other O&M not specifically analyzed (summary schedule line 136), the Company provided EY with a listing of cash disbursements for the twelve-month period ending December 31, 2017. We removed records for capital costs, non-electric O&M costs, and any costs already analyzed, resulting in a sample population consisting of $757,657,609 and 38,262 rolled vouchers (Note: there were over 510,000 records, but multiple disbursements were made on the same voucher; since the voucher was the unit sampled, the records were rolled up to the voucher level). From that population, a stratified random sample in nine strata, based on the invoice dollar amount, was selected (274 total selections) for sample testing. For each item sampled, the supporting documentation was obtained and analyzed. For purposes of the analysis, service period information was either provided by Duke based on the supporting documentation or, in instances where the service period was not available, the invoice date was provided. The paid dates utilized in the analysis were taken from the Company's payables ledger.

The estimated weighted average expense lead calculated from the sample was 39.98 days, plus or minus 5.85 days with 90% confidence. This contrasts to the 25.72 days calculated for the other O&M sample from the previous lead-lag study. When asked about the increase in days, the client informed us that Duke has 45-day payment terms, and has been following these more closely than previously. EY used statisticians to sample the Other O&M population.

In addition, approximately 2% of the other O&M were employee expenses. These were included in our sample, and for large dollar amounts the service period and payment date were provided. For the remainder, we calculated the average lead lag days based on the credit card payment dates; this made up 63% of the sample. All credit cards have the same cut off dates for service periods and the same payment dates. As a result, these were not sampled. Rather the expense lead was calculated as the average time from the midpoint of the service period to the payment date.

### 1.5.6. Depreciation and Amortization

Expenses for depreciation and amortization are the result of prior cash transactions that are not initially charged to expense. A zero lag is applied because the expense is deducted from rate base when the expense is recorded. By way of example, investors supply cash for capital investments such as plant assets. A cash transaction occurs when a plant asset is acquired. The plant asset is included in rate base and the cash investment earns a return until depreciation expense is recorded. When depreciation expense is recorded, the amount of the expense is removed from rate base and the expense becomes recoverable in cost of service. However, the cash is not recovered until revenues are collected (e.g., after the revenue lag). Thus, depreciation expense is included in the lead-lag study with a zero-expense lead to provide a return for the period from when the depreciation expense is booked and removed from rate base until it is recovered from revenues. (See summary schedule line 142.)

### 1.5.7. Taxes Other than Income

Expense leads for taxes other than income taxes consider the timing between when the taxes are assessed, and the related service period. Some taxes are assessed and paid prior to the start of the service period and others are paid after a significant portion of the service period has occurred. Overall the average expense lead on taxes other than income for the period ending December 31, 2017 was 171.93 days. (See summary schedule line 149.) Per the 2009 lead-lag study, the average expense lead on taxes other than income was 83.21. The increase in the number of lead lag days is the result of tax reform occurring in 2014, which significantly reduced the franchise tax (historically paid soon after each billing cycle). This had previously offset the impact of property taxes, which are paid nearly a year after the service period begins. Additionally, there was a considerable increase in the level of property taxes between 2009 and 2017.

### 1.5.8. Interest on Customer Deposits

Interest is credited to customers who are required to maintain deposits, and the interest is paid either when the deposit is returned or at periodic intervals. The expense lead on customer deposits is 218.40 days. (See summary schedule line 151.)

### 1.5.9. Income Taxes

Income taxes has two major components, current and deferred income taxes. In turn, current income taxes include taxes for the current year and taxes for prior periods. The expense lead for current income taxes for the current year is the result of the statutory payment dates. Similar to the rationale for depreciation expense, the deferred tax expense lead is zero days because net deferred tax liabilities are deducted from rate base when the expense is recorded. The expense lead on Net Income Taxes is 16.76 days. (See summary schedule line 158.)

### 1.5.10. Net Operating Income

Net operating income is the return on invested capital, just as depreciation expense is a return on invested capital. Like depreciation expense, a zero lag was assigned to net operating income in recognition of the fact that the return is earned when the service is provided. Because the return is earned when the service is provided, it would be inappropriate to consider subsequent below the line treatment of net operating income. Therefore we did not further analyze the subsequent use of net operating income for interest, dividends or reinvestment.

### 1.5.11. Cash Working Capital Impacts of Pass Through Items

As noted, to fully identify the cash working capital requirements, to the amount calculated in the lead lag study we must add operational cash requirements and add or deduct any other requirements for or sources of cash working capital. One item the Company has not included elsewhere and is therefore considered here is pass through taxes. Pass through taxes are similar to taxes other than income except the payment is due from customers not the company. The primary pass through tax is the North Carolina utility sales tax. The Company collects these pass-through taxes from customers in their bills and pays the tax to the State. The tax is not a Company expense because the Company is merely a conduit of the payments from customers to the state. But, to the extent the Company pays the tax before the funds are received from customers, investors in the Company need to provide the cash to finance the time between payment and recovery. The impact on total DEC cash working capital requirements due to the NC sales pass through tax is $6,694,345. (See summary schedule line 169.)

## Conclusion

We have calculated the revenue lag days and expense lead days documented in the schedule described above. We have also tested the reasonableness of the results based on both a logical review of the revenue and expense items using business operating parameters, and on a comparison to historical results. Based on our analyses, we conclude that these revenue lag days and expense lead days are reasonable and calculated properly.

## Detailed Findings

The revenue lag and expense lead calculations developed in this study are overall quite similar when compared to the 2009 calculations, indicating there have been no significant changes in the operating and regulatory environments that would materially affect the overall calculation of the cash working capital requirements. The calculated overall revenue lag is 38.01 days versus 38.62 days in the prior study, reflecting a stable revenue lag.

On the expense side there appears to be some variability in the calculated expense leads among individual expense line items. However, the overall expense lead of 22.21 days is fairly consistent with the 19.48 days in the prior study.

Among individual expense items, the expense lead for Taxes Other than Income was considerably different. The current study calculated this lead at 171.93 days, versus 83.21

days previously. This is driven by the 2014 tax reform, which significantly reduced the amount of franchise tax paid. This tax, which was historically paid soon after each billing cycle, had previously offset the long lead of property taxes. Since this account has decreased by over $100 million from the 2009 study, there are limited transactions to offset the long lead of property taxes.

As previously noted, the expense lead for other O&M not separately analyzed increased to 39.98 days, due to stricter adherence to DEC's 45-day payment terms.

The cash working capital requirement is currently calculated at $215.5 million. When factoring in NC Sales Tax, this amount increases to $222.2 million, representing an approximately $17.2 million increase from the previous study. This appears to be predominantly driven by a higher daily requirement, representing normal growth and inflation from the time of the previous study. Items like Other Income Taxes had a minimizing effect by expanding the Requirement Lead Days, but normal growth and inflation still requires a larger Cash Working Capital Requirement.

# Appendix



Duke Energy Carolinas, LLC
Cash Working Capital Requirements for NC Retail Operations
Revenue and Expense Lead-Lag Summary
For the Test Year Ended December 31, 2017

| Line No. | | NC Retail Jurisdictional Amount | Lead \Lag Days | Weighted Amount |
|---|---|---|---|---|
| 1 | Total Revenue Lag | (4,979,947,688) | 38.01 | (189,265,107,983) |
| 2 | Operation and Maintenance Expense | 2,552,765,002 | 27.46 | 70,093,254,867 |
| 3 | Depreciation and Amortization | 781,791,508 | 0.00 | 0 |
| 4 | Taxes Other Than Income Taxes | 185,453,667 | 171.93 | 31,884,878,468 |
| 5 | Interest on Customer Deposits | 7,471,530 | 218.40 | 1,631,782,152 |
| 6 | Income Taxes | 418,227,583 | 16.76 | 7,010,730,021 |
| 7 | Investment of Tax Credit | (3,551,995) | 0.00 | 0 |
| 8 | Net Operating Income | 1,037,790,393 | 0.00 | 0 |
| 10 | Total Requirements | 4,979,947,688 | 22.21 | 110,620,645,508 |
| 11 | Revenue Lag Days | | 38.01 | |
| 12 | Requirement Lead Days | | 22.21 | |
| 13 | Net Lag Days | | 15.79 | |
| 14 | Daily Requirements | | | 13,643,692 |
| 15 | Cash Working Capital Requirements | | | 215,464,281 |
| 16 | Working Capital Related to NC Sales Tax | | | 6,694,345 |
| 17 | Total Cash Working Capital Requirements | | | 222,158,626 |

| DE CAROLINAS, LLC | | Duke Energy Carolinas, LLC | | | | | |
|---|---|---|---|---|---|---|---|
| INCOME STATEMENT | | Cash Working Capital Requirements for NC Retail Operations | | | | | |
| | | Revenue and Expense Lead-Lag Summary | | | | | |
| | | For the Test Year Ended December 31, 2017 | | | | | |
| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
| | 1 | OPERATING REVENUES: | | | | | |
| | 2 | | | | | | |
| | 3 | CBIS & MBAS Billing System | | | | | |
| Calc | 4 | Service Lag | | | | 15.21 | |
| | 5 | Billing Lag | | | | | |
| | 6 | Total Retail Sales | | (6,190,731,044) | | | |
| | 7 | Cycle & Non-Cycle Read Customers | | (6,153,742,033) | | | |
| | 8 | Hourly Pricing (HP, HPX, HPF) | | (17,239,443) | | | |
| | 9 | Parallel Generation (PG) | | (1,481,690) | | | |
| | 10 | Governmental Lighting (PL) | | (36,989,011) | | | |
| 1 | 11 | Total Billing Lag | | (6,209,452,177) | (4,601,261,829) | 1.74 | |
| | 12 | | | | | | |
| | 13 | Unbilled Revenue | 0440.99, 0442.19, 0442.29, 0444.99 | (20,628,546) | (14,921,709) | | |
| | 14 | | | | | | |
| 2 | 15 | Collection Lag | | | | 22.63 | |
| | 16 | | | | | | |
| | 17 | Total Revenue Lag Elec Delivery Rate Schedule (Ln 11 + 17) | | (6,230,080,723) | (4,616,183,538) | 39.58 | (182,700,850,795) |
| | 18 | | | | | | |
| | 19 | BPM Billing System | | | | | |
| 3 | 20 | Total Revenue Lag Sales for Resale BPM | | (555,060,872) | (36,446,619) | 35.44 | (1,291,668,177) |
| | 21 | | | | | | |
| | 22 | Total Miscellaneous Rider Revenue | 0456500 - 0456570 | (287,755,803) | (216,904,840) | 0.00 | - |
| | 23 | | | | | | |
| | 24 | Provisions For Rate Refunds | 0449100 | 13,034,471 | 13,034,471 | 39.58 | 515,882,638 |
| | 25 | | | | | | |
| | 26 | Forfeited Discounts | 0450100, 0450200 | (18,368,585) | (14,012,496) | 70.00 | (980,874,720) |
| | 27 | | | | | | |
| | 28 | Miscellaneous Revenues | 0451100, 0451200 | (10,801,723) | (8,240,106) | 76.00 | (626,248,056) |
| | 29 | | | | | | |
| | 30 | Rent - Joint Use | 0454004 | (133,305) | (97,798) | 45.21 | (4,421,448) |
| | 31 | | | | | | |
| | 32 | Rent from Electric Property | | | | | |
| | 33 | Extra Facilities - Depreciation | 0454100 | (7,930,359) | (6,150,488) | 0.00 | - |
| | 34 | Extra Facilities - Other | 0454100 | (23,215,514) | (18,005,078) | 39.58 | (712,610,979) |
| | 35 | Interconnection Cogeneration | 0454110 | (2,064,812) | (1,601,391) | 39.58 | (63,380,387) |
| | 36 | Total Acct 0454.1 (Ln 33 through Ln 35) | | (33,210,686) | (25,756,957) | | (775,991,366) |
| | 37 | | | | | | |
| 4 | 38 | Pole & Line Attachments | 0454200 | (33,120,695) | (25,735,528) | 143.39 | (3,690,217,290) |
| | 39 | | | | | | |
| 4 | 40 | 0454300 - Tower Lease Revenues | 0454300 | (13,042,761) | (6,826,747) | (93.97) | 641,499,431 |
| 4 | 41 | 0454400 - Other Electric Rents | 0454400 | (4,180,486) | (2,861,893) | 45.21 | (129,386,183) |
| | 42 | 0454500 - Leased Facilities Fee - Catawba (NCWHL) | 0454500 | (564,717) | 0 | | |
| | 43 | 0454500 - Leased Facilities Fee - Catawba (SCWHL) | 0454500 | (112,069) | 0 | | |
| | 44 | 0454510 - Return and Dep - Catawba Gen Plt | 0454510 | (14,020,857) | (9,598,451) | (15.21) | 145,992,432 |
| | 45 | 0454600 - Lease Revenue - CERT | 0454600 | 0 | 0 | | |
| | 46 | 0454601 -Other Miscellaneous Revenue - Timber Sales | 0454720 | (32,619) | (22,330) | 0.00 | - |
| | 47 | Total Acct 454 (L30 + L36 through L46) | | (98,418,195) | (70,899,703) | | (3,812,524,422) |
| | 48 | | | | | | |
| | 49 | Subsidiary Cost of Capital | 0455000 | 0 | 0 | 0.00 | - |
| | 50 | | | | | | |
| | 51 | Other Electric Revenues | 0456100 | (2,779) | (1,904) | 0.00 | - |
| | 52 | | | | | | |

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| | 53 | Distribution Charge - Network | | | | | |
| | 54 | North Carolina | 0456102 | (2,583,893) | 0 | 0.00 | - |
| | 55 | South Carolina | 0456102 | (1,547,711) | 0 | 0.00 | - |
| | 56 | Total Acct 456.102 (L54 + L55) | | (4,131,604) | 0 | | - |
| | 57 | | | | | | |
| | 58 | Metering - Network NCWHL | 0456103 | (18,340) | 0 | 0.00 | |
| | 59 | Metering - Network SCWHL | 0456103 | (48,823) | 0 | 0.00 | |
| | 60 | Comp For Serv To Other (Catawba) | 0456300 | (18,226,583) | (12,477,622) | (15.21) | 189,784,631 |
| | 61 | | | | | | |
| | 62 | Other Electric Revenues | 0456610 | (1,601,984) | (1,096,692) | 36.03 | (39,513,813) |
| | 63 | | | | | | |
| | 64 | Gross Up-Contr in Aid of Const | 0456630 | (1,540,650) | (1,137,770) | (15.21) | 17,305,482 |
| | 65 | | | | | | |
| | 66 | Deferred Dsm Costs - NC | 0456640 | (170,147) | (170,147) | 0.00 | - |
| | 67 | Deferred Dsm Costs - SC | 0456650 | 0 | 0 | 0.00 | - |
| | 68 | Other Revenue Affiliate | 0456949 | (13,703,408) | (9,381,130) | 40.21 | (377,215,253) |
| | 69 | Other Transmission Revenues | 0456111 | (2,090,331) | (2,090,331) | 0.00 | - |
| | 70 | | | | | | |
| | 71 | Revenues from Transmission of Electricity to Others | | | | | |
| | 72 | Other Variable Revenues-Reg | 0456001 | (153,765) | (101,448) | 40.41 | (4,099,514) |
| | 73 | I/C Joint Disp - Trans NW Rev | 0456016 | (55,075) | (36,336) | 40.41 | (1,468,338) |
| | 74 | Transmission Study Revenue | 0456050 | (11,401) | (7,522) | 40.41 | (303,964) |
| | 75 | Trans of Elec to Others-NCWHL | | (56,918,760) | 0 | 40.41 | - |
| | 76 | Trans of Elec to Others-SCWHL | | (25,311,998) | 0 | 40.41 | - |
| | 77 | Trans Charge PTP-Non-Firm-BPM & WO Sharing | | (3,793,954) | (3,793,954) | 40.41 | (153,313,681) |
| | 78 | Total Revenues from Transm of Electricity to Others (L72 through L77) | | (86,244,953) | (3,939,260) | | (159,185,497) |
| | 79 | Total Acct 456 (L51 + L56 + L58 through L69 + L78) | | (127,779,602) | (30,294,857) | | (368,824,450) |
| | 80 | Utility Oper Revenues (L17 + L20+ L22 +L24 + L26 + L47 +L49 + L79) | | (7,315,231,033) | (4,979,947,688) | 38.01 | (189,265,107,983) |
| | 81 | ELECTRIC OPERATING REVENUE | | (7,315,231,033) | (4,979,947,688) | | |
| | 84 | | | | | | |
| | 85 | OPERATION AND MAINTENANCE EXPENSE: | | | | | |
| | 86 | | | | | | |
| | 87 | Fuel Used in Electric Generation | | | | | |
| | 88 | | | | | | |
| | 89 | Fossil | | | | | |
| 5 | 90 | Beneficial Reuse - Coal Ash | 0501007 | 120,481,185 | 79,423,035 | 20.79 | 1,651,204,908 |
| | 91 | Contra Fuel Exp BR Ash - SC | 0501008 | (28,538,740) | - | | - |
| | 92 | Contra Fuel Exp BR Ash - WS | 0501009 | 0 | - | | - |
| 5 | 93 | Coal Consumed Fossil Steam | 0501110 | 747,365,798 | 492,674,936 | 20.79 | 10,242,711,930 |
| 5 | 94 | Oil Consumed - Fossil Steam | 0501310 | 5,771,526 | 3,804,678 | 10.00 | 38,046,780 |
| 5 | 95 | Oil Light-Off - Fossil Steam | 0501330 | 7,542,632 | 4,972,218 | 10.00 | 49,722,180 |
| | 96 | Emission Allowances | 0509000 | 5,450 | 3,596 | 0.00 | - |
| | 97 | NOx Emission Expense | 0509210 | (30) | (20) | 0.00 | - |
| | 98 | RECS Consumption Expense | 0509213 | 13,635,107 | 12,630,118 | 0.00 | - |
| | 99 | Commissions/Brokerage Expense | 0557450 | 21,600 | 14,251 | 26.80 | 381,880 |
| | 100 | EA & Coal Broker Fees | 0557451 | 4,625 | 3,051 | 0.00 | - |
| | 101 | | | | | | |
| | 102 | Nuclear | | | | | |
| | 103 | Burnup of Owned Fuel | 0518100 | 307,787,905 | 202,898,483 | 0.00 | - |
| | 104 | Canister Design Expense | 0518620 | 338,622 | 223,409 | 0.00 | - |
| | 105 | | | | | | |

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| | 106 | Other Production | | | | | |
| 6 | 107 | Natural Gas | 0547100 | 23,821,600 | 15,703,562 | 38.00 | 596,735,356 |
| | 108 | Natural Gas - CC | 0547101 | 259,880,254 | 171,317,028 | 38.00 | 6,510,047,064 |
| | 109 | Biogas Expense | 0547106 | 996,324 | 656,792 | 38.00 | 24,958,096 |
| | 110 | REC Biogas Contra Expense | 0547107 | (404,508) | (266,658) | 38.00 | (10,133,004) |
| | 111 | IC Gas Purchases | 0547124 | 11,387,785 | 7,507,002 | 38.00 | 285,266,076 |
| | 112 | Oil | 0547200 | 3,711,900 | 2,446,941 | 38.00 | 92,983,758 |
| | 113 | Fuel Used in Elec Gen (HFM Greenbook I/S) | F_FUEL_USED_ELEC_GEN | 1,473,809,036 | 994,012,423 | 19.60 | 19,481,925,024 |
| | 114 | | | | | | |
| 7 | 115 | Purchased Power | 0555XXX | 348,770,283 | 231,120,265 | 39.00 | 9,013,690,335 |
| | 116 | | | | | | |
| | 117 | Total Other O&M Excluding Fuel and Purchased Power | | | | | |
| | 118 | | | | | | |
| 8 | 119 | Nuclear Fees in Acct 524 | 0524000 | 51,817,979 | 34,187,378 | (34.15) | (1,167,498,959) |
| | 120 | | | | | | |
| | 121 | Labor | | | | | |
| 9 | 122 | Payroll Net of Deductions | | 427,972,177 | 292,982,787 | 40.43 | 11,845,294,078 |
| 9 | 123 | Payroll Deductions | | 278,369,096 | 190,566,952 | 30.13 | 5,741,782,264 |
| | 124 | Total Labor (Ln 149+150) | | 706,341,273 | 483,549,739 | 36.37 | 17,587,076,342 |
| | 125 | | | | | | |
| 10 | 126 | Pension and Benefits | 0926XXX | 130,547,562 | 89,254,582 | 12.21 | 1,089,798,446 |
| | 127 | | | | | | |
| 11 | 128 | Regulatory Commission Expense | 0928000 | 11,375,477 | 7,901,083 | 89.82 | 709,705,428 |
| | 129 | | | | | | |
| 15 | 130 | Property Insurance | 0924XXX | 10,862,755 | 7,383,136 | (474.55) | (3,503,667,189) |
| | 131 | | | | | | |
| 17 | 132 | Injuries & Damages - Workman's Compensation | 0925980 | 7,400,514 | 5,171,934 | (145.50) | (752,516,397) |
| | 133 | | | | | | |
| | 134 | Uncollectible Accounts | 0904000, 0904001 | 11,758,924 | 8,970,309 | 0.00 | - |
| | 135 | | | | | | |
| | 136 | Remaining Other Oper & Maint Expense | | 990,120,126 | 691,214,153 | 39.98 | 27,634,741,837 |
| | 137 | | | | | | |
| | 138 | Total O&M Excl. Fuel and Purch. Power | | 1,920,224,610 | 1,327,632,314 | 31.33 | 41,597,639,509 |
| | 139 | | | | | | |
| | 140 | Total Operation and Maintenance Expense (L113 + L115 + L136) | | 3,742,803,929 | 2,552,765,002 | 27.46 | 70,093,254,867 |
| | 141 | | | | | | |
| | 142 | Total Depreciation & Amortization & Property Loss | | 1,134,170,294 | 781,791,508 | 0.00 | - |
| | 143 | | | | | | |

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| | 144 | Taxes Other Than Income Taxes | | | | | |
| 9 | 145 | Payroll Taxes | | 46,582,702 | 31,853,838 | 51.17 | 1,629,960,890 |
| 13 | 146 | North Carolina Property Tax | | 106,165,393 | 78,521,714 | 186.50 | 14,644,299,661 |
| 13 | 147 | South Carolina Property Tax | | 132,014,761 | 79,966,798 | 196.50 | 15,713,475,807 |
| 13 | 148 | Other Non-Income Taxes | | (7,441,533) | (4,888,683) | 21.04 | (102,857,890) |
| | 149 | Taxes Other Than Income Taxes | | 277,321,324 | 185,453,667 | 171.93 | 31,884,878,468 |
| | 150 | | | | | | |
| 16 | 151 | Total Interest on Customer Deposits | | 8,499,601 | 7,471,530 | 218.40 | 1,631,782,152 |
| | 152 | | | | | | |
| | 153 | Net Income Taxes | | | | | |
| 14 | 154 | Federal Income Tax | | 212,429,582 | 143,446,030 | 44.75 | 6,419,209,843 |
| 14 | 155 | State Income Tax | | 19,575,054 | 13,218,328 | 44.75 | 591,520,178 |
| | 156 | Federal Income Tax - Deferred | | 352,901,899 | 238,872,663 | 0.00 | - |
| | 157 | State Income Tax - Deferred | | 33,602,511 | 22,690,562 | 0.00 | - |
| | 158 | Net Income Taxes | | 618,509,046 | 418,227,583 | 16.76 | 7,010,730,021 |
| | 159 | | | | | | |
| | 160 | Investment of Tax Credit Adj Net | 04114XX | (5,298,340) | (3,551,995) | 0.00 | - |
| | 161 | | | | | | |
| | 162 | Total Utility Operating Expenses (L138 + L140 + L147 + L149 + L151 + L153) | | 5,776,005,854 | 3,942,157,295 | 28.06 | 110,620,645,508 |
| | 163 | | | | | | |
| | 164 | Net Utility Operating Income | | 1,539,225,180 | 1,037,790,393 | 0.00 | - |
| | 165 | | | | | | |
| | 166 | Total Requirements (Ln 269+273) | | 7,315,231,034 | 4,979,947,688 | | 110,620,645,508 |
| | 167 | | | | | | |
| | 168 | | | | | | |
| COS 923 | 169 | Cash Working Capital Related to NC Sales Tax | | 6,694,345 | | | |

**Appendix**



**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital Requirements for NC Retail Operations**
**Revenue and Expense Lead-Lag Summary**
**For the Test Year Ended December 31, 2017**

| Line No. | | NC Retail Jurisdictional Amount | Lead \Lag Days | Weighted Amount |
|---|---|---|---|---|
| 1 | Total Revenue Lag | (4,979,947,688) | 38.01 | (189,265,107,983) |
| 2 | Operation and Maintenance Expense | 2,552,765,002 | 27.46 | 70,093,254,867 |
| 3 | Depreciation and Amortization | 781,791,508 | 0.00 | 0 |
| 4 | Taxes Other Than Income Taxes | 185,453,667 | 171.93 | 31,884,878,468 |
| 5 | Interest on Customer Deposits | 7,471,530 | 218.40 | 1,631,782,152 |
| 6 | Income Taxes | 418,227,583 | 16.76 | 7,010,730,021 |
| 7 | Investment of Tax Credit | (3,551,995) | 0.00 | 0 |
| 8 | Net Operating Income | 1,037,790,393 | 0.00 | 0 |
| 10 | **Total Requirements** | 4,979,947,688 | 22.21 | 110,620,645,508 |
| 11 | Revenue Lag Days | | 38.01 | |
| 12 | Requirement Lead Days | | 22.21 | |
| 13 | **Net Lag Days** | | 15.79 | |
| 14 | Daily Requirements | | | 13,643,692 |
| 15 | Cash Working Capital Requirements | | | 215,464,281 |
| 16 | Working Capital Related to NC Sales Tax | | | 6,694,345 |
| 17 | Total Cash Working Capital Requirements | | | 222,158,626 |

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital Requirements for NC Retail Operations**
**Revenue and Expense Lead-Lag Summary**
**For the Test Year Ended December 31, 2017**

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| | 1 | **OPERATING REVENUES:** | | | | | |
| | 2 | | | | | | |
| | 3 | CBIS & MBAS Billing System | | | | | |
| Calc | 4 | Service Lag | | | | 15.21 | |
| | 5 | Billing Lag | | | | | |
| | 6 | Total Retail Sales | | (6,190,731,044) | | | |
| | 7 | Cycle & Non-Cycle Read Customers | | (6,153,742,033) | | | |
| | 8 | Hourly Pricing (HP, HPX, HPF) | | (17,239,443) | | | |
| | 9 | Parallel Generation (PG) | | (1,481,690) | | | |
| | 10 | Governmental Lighting (PL) | | (36,989,011) | | | |
| 1 | 11 | Total Billing Lag | | (6,209,452,177) | (4,601,261,829) | 1.74 | |
| | 12 | | | | | | |
| | 13 | Unbilled Revenue | 0440.99, 0442.19, 0442.29, 0444.99 | (20,628,546) | (14,921,709) | | |
| | 14 | | | | | | |
| 2 | 15 | Collection Lag | | | | 22.63 | |
| | 16 | | | | | | |
| | 17 | Total Revenue Lag Elec Delivery Rate Schedule (Ln 11 + 17) | | (6,230,080,723) | (4,616,183,538) | 39.58 | (182,700,850,795) |
| | 18 | | | | | | |
| | 19 | BPM Billing System | | | | | |
| 3 | 20 | Total Revenue Lag Sales for Resale BPM | | (555,060,872) | (36,446,619) | 35.44 | (1,291,668,177) |
| | 21 | | | | | | |
| | 22 | Total Miscellaneous Rider Revenue | 0456500 - 0456570 | (287,755,803) | (216,904,840) | 0.00 | - |
| | 23 | | | | | | |
| | 24 | Provisions For Rate Refunds | 0449100 | 13,034,471 | 13,034,471 | 39.58 | 515,882,638 |
| | 25 | | | | | | |
| | 26 | Forfeited Discounts | 0450100, 0450200 | (18,368,585) | (14,012,496) | 70.00 | (980,874,720) |
| | 27 | | | | | | |
| | 28 | Miscellaneous Revenues | 0451100, 0451200 | (10,801,723) | (8,240,106) | 76.00 | (626,248,056) |
| | 29 | | | | | | |
| | 30 | Rent - Joint Use | 0454004 | (133,305) | (97,798) | 45.21 | (4,421,448) |
| | 31 | | | | | | |
| | 32 | Rent from Electric Property | | | | | |
| | 33 | Extra Facilities - Depreciation | 0454100 | (7,930,359) | (6,150,488) | 0.00 | - |
| | 34 | Extra Facilities - Other | 0454100 | (23,215,514) | (18,005,078) | 39.58 | (712,610,979) |
| | 35 | Interconnection Cogeneration | 0454110 | (2,064,812) | (1,601,391) | 39.58 | (63,380,387) |
| | 36 | Total Acct 0454.1 (Ln 33 through Ln 35) | | (33,210,686) | (25,756,957) | | (775,991,366) |
| | 37 | | | | | | |
| 4 | 38 | Pole & Line Attachments | 0454200 | (33,120,695) | (25,735,528) | 143.39 | (3,690,217,290) |
| | 39 | | | | | | |
| 4 | 40 | 0454300 - Tower Lease Revenues | 0454300 | (13,042,761) | (6,826,747) | (93.97) | 641,499,431 |
| 4 | 41 | 0454400 - Other Electric Rents | 0454400 | (4,180,486) | (2,861,893) | 45.21 | (129,386,183) |
| | 42 | 0454500 - Leased Facilities Fee - Catawba (NCWHL) | 0454500 | (564,717) | 0 | | |
| | 43 | 0454500 - Leased Facilities Fee - Catawba (SCWHL) | 0454500 | (112,069) | 0 | | |
| | 44 | 0454510 - Return and Dep - Catawba Gen Plt | 0454510 | (14,020,857) | (9,598,451) | (15.21) | 145,992,432 |
| | 45 | 0454600 - Lease Revenue - CERT | 0454600 | 0 | 0 | | |
| | 46 | 0454601 -Other Miscellaneous Revenue - Timber Sales | 0454720 | (32,619) | (22,330) | 0.00 | - |
| | 47 | Total Acct 454 (L30 + L36 through L46) | | (98,418,195) | (70,899,703) | | (3,812,524,422) |
| | 48 | | | | | | |
| | 49 | Subsidiary Cost of Capital | 0455000 | 0 | 0 | 0.00 | - |
| | 50 | | | | | | |
| | 51 | Other Electric Revenues | 0456100 | (2,779) | (1,904) | 0.00 | - |
| | 52 | | | | | | |
| | 53 | Distribution Charge - Network | | | | | |
| | 54 | North Carolina | 0456102 | (2,583,893) | 0 | 0.00 | - |

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| | 55 | South Carolina | 0456102 | (1,547,711) | 0 | 0.00 | - |
| | 56 | Total Acct 456.102 (L54 + L55) | | (4,131,604) | 0 | | - |
| | 57 | | | | | | |
| | 58 | Metering - Network NCWHL | 0456103 | (18,340) | 0 | 0.00 | |
| | 59 | Metering - Network SCWHL | 0456103 | (48,823) | 0 | 0.00 | |
| | 60 | Comp For Serv To Other (Catawba) | 0456300 | (18,226,583) | (12,477,622) | (15.21) | 189,784,631 |

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| | 61 | | | | | | |
| | 62 | Other Electric Revenues | 0456610 | (1,601,984) | (1,096,692) | 36.03 | (39,513,813) |
| | 63 | | | | | | |
| | 64 | Gross Up-Contr in Aid of Const | 0456630 | (1,540,650) | (1,137,770) | (15.21) | 17,305,482 |
| | 65 | | | | | | |
| | 66 | Deferred Dsm Costs - NC | 0456640 | (170,147) | (170,147) | 0.00 | - |
| | 67 | Deferred Dsm Costs - SC | 0456650 | 0 | 0 | 0.00 | - |
| | 68 | Other Revenue Affiliate | 0456949 | (13,703,408) | (9,381,130) | 40.21 | (377,215,253) |
| | 69 | Other Transmission Revenues | 0456111 | (2,090,331) | (2,090,331) | 0.00 | - |
| | 70 | | | | | | |
| | 71 | Revenues from Transmission of Electricity to Others | | | | | |
| | 72 | Other Variable Revenues-Reg | 0456001 | (153,765) | (101,448) | 40.41 | (4,099,514) |
| | 73 | I/C Joint Disp - Trans NW Rev | 0456016 | (55,075) | (36,336) | 40.41 | (1,468,338) |
| | 74 | Transmission Study Revenue | 0456050 | (11,401) | (7,522) | 40.41 | (303,964) |
| | 75 | Trans of Elec to Others-NCWHL | | (56,918,760) | 0 | 40.41 | - |
| | 76 | Trans of Elec to Others-SCWHL | | (25,311,998) | 0 | 40.41 | - |
| | 77 | Trans Charge PTP-Non-Firm-BPM & WO Sharing | | (3,793,954) | (3,793,954) | 40.41 | (153,313,681) |
| | 78 | Total Revenues from Transm of Electricity to Others (L72 through L77) | | (86,244,953) | (3,939,260) | | (159,185,497) |
| | 79 | Total Acct 456 (L51 + L56 + L58 through L69 + L78) | | (127,779,602) | (30,294,857) | | (368,824,450) |
| | 80 | **Utility Oper Revenues (L17 + L20+ L22 +L24 + L26 + L47 +L49 + L79)** | | (7,315,231,033) | (4,979,947,688) | 38.01 | (189,265,107,983) |
| | 81 | ELECTRIC OPERATING REVENUE | | (7,315,231,033) | (4,979,947,688) | | |
| | 84 | | | | | | |
| | 85 | **OPERATION AND MAINTENANCE EXPENSE:** | | | | | |
| | 86 | | | | | | |
| | 87 | **Fuel Used in Electric Generation** | | | | | |
| | 88 | | | | | | |
| | 89 | Fossil | | | | | |
| 5 | 90 | Beneficial Reuse - Coal Ash | 0501007 | 120,481,185 | 79,423,035 | 20.79 | 1,651,204,908 |
| | 91 | Contra Fuel Exp BR Ash - SC | 0501008 | (28,538,740) | - | | - |
| | 92 | Contra Fuel Exp BR Ash - WS | 0501009 | 0 | - | | - |
| 5 | 93 | Coal Consumed Fossil Steam | 0501110 | 747,365,798 | 492,674,936 | 20.79 | 10,242,711,930 |
| 5 | 94 | Oil Consumed - Fossil Steam | 0501310 | 5,771,526 | 3,804,678 | 10.00 | 38,046,780 |
| 5 | 95 | Oil Light-Off - Fossil Steam | 0501330 | 7,542,632 | 4,972,218 | 10.00 | 49,722,180 |
| | 96 | Emission Allowances | 0509000 | 5,450 | 3,596 | 0.00 | - |
| | 97 | NOx Emission Expense | 0509210 | (30) | (20) | 0.00 | - |
| | 98 | RECS Consumption Expense | 0509213 | 13,635,107 | 12,630,118 | 0.00 | - |
| | 99 | Commissions/Brokerage Expense | 0557450 | 21,600 | 14,251 | 26.80 | 381,880 |
| | 100 | EA & Coal Broker Fees | 0557451 | 4,625 | 3,051 | 0.00 | - |
| | 101 | | | | | | |
| | 102 | Nuclear | | | | | |
| | 103 | Burnup of Owned Fuel | 0518100 | 307,787,905 | 202,898,483 | 0.00 | - |
| | 104 | Canister Design Expense | 0518620 | 338,622 | 223,409 | 0.00 | - |
| | 105 | | | | | | |
| | 106 | Other Production | | | | | |
| 6 | 107 | Natural Gas | 0547100 | 23,821,600 | 15,703,562 | 38.00 | 596,735,356 |
| | 108 | Natural Gas - CC | 0547101 | 259,880,254 | 171,317,028 | 38.00 | 6,510,047,064 |
| | 109 | Biogas Expense | 0547106 | 996,324 | 656,792 | 38.00 | 24,958,096 |
| | 110 | REC Biogas Contra Expense | 0547107 | (404,508) | (266,658) | 38.00 | (10,133,004) |
| | 111 | IC Gas Purchases | 0547124 | 11,387,785 | 7,507,002 | 38.00 | 285,266,076 |
| | 112 | Oil | 0547200 | 3,711,900 | 2,446,941 | 38.00 | 92,983,758 |
| | 113 | **Fuel Used in Elec Gen (HFM Greenbook I/S)** | F_FUEL_USED_ELEC_GEN | **1,473,809,036** | **994,012,423** | **19.60** | **19,481,925,024** |
| | 114 | | | | | | |
| 7 | 115 | **Purchased Power** | 0555XXX | **348,770,283** | **231,120,265** | **39.00** | **9,013,690,335** |
| | 116 | | | | | | |
| | 117 | **Total Other O&M Excluding Fuel and Purchased Power** | | | | | |
| | 118 | | | | | | |
| 8 | 119 | Nuclear Fees in Acct 524 | 0524000 | 51,817,979 | 34,187,378 | (34.15) | (1,167,498,959) |
| | 120 | | | | | | |
| | 121 | Labor | | | | | |
| 9 | 122 | Payroll Net of Deductions | | 427,972,177 | 292,982,787 | 40.43 | 11,845,294,078 |

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| 9 | 123 | Payroll Deductions | | 278,369,096 | 190,566,952 | 30.13 | 5,741,782,264 |
| | 124 | Total Labor (Ln 149+150) | | 706,341,273 | 483,549,739 | 36.37 | 17,587,076,342 |
| | 125 | | | | | | |
| 10 | 126 | Pension and Benefits | 0926XXX | 130,547,562 | 89,254,582 | 12.21 | 1,089,798,446 |
| | 127 | | | | | | |

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| 11 | 128 | Regulatory Commission Expense | 0928000 | 11,375,477 | 7,901,083 | 89.82 | 709,705,428 |
| | 129 | | | | | | |
| 15 | 130 | Property Insurance | 0924XXX | 10,862,755 | 7,383,136 | (474.55) | (3,503,667,189) |
| | 131 | | | | | | |
| 17 | 132 | Injuries & Damages - Workman's Compensation | 0925980 | 7,400,514 | 5,171,934 | (145.50) | (752,516,397) |
| | 133 | | | | | | |
| | 134 | Uncollectible Accounts | 0904000, 0904001 | 11,758,924 | 8,970,309 | 0.00 | |
| | 135 | | | | | | |
| | 136 | Remaining Other Oper & Maint Expense | | 990,120,126 | 691,214,153 | 39.98 | 27,634,741,837 |
| | 137 | | | | | | |
| | 138 | Total O&M Excl. Fuel and Purch. Power | | 1,920,224,610 | 1,327,632,314 | 31.33 | 41,597,639,509 |
| | 139 | | | | | | |
| | 140 | **Total Operation and Maintenance Expense (L113 + L115 + L136)** | | **3,742,803,929** | **2,552,765,002** | **27.46** | **70,093,254,867** |
| | 141 | | | | | | |
| | 142 | Total Depreciation & Amortization & Property Loss | | 1,134,170,294 | 781,791,508 | 0.00 | - |
| | 143 | | | | | | |
| | 144 | Taxes Other Than Income Taxes | | | | | |
| 9 | 145 | Payroll Taxes | | 46,582,702 | 31,853,838 | 51.17 | 1,629,960,890 |
| 13 | 146 | North Carolina Property Tax | | 106,165,393 | 78,521,714 | 186.50 | 14,644,299,661 |
| 13 | 147 | South Carolina Property Tax | | 132,014,761 | 79,966,798 | 196.50 | 15,713,475,807 |
| 13 | 148 | Other Non-Income Taxes | | (7,441,533) | (4,888,683) | 21.04 | (102,857,890) |
| | 149 | Taxes Other Than Income Taxes | | 277,321,324 | 185,453,667 | 171.93 | 31,884,878,468 |
| | 150 | | | | | | |
| 16 | 151 | Total Interest on Customer Deposits | | 8,499,601 | 7,471,530 | 218.40 | 1,631,782,152 |
| | 152 | | | | | | |
| | 153 | Net Income Taxes | | | | | |
| 14 | 154 | Federal Income Tax | | 212,429,582 | 143,446,030 | 44.75 | 6,419,209,843 |
| 14 | 155 | State Income Tax | | 19,575,054 | 13,218,328 | 44.75 | 591,520,178 |
| | 156 | Federal Income Tax - Deferred | | 352,901,899 | 238,872,663 | 0.00 | - |
| | 157 | State Income Tax - Deferred | | 33,602,511 | 22,690,562 | 0.00 | - |
| | 158 | Net Income Taxes | | 618,509,046 | 418,227,583 | 16.76 | 7,010,730,021 |
| | 159 | | | | | | |
| | 160 | Investment of Tax Credit Adj Net | 04114XX | (5,298,340) | (3,551,995) | 0.00 | - |
| | 161 | | | | | | |
| | 162 | **Total Utility Operating Expenses (L138 + L140 + L147 + L149 + L151 + L153)** | | 5,776,005,854 | 3,942,157,295 | 28.06 | 110,620,645,508 |
| | 163 | | | | | | |
| | 164 | Net Utility Operating Income | | 1,539,225,180 | 1,037,790,393 | 0.00 | - |
| | 165 | | | | | | |
| | 166 | Total Requirements (Ln 269+273) | | 7,315,231,034 | 4,979,947,688 | | 110,620,645,508 |
| | 167 | | | | | | |
| | 168 | | | | | | |
| COS 923 | 169 | Cash Working Capital Related to NC Sales Tax | | 6,694,345 | | | |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 23**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

a. Provide the financial forecast for the next three (3) years (may be two (2) years if first year in forecast is test year and a more recent forecast does not exist). Include major data and assumptions necessary to arrive at forecast (except earned return and net income). The forecast should include the following information;

1. Capital requirements:
   a. Construction costs:
      i. Production facilities
      ii. Transmission facilities
      iii. Distribution facilities
      iv. General facilities
   b. Nuclear fuel costs
   c. Equity component of AFUDC
   d. Net change in working capital
   e. Maturities, sinking funds and other requirements
2. Sources of Capital:
   a. Internal cash generation - please categorize by major source if possible
   b. Outside financing program:
      i. Long-term debt
      ii. Preferred stock
      iii. Common stock, and
      iv. Net change in short-term debt
3. Capital structure
4. Monthly operating budgets

Note: Nantahala may omit 23a.

b. Provide a three year annual construction budget (according to the format shown under 23-1a above) for the test year and the next three (3) years after the test year if not included in Item 23a.

**Corrected Response:**

Please see the attached file: "DEC NC E1_23 CORRECTED.xlsx".

DEC NC E1_23
CORRECTED.xlsx

**Duke Energy Carolinas, LLC** **E-1 Items 23, 33d & 38**
**Docket No. E-7, Sub 1214**
**Financial and Capital Budget Forecast**
**Current Long Term Forecast**

## Financial Data

(Notes A, F)

| Line | | Projected (Dollars in Millions) 2019 | 2020 | 2021 | 2022 | 2023 | 2019-2023 Totals |
|---|---|---|---|---|---|---|---|
| | **Capital Requirements** | | | | | | |
| | Construction Costs | | | | | | |
| | Production Facilities | $ 689 | $ 690 | $ 696 | $ 632 | $ 1,110 | $ 3,817 |
| | Transmission Facilities | $ 341 | $ 335 | $ 340 | $ 382 | $ 382 | $ 1,780 |
| | Distribution Facilities | $ 817 | $ 927 | $ 962 | $ 1,045 | $ 1,112 | $ 4,861 |
| | General Facilities | $ 267 | $ 375 | $ 252 | $ 90 | $ 296 | $ 1,279 |
| 1 | Construction Costs (Note B) | $ 2,113 | $ 2,327 | $ 2,249 | $ 2,149 | $ 2,899 | $ 11,738 |
| 2 | Nuclear Fuel Costs (Note B) | $ 303 | $ 315 | $ 227 | $ 255 | $ 257 | $ 1,355 |
| 3 | Equity Component of AFUDC | $ 72 | $ 89 | $ 100 | $ 83 | $ 83 | $ 426 |
| 4 | Long-Term Debt, Capital Stock Retired or Reacquired (Note C) | $ 6 | $ 457 | $ 503 | $ 359 | $ 1,000 | $ 2,324 |
| 5 | Changes in Working Capital | $ 142 | $ 24 | $ 277 | $ 275 | $ 274 | $ 993 |
| 6 | Other, Including Dividends | $ (1) | $ 6 | $ (0) | $ (0) | $ (0) | $ 4 |
| 7 | Total Capital Requirements | $ 2,635 | $ 3,217 | $ 3,355 | $ 3,121 | $ 4,512 | $ 16,840 |
| 8 | Provided by Internal Cash | 117% | 99% | 98% | 123% | 84% | 102% |
| | **Sources of Capital** | | | | | | |
| | Internal Cash | | | | | | |
| 9 | Depreciation and Amortization | $ 1,633 | $ 1,830 | $ 2,057 | $ 2,151 | $ 2,229 | $ 9,899 |
| 10 | Other (Note E) | $ 1,459 | $ 1,362 | $ 1,222 | $ 1,673 | $ 1,571 | $ 7,287 |
| 11 | Total Internal Cash | $ 3,091 | $ 3,192 | $ 3,279 | $ 3,824 | $ 3,800 | $ 17,186 |
| 12 | Outside Financing (Note C) | $ (389) | $ 25 | $ 75 | $ (704) | $ 712 | $ (280) |
| 13 | Total Sources of Capital | $ 2,702 | $ 3,217 | $ 3,354 | $ 3,120 | $ 4,512 | $ 16,906 |
| | **Tentative Financing Program** | | | | | | |
| 14 | Long-Term Debt (Note C) | $ 600 | $ 900 | $ 1,000 | $ 409 | $ 1,850 | $ 4,759 |
| 15 | Preferred Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 16 | Common Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 17 | Infusion From/(To) Parent | $ (550) | $ (875) | $ (925) | $ (1,200) | $ (1,050) | $ (4,600) |
| 18 | Net Change in Short-Term Debt | $ (439) | $ (0) | $ - | $ 88 | $ (88) | $ (439) |
| 19 | Total | $ (389) | $ 25 | $ 75 | $ (704) | $ 712 | $ (280) |
| | **Capital Structure (Note D)** | | | | | | |
| 20 | Capitalization | $ 24,064 | $ 25,040 | $ 26,131 | $ 26,507 | $ 28,009 | |
| | **Ratios** | | | | | | |
| 21 | Long-Term Debt | 48% | 48% | 48% | 47% | 48% | |
| 22 | Preferred Stock | 0% | 0% | 0% | 0% | 0% | |
| 23 | Common Stock | 52% | 52% | 52% | 53% | 52% | |

A The Company, the North Carolina Municipal Power Agency Number 1 (NCMPA), the North Carolina Electric Membership Corporation (NCEMC), and the Piedmont Municipal Power Agency (PMPA) are joint owners of the 2,258,000-kilowatt Catawba Nuclear Station. The Company currently owns 19.2% of the plant. The Company and the North Carolina Membership Corporation are joint owners of the 786,000-kilowatt Lee Combined Cycle Station. The Company currently owns 87.3% (686,000 kilowatts) of the Lee CC plant.

B Only the debt component of AFUDC is included in these costs.

C Includes current maturities related to long-term debt and the principal portions of payments on capitalized leases. Current maturities at year end are, $457 in 2019, $503 in 2020, $360 in 2021, $1,000 in 2022 and $1 in 2023.

D "Capitalization" and "Ratios" exclude short-term debt.

E "Other" includes earnings, net deferred taxes and investment tax credits and other miscellaneous items.

F Totals may not foot due to rounding

**DUKE ENERGY CAROLINAS, LLC** **Item No. 33**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

a. Capital structure at end of each calendar year for the previous ten (10) years if not included in the statistical supplement in Item 21
b. Capital structure at end of latest available quarter
c. Provide the balances in long-term debt, preferred stock, and common equity capital for each month of the test year. See Format 33c.
d. Capital structure forecasted 12 and 24 months beyond latest available year end (include all data and assumptions necessary to arrive at forecast). This may be omitted if the information is included in Item 23. Items 33a-d should include the following information:

1. Class of capital
2. Amount of each class ($)
3. Ratio of each class to total
4. Total capitalization ($)

**Corrected Response:**

d. Please see attached file "DEC NC E1_33d CORRECTED.xlxs".

DEC NC E1_33d
CORRECTED.xlsx

**Duke Energy Carolinas, LLC** **E-1 Items 23, 33d & 38**
**Docket No. E-7, Sub 1214**
**Financial and Capital Budget Forecast**
**Current Long Term Forecast**

## Financial Data

(Notes A, F)

| Line | | Projected (Dollars in Millions) 2019 | 2020 | 2021 | 2022 | 2023 | 2019-2023 Totals |
|---|---|---|---|---|---|---|---|
| | **Capital Requirements** | | | | | | |
| | Construction Costs | | | | | | |
| | Production Facilities | $ 689 | $ 690 | $ 696 | $ 632 | $ 1,110 | $ 3,817 |
| | Transmission Facilities | $ 341 | $ 335 | $ 340 | $ 382 | $ 382 | $ 1,780 |
| | Distribution Facilities | $ 817 | $ 927 | $ 962 | $ 1,045 | $ 1,112 | $ 4,861 |
| | General Facilities | $ 267 | $ 375 | $ 252 | $ 90 | $ 296 | $ 1,279 |
| 1 | Construction Costs (Note B) | $ 2,113 | $ 2,327 | $ 2,249 | $ 2,149 | $ 2,899 | $ 11,738 |
| 2 | Nuclear Fuel Costs (Note B) | $ 303 | $ 315 | $ 227 | $ 255 | $ 257 | $ 1,355 |
| 3 | Equity Component of AFUDC | $ 72 | $ 89 | $ 100 | $ 83 | $ 83 | $ 426 |
| 4 | Long-Term Debt, Capital Stock Retired or Reacquired (Note C) | $ 6 | $ 457 | $ 503 | $ 359 | $ 1,000 | $ 2,324 |
| 5 | Changes in Working Capital | $ 142 | $ 24 | $ 277 | $ 275 | $ 274 | $ 993 |
| 6 | Other, Including Dividends | $ (1) | $ 6 | $ (0) | $ (0) | $ (0) | $ 4 |
| 7 | Total Capital Requirements | $ 2,635 | $ 3,217 | $ 3,355 | $ 3,121 | $ 4,512 | $ 16,840 |
| 8 | Provided by Internal Cash | 117% | 99% | 98% | 123% | 84% | 102% |
| | **Sources of Capital** | | | | | | |
| | Internal Cash | | | | | | |
| 9 | Depreciation and Amortization | $ 1,633 | $ 1,830 | $ 2,057 | $ 2,151 | $ 2,229 | $ 9,899 |
| 10 | Other (Note E) | $ 1,459 | $ 1,362 | $ 1,222 | $ 1,673 | $ 1,571 | $ 7,287 |
| 11 | Total Internal Cash | $ 3,091 | $ 3,192 | $ 3,279 | $ 3,824 | $ 3,800 | $ 17,186 |
| 12 | Outside Financing (Note C) | $ (389) | $ 25 | $ 75 | $ (704) | $ 712 | $ (280) |
| 13 | Total Sources of Capital | $ 2,702 | $ 3,217 | $ 3,354 | $ 3,120 | $ 4,512 | $ 16,906 |
| | **Tentative Financing Program** | | | | | | |
| 14 | Long-Term Debt (Note C) | $ 600 | $ 900 | $ 1,000 | $ 409 | $ 1,850 | $ 4,759 |
| 15 | Preferred Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 16 | Common Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 17 | Infusion From/(To) Parent | $ (550) | $ (875) | $ (925) | $ (1,200) | $ (1,050) | $ (4,600) |
| 18 | Net Change in Short-Term Debt | $ (439) | $ (0) | $ - | $ 88 | $ (88) | $ (439) |
| 19 | Total | $ (389) | $ 25 | $ 75 | $ (704) | $ 712 | $ (280) |
| | **Capital Structure (Note D)** | | | | | | |
| 20 | Capitalization | $ 24,064 | $ 25,040 | $ 26,131 | $ 26,507 | $ 28,009 | |
| | **Ratios** | | | | | | |
| 21 | Long-Term Debt | 48% | 48% | 48% | 47% | 48% | |
| 22 | Preferred Stock | 0% | 0% | 0% | 0% | 0% | |
| 23 | Common Stock | 52% | 52% | 52% | 53% | 52% | |

A The Company, the North Carolina Municipal Power Agency Number 1 (NCMPA), the North Carolina Electric Membership Corporation (NCEMC), and the Piedmont Municipal Power Agency (PMPA) are joint owners of the 2,258,000-kilowatt Catawba Nuclear Station. The Company currently owns 19.2% of the plant. The Company and the North Carolina Membership Corporation are joint owners of the 786,000-kilowatt Lee Combined Cycle Station. The Company currently owns 87.3% (686,000 kilowatts) of the Lee CC plant.

B Only the debt component of AFUDC is included in these costs.

C Includes current maturities related to long-term debt and the principal portions of payments on capitalized leases. Current maturities at year end are, $457 in 2019, $503 in 2020, $360 in 2021, $1,000 in 2022 and $1 in 2023.

D "Capitalization" and "Ratios" exclude short-term debt.

E "Other" includes earnings, net deferred taxes and investment tax credits and other miscellaneous items.

F Totals may not foot due to rounding

**DUKE ENERGY CAROLINAS, LLC** **Item No. 38**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide a capital budgeting forecast for five (5) year period beginning after the end of the most recent year.

**Corrected Response:**

Please see the attached file: "DEC NC E1_38 CORRECTED.xlsx"

DEC NC E1_38
CORRECTED.xlsx

**Duke Energy Carolinas, LLC** **E-1 Items 23, 33d & 38**
**Docket No. E-7, Sub 1214**
**Financial and Capital Budget Forecast**
**Current Long Term Forecast**

## Financial Data

(Notes A, F)

| Line | | Projected (Dollars in Millions) 2019 | 2020 | 2021 | 2022 | 2023 | 2019-2023 Totals |
|---|---|---|---|---|---|---|---|
| | **Capital Requirements** | | | | | | |
| | Construction Costs | | | | | | |
| | Production Facilities | $ 689 | $ 690 | $ 696 | $ 632 | $ 1,110 | $ 3,817 |
| | Transmission Facilities | $ 341 | $ 335 | $ 340 | $ 382 | $ 382 | $ 1,780 |
| | Distribution Facilities | $ 817 | $ 927 | $ 962 | $ 1,045 | $ 1,112 | $ 4,861 |
| | General Facilities | $ 267 | $ 375 | $ 252 | $ 90 | $ 296 | $ 1,279 |
| 1 | Construction Costs (Note B) | $ 2,113 | $ 2,327 | $ 2,249 | $ 2,149 | $ 2,899 | $ 11,738 |
| 2 | Nuclear Fuel Costs (Note B) | $ 303 | $ 315 | $ 227 | $ 255 | $ 257 | $ 1,355 |
| 3 | Equity Component of AFUDC | $ 72 | $ 89 | $ 100 | $ 83 | $ 83 | $ 426 |
| 4 | Long-Term Debt, Capital Stock Retired or Reacquired (Note C) | $ 6 | $ 457 | $ 503 | $ 359 | $ 1,000 | $ 2,324 |
| 5 | Changes in Working Capital | $ 142 | $ 24 | $ 277 | $ 275 | $ 274 | $ 993 |
| 6 | Other, Including Dividends | $ (1) | $ 6 | $ (0) | $ (0) | $ (0) | $ 4 |
| 7 | Total Capital Requirements | $ 2,635 | $ 3,217 | $ 3,355 | $ 3,121 | $ 4,512 | $ 16,840 |
| 8 | Provided by Internal Cash | 117% | 99% | 98% | 123% | 84% | 102% |
| | **Sources of Capital** | | | | | | |
| | Internal Cash | | | | | | |
| 9 | Depreciation and Amortization | $ 1,633 | $ 1,830 | $ 2,057 | $ 2,151 | $ 2,229 | $ 9,899 |
| 10 | Other (Note E) | $ 1,459 | $ 1,362 | $ 1,222 | $ 1,673 | $ 1,571 | $ 7,287 |
| 11 | Total Internal Cash | $ 3,091 | $ 3,192 | $ 3,279 | $ 3,824 | $ 3,800 | $ 17,186 |
| 12 | Outside Financing (Note C) | $ (389) | $ 25 | $ 75 | $ (704) | $ 712 | $ (280) |
| 13 | Total Sources of Capital | $ 2,702 | $ 3,217 | $ 3,354 | $ 3,120 | $ 4,512 | $ 16,906 |
| | **Tentative Financing Program** | | | | | | |
| 14 | Long-Term Debt (Note C) | $ 600 | $ 900 | $ 1,000 | $ 409 | $ 1,850 | $ 4,759 |
| 15 | Preferred Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 16 | Common Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 17 | Infusion From/(To) Parent | $ (550) | $ (875) | $ (925) | $ (1,200) | $ (1,050) | $ (4,600) |
| 18 | Net Change in Short-Term Debt | $ (439) | $ (0) | $ - | $ 88 | $ (88) | $ (439) |
| 19 | Total | $ (389) | $ 25 | $ 75 | $ (704) | $ 712 | $ (280) |
| | **Capital Structure (Note D)** | | | | | | |
| 20 | Capitalization | $ 24,064 | $ 25,040 | $ 26,131 | $ 26,507 | $ 28,009 | |
| | **Ratios** | | | | | | |
| 21 | Long-Term Debt | 48% | 48% | 48% | 47% | 48% | |
| 22 | Preferred Stock | 0% | 0% | 0% | 0% | 0% | |
| 23 | Common Stock | 52% | 52% | 52% | 53% | 52% | |

A The Company, the North Carolina Municipal Power Agency Number 1 (NCMPA), the North Carolina Electric Membership Corporation (NCEMC), and the Piedmont Municipal Power Agency (PMPA) are joint owners of the 2,258,000-kilowatt Catawba Nuclear Station. The Company currently owns 19.2% of the plant. The Company and the North Carolina Membership Corporation are joint owners of the 786,000-kilowatt Lee Combined Cycle Station. The Company currently owns 87.3% (686,000 kilowatts) of the Lee CC plant.

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C Includes current maturities related to long-term debt and the principal portions of payments on capitalized leases. Current maturities at year end are, $457 in 2019, $503 in 2020, $360 in 2021, $1,000 in 2022 and $1 in 2023.

D "Capitalization" and "Ratios" exclude short-term debt.

E "Other" includes earnings, net deferred taxes and investment tax credits and other miscellaneous items.

F Totals may not foot due to rounding

**DUKE ENERGY CAROLINAS, LLC** **Item No. 1**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**
Provide in comparative form, a total company income statement, a statement of changes in financial position, and a balance sheet for the test year and the twelve-month period immediately preceding the test year.

**Response:**

See attached file for response to request E1-1.

DEC Rate Case E1-1
Financial Statement:

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 1**
**Balance Sheet**

| Title of Account (a) | December 31, 2018 | December 31, 2017 |
|---|---|---|
| **UTILITY PLANT** | | |
| Utility Plant (101-106,114) | 41,161,863,023 | 38,269,626,033 |
| Construction Work in Progress (107) | 1,632,658,461 | 2,610,346,436 |
| Total Utility Plant | 42,794,521,484 | 40,879,972,469 |
| (Less) Accum. Prov. for Depr. Amort. Depl. (108, 110, 111, 115) | 15,937,831,422 | 15,379,235,049 |
| Net Utility and Plant | 26,856,690,062 | 25,500,737,420 |
| Nuclear Fuel in Process of Ref., Conv., Enrich., and Fab (120.1) | 276,467,667 | 315,193,682 |
| Nuclear Materials and Assemblies - Stock Account (120.2) | 1 | 1 |
| Nuclear Fuel Assemblies in Reactor (120.3) | 1,152,233,077 | 1,158,802,565 |
| Spent Nuclear Fuel (120.4) | 475,269,001 | 652,248,802 |
| (Less) Accum. Provision for Amort. of Nuclear Fuel Assemblies (120.5) | 1,089,674,019 | 1,283,591,983 |
| Net Nuclear Fuel | 814,295,727 | 842,653,067 |
| Total Net Utility Plant | 27,670,985,789 | 26,343,390,487 |
| Utility Plant Adjustments (116) | 1,012,652 | 1,012,652 |
| Gas Stored Underground - Noncurrent (117) | 0 | 0 |
| **OTHER PROPERTY & INVESTMENTS** | | |
| Non Utility Property (121) | 119,145,876 | 118,030,854 |
| (Less) Accum. Prov. for Depr. and Amort. (122) | 41,247,904 | 38,522,984 |
| Investment in Subsidiary Companies (123.1) | 13,114,081 | 13,114,070 |
| Noncurrent Portion of Allowances | 0 | 0 |
| Other Investments (124) | 94,370 | 94,370 |
| Other Special Funds (128) | 3,771,013,238 | 4,114,781,423 |
| Long Term Portion of Derivative Instrument Assets (175) | 0 | 0 |
| Long Term Portion of Derivative Assets - Hedges (176) | 207,518 | 94,297 |
| **Total Other Property and Investments** | **3,862,327,179** | **4,207,592,030** |
| **CURRENT AND ACCRUED ASSETS** | | |
| Cash (131) | 32,258,744 | 15,882,026 |
| Special Deposits (132-134) | 0 | 0 |
| Working Funds (135) | 300,000 | 300,000 |
| Temporary Cash Investments (136) | 0 | 0 |
| Notes Receivable (141) | 0 | 0 |
| Customer Accounts Receivable (142) | 456,075,858 | 356,566,585 |
| Other Accounts Receivable (143) | 166,247,610 | 146,007,450 |
| (Less) Accum. Prov. for Uncollectible Account - Credit (144) | 9,138,649 | 9,041,317 |
| Note Receivable from Associated Companies (145) | 0 | 0 |
| Accounts Receivable from Associated Companies (146) | 244,703,341 | 110,443,568 |
| Fuel Stock (151) | 220,760,888 | 229,301,332 |
| Plant Material and Operating Supplies (154) | 682,226,291 | 697,542,126 |
| Merchandise (155) | 0 | 0 |
| Other Materials and Supplies (156) | 103,378 | 71,125 |
| Allowances (158.1 and 158.2) | 46,163,658 | 38,694,923 |
| (Less) Non-current portion of Allowances | 0 | 0 |
| Store Expenses Undistributed (163) | 45,188,768 | 44,420,013 |
| Gas Stored Underground - Current (164.1) | 0 | 0 |
| Prepayments (165) | 23,491,197 | 15,298,464 |
| Interest and Dividends Receivable (171) | 0 | 0 |
| Rents Receivable (172) | 236,004 | 299,733 |
| Accrued Utility Revenue (173) | 267,458,428 | 300,035,802 |
| Miscellaneous Current and Accrued Assets (174) | 12,410,350 | 24,594,139 |
| Derivative Instrument Assets (175) | 0 | 0 |
| (Less) Long Term Portion of Derivative Instruments Assets | 0 | 0 |
| Derivative Instrument Assets Hedges (176) | 508,451 | 1,683,416 |
| (Less) Long Term Portion of Derivative Instruments Assets - Hedges | 207,518 | 94,297 |
| **Total Current and Accrued Assets** | **2,188,786,799** | **1,972,005,088** |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 1**
**Balance Sheet**

| Title of Account (a) | December 31, 2018 | December 31, 2017 |
|---|---|---|
| **DEFERRED DEBITS** | | |
| Unamortized Debt Expenses (181) | 57,472,450 | 50,054,596 |
| Extraordinary Property Losses (182.1) | 0 | 0 |
| Unrecovered Plant and Regulatory Study Costs (182.2) | 0 | 0 |
| Other Regulatory Assets (182.3) | 3,988,381,653 | 2,760,098,689 |
| Preliminary Survey and Investigation Charges (183) | 9,500,938 | 14,113,390 |
| Clearing Accounts (184) | 910,613 | 819,880 |
| Temporary Facilities (185) | 0 | 0 |
| Miscellaneous Deferred Debits (186) | 1,091,462,938 | 1,208,726,515 |
| Unamortized Loss on Reaquired Debt (189) | 57,438,955 | 63,880,032 |
| Accumulated Deferred Income Taxes (190) | 2,697,261,240 | 2,492,302,268 |
| Unrecovered Purchased Gas Costs (191) | 0 | 0 |
| Total Deferred Debits | 7,902,428,787 | 6,589,995,370 |
| **Total Assets** | **41,625,541,206** | **39,113,995,627** |
| **PROPRIETARY CAPITAL** | | |
| Common Stock Issued (201) | 0 | 0 |
| Preferred Stock Issued (204) | 0 | 0 |
| Premium on Capital Stock (207) | 0 | 0 |
| Other Paid In Capital (208-211) | 3,725,067,453 | 3,725,067,453 |
| (Less) Capital Stock Expense (214) | 0 | 0 |
| Retained Earnings (215, 215.1, 216) | 7,963,467,563 | 7,643,088,909 |
| Unappropriated Undistributed Subsidiary Earnings (216.1) | 4,810,163 | 4,810,163 |
| Reaquired Capital Stock (217) | 0 | 0 |
| Accumulated Other Comprehensive Income (219) | -6,167,891 | -7,080,444 |
| **Total Proprietary Capital** | **11,687,177,288** | **11,365,886,081** |
| **LONG-TERM DEBT** | | |
| Bonds (221) | 9,909,011,177 | 9,109,647,708 |
| Advances from Associated Companies (223) | 300,000,000 | 300,000,000 |
| Other Long Term Debt (224) | 698,261,570 | 698,720,661 |
| Unamortized Premium on LT Debt (225) | 0 | 0 |
| (Less) Unamortized Discount on LT Debt (226) | 23,479,383 | 19,475,590 |
| **Total Long Term Debt** | **10,883,793,364** | **10,088,892,779** |
| **OTHER NONCURRENT LIABILITIES** | | |
| Obligations Under Capital Leases (227) | 103,966,297 | 56,762,634 |
| Accumulated Provision for Property Insurance (228.1) | 108,413,219 | 99,736,918 |
| Accumulated Provision for Injuries and Damages (228.2) | 633,919,490 | 491,016,994 |
| Accumulated Provision for Pensions and Benefits (228.3) | 94,896,447 | 89,513,551 |
| Accumulated Miscellaneous Operating Provisions (228.4) | 4,538,620 | 5,850,488 |
| Accumulated Provision for Rate Refund (229) | 182,332,111 | 0 |
| LT Portion of Derivative Instrument Liabilities | 0 | 0 |
| LT Portion of Derivative Instrument Liabilities - Hedges | 9,127,400 | 3,931,968 |
| Asset Retirement Obligations (230) | 3,948,779,041 | 3,609,220,322 |
| **Total Other NonCurrent Liabilities** | **5,085,972,625** | **4,356,032,875** |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 1**
**Balance Sheet**

| Title of Account (a) | December 31, 2018 | December 31, 2017 |
|---|---|---|
| **CURRENT AND ACCRUED LIABILITIES** | | |
| Notes Payable (231) | 0 | 0 |
| Accounts Payable (232) | 973,427,628 | 817,851,599 |
| Notes Payable to Associated Companies (233) | 438,690,000 | 103,631,000 |
| Accounts Payable to Associated Companies (234) | 252,784,648 | 228,208,749 |
| Customer Deposits (235) | 126,584,652 | 120,757,841 |
| Taxes Accrued (236) | 170,427,273 | 238,979,854 |
| Interest Accrued (237) | 102,018,472 | 132,853,878 |
| Dividends Declared (238) | 0 | 0 |
| Tax Collections Payable (241) | 12,372,163 | 10,981,269 |
| Miscellaneous Current and Accrued Liabilities (242) | 372,526,662 | 297,226,618 |
| Obligations Under Capital Leases - Current (243) | 5,304,078 | 4,089,199 |
| Derivative Instrument Liabilities (244) | 9,410,350 | 24,594,139 |
| (Less) LT Portion of Derivative Instrument Liabilities | 0 | 0 |
| Derivative Instrument Liabilities - Hedges (245) | 21,253,078 | 8,707,368 |
| (Less) LT Portion of Derivative Instrument Liabilities - Hedges | 9,127,400 | 3,931,968 |
| **Total Current and Accrued Liabilities** | **2,475,671,604** | **1,983,949,546** |
| **DEFFERED CREDITS** | | |
| Customer Advances for Construction (252) | 0 | 500,000 |
| Accumulated Deferred Investment Tax Credits (255) | 231,369,819 | 232,388,410 |
| Other Deferred Credits (253) | 573,392,182 | 609,161,169 |
| Other Regulatory Liabilities (254) | 4,301,714,243 | 4,571,153,903 |
| Unamortized Gain on Reaquired Debt (257) | 0 | 0 |
| Accumulated Deferred Income Taxes (281) | 0 | 0 |
| Accumulated Deferred Income Taxes Oth Property (282) | 4,343,192,939 | 4,129,591,930 |
| Accum Deferred Income Tax Other (283) | 2,043,257,142 | 1,776,438,934 |
| Total Deferred Credits | 11,492,926,325 | 11,319,234,346 |
| **Total Liabilities and Other Credit** | **41,625,541,206** | **39,113,995,627** |

Note(s): Detail amounts may not add to totals shown due to rounding.

**DUKE ENERGY CAROLINAS, LLC** | **Item No. 1**
**Docket No. E-7, Sub 1214** | **Income Statement**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

| Title of Account (a) | December 31, 2018 | December 31, 2017 |
|---|---|---|
| **UTILITY OPERATING INCOME** | | |
| Operating Revenues (400) | 7,273,364,536 | 7,315,231,033 |
| **Operating Expenses** | | |
| Operation Expenses (401) | 3,158,322,869 | 3,115,529,868 |
| Maintenance Expenses (402) | 693,767,447 | 627,274,061 |
| Depreciation Expenses (403) | 1,029,546,198 | 984,369,327 |
| Depreciation Expense for Asset Retirement Costs (403.1) | 0 | 0 |
| Amortization and Depletion of Utility Plant (404-405) | 65,860,546 | 52,750,296 |
| Amortization of Utility Plant Acq. Adj. (406) | 0 | 0 |
| Amortization of Prop Loss, Unrecov Plant and Reg Strudy Cost (407) | 0 | 0 |
| Regulatory Debits (407.3) | 149,999,980 | 115,028,712 |
| (Less) Regulatory Credits (407.4) | 51,895,694 | 18,197,499 |
| Taxes Other Than Income Taxes (408.1) | 291,829,421 | 277,321,324 |
| Income Taxes Federal (409.1) | (3,506,659) | 212,429,582 |
| Income Tax - Other (409.1) | 7,058,710 | 19,575,054 |
| Provision for Deferred Income Taxes (410.1) | 1,425,900,089 | 1,418,857,415 |
| (Less) Provision for Deferred Income Tax Credit (411.1) | 1,088,738,036 | 1,031,927,861 |
| Investment Tax Credit Adjustment Net (411.4) | (5,258,630) | (5,298,340) |
| (Less) Gains from Disposition Utility Plant (411.6) | 0 | 0 |
| Losses from Disposition Utility Plant (411.7) | 0 | 0 |
| (Less) Gains from Disposition of Allowances (411.8) | (250,563) | (219,459) |
| Accretion Expense (411.10) | 0 | 0 |
| **Total Utility Operating Expenses** | **5,673,136,804** | **5,767,931,398** |
| **Net Utility Operating Income** | **1,600,227,732** | **1,547,299,635** |
| | | |
| Revenues from Merchandising, Jobbing and Contract Work (415) | 0 | 0 |
| (Less) Costs and Exp. of Merchandising Job and Contract Work (416) | 110,300 | 25,596 |
| Revenues from Nonutility Operations (417) | 21,115,902 | 21,881,794 |
| (Less) Expenses of Nonutility Operations (417.1) | 19,614,542 | 19,495,926 |
| Non Operating Rental Income (418) | (2,946,961) | (2,964,090) |
| Equity in Earnings of Subsidiary Companies (418.1) | 0 | 1,792,692 |
| Interest and Dividend Income (419) | 927,820 | 1,550,841 |
| Allowance for Other Funds Under Construction (419.1) | 73,017,943 | 105,820,147 |
| Miscellaneous Nonoperating Income (421) | 19,209,311 | 29,319,670 |
| Gain On Disposition of Property (421.1) | 0 | 947,292 |
| **Total Other Income** | **91,599,173** | **138,826,824** |
| | | |
| Loss on Disposition of Property (421.2) | 392,522 | 228,606 |
| Miscellaneous Amortization (425) | 9,979 | 9,979 |
| Donations (426.1) | 9,525,160 | 4,083,062 |
| Life Insurance (426.2) | (60,141) | 0 |
| Penalties (426.3) | 1,830,590 | 3,870,703 |
| Exp. For Certain Civic, Political and Related Activity (426.4) | 4,083,343 | 3,470,140 |
| Other Deductions (426.5) | 197,967,254 | 10,139,650 |
| **Total Other Income Deductions** | **213,748,707** | **21,802,140** |
| **Taxes Applic. to Other Income and Deductions** | | |
| Taxes Other than Income Taxes (408.2) | 3,463,726 | 3,590,612 |
| Income Taxes - Federal (409.2) | (4,970,131) | 7,925,742 |
| Income Tax Non Utility (409.2) | (463,781) | 929,426 |
| Provision for Deferred Income Taxes (410.2) | 19,094,320 | 32,806,720 |
| (Less) Provision for Deferred Income Tax Credit (411.2) | 47,570,994 | 5,431,647 |
| Investment Tax Credit Adjustments - Net (411.5) | 0 | 0 |
| Total Taxes on Other Income and Deductions | (30,446,860) | 39,820,853 |
| **Net Other Income and Deductions** | **(91,702,674)** | **77,203,831** |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 1**
**Income Statement**

| Title of Account (a) | December 31, 2018 | December 31, 2017 |
|---|---|---|
| **Interest Charges** | | |
| Total Interest on Long - Term Debt (427) | 457,531,046 | 437,490,775 |
| Amortization of Debt Discount and Exp (428) | 6,364,114 | 5,981,227 |
| Amortization of Loss on Reaquired Debt (428.1) | 6,441,077 | 6,494,805 |
| Amortization on Premium of Debt-Credit (429) | 0 | 0 |
| Interest on Debt to Associated Companies (430) | 16,249,126 | 6,738,727 |
| Other Interest Expense (431) | (13,246,775) | (2,023,488) |
| (Less) Allowance for Borrowed Funds Used During Construction - CR(432) | 35,192,184 | 44,925,700 |
| Net Interest Charges | 438,146,404 | 409,756,346 |
| **Income Before Extraordinary Items** | **1,070,378,654** | **1,214,747,120** |
| **Extraordinary Items** | | |
| Extraordinary Deductions (435) | 0 | 0 |
| Net Extraordinary Items | 0 | 0 |
| Income Taxes Federal and Other (409.3) | 0 | 0 |
| Extraordinary Items After Taxes | 0 | 0 |
| **Net Income** | **1,070,378,654** | **1,214,747,120** |

Note(s): Detail amounts may not add to totals shown due to rounding.

/A



**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 1**
**Statement of Changes in Financial Position**

| Description | December 31, 2018 | December 31, 2017 |
|---|---|---|
| **CASHFLOWS FROM OPERATING ACTIVITIES** | | |
| Net Income | 1,070,378,654 | 1,214,747,120 |
| Noncash Charges (Credits) to Income: | | |
| Depreciation and Depletion | 1,029,546,198 | 984,369,327 |
| Amortization of primarily nuclear fuel | 452,081,848 | 453,332,170 |
| Provision for Rate Refunds | 182,332,111 | 0 |
| Contributions to Qualified Pension Plans | (45,625,440) | (8,851) |
| Deferred Income Taxes (Net) | 308,685,379 | 414,304,627 |
| Investment Tax Credit Adjustment (Net) | (5,258,630) | (5,298,340) |
| (Increase) Decrease In: | | |
| Receivables | (215,223,976) | 80,260,298 |
| Inventory | 24,589,340 | 78,698,190 |
| Allowances Inventory | (7,468,735) | (2,173,158) |
| Other Regulatory Assets | (158,580,215) | (86,321,652) |
| Increase (Decrease) In: | | |
| Payables and Accrued Expenses | 206,969,649 | 76,155,006 |
| Other Regulatory Liabilities | (2,815,746) | (155,643,415) |
| (Less) Allowance for Other Funds Used During Construction | 73,017,943 | 105,820,147 |
| (Less) Undistributed Earnings from Subsidiary Companies | 0 | 1,792,692 |
| Impairment Charges | 191,963,296 | 0 |
| Accrued Pension and Other Post-Retirement Benefit Costs | 3,688,980 | (3,794,179) |
| Asset Retirement Obligation Liabilities Settled | (230,453,262) | (270,723,877) |
| Other: | | |
| Deferred Storm Costs | (147,910,351) | |
| Claims and expenses related to injuries and damages | (42,822,757) | (38,710,715) |
| Debt return on Coal Ash Compliance Costs | (27,722,865) | (19,519,238) |
| Charitable Contributions Related to Piedmont Merger Commitments | (11,900,000) | (11,900,000) |
| Rate Case Support Expenses | (11,507,219) | |
| Miscellaneous prepaid expenses | (8,192,733) | (7,365,145) |
| Cost of removal on final retired plants | (7,171,053) | (7,320,815) |
| Preliminary surveys and investigation | (5,932,427) | |
| Net retiree medical reimbursement | | 7,286,959 |
| Other | (999,169) | 10,852,370 |
| Insurance proceeds for asbestosis claims | 32,748,363 | 17,251,637 |
| **Net Cash Provided by (Used in) Operating Activities** | **2,500,381,297** | **2,620,865,480** |
| | | |
| **CASHFLOWS FROM INVESTING ACTIVITIES** | | |
| Gross Additions to Utility Plant (less nuclear fuel) | (2,506,218,919) | (2,342,415,996) |
| Gross Additions to Nuclear Fuel | (266,581,709) | (287,648,029) |
| (Less) Allowance for Other Funds Used During Construction | (73,017,943) | (105,820,147) |
| Contributions and Advances from Assoc. and Subsidiary Companies | 0 | 66,344,000 |
| Purchase of Investment Securities | (1,810,081,968) | (2,124,155,924) |
| Proceeds from Sales of Investment Securities | 1,810,081,968 | 2,127,855,924 |
| Cost of Removal net of salvage | (125,186,605) | (94,539,947) |
| **Net Cash Provided by (Used in) Investing Activities** | **(2,824,969,290)** | **(2,548,739,825)** |
| | | |
| **CASHFLOWS FROM FINANCING ACTIVITIES** | | |
| Proceeds from Issuance of: | | |
| Long-Term Debt | 1,994,522,000 | 574,197,000 |
| Issuance Costs | (11,279,445) | (5,231,834) |
| Unamortized Debt expense associated with master credit facilities | (923,316) | (1,452,139) |
| Interconnection Agreement with NTE Energy | (21,611,598) | |
| Payments for Retirement of: | | |
| Long-term Debt | (1,204,801,930) | (115,987,598) |
| Net Increase (Decrease) in Intercompany Notes | 335,059,000 | 103,631,000 |
| Dividends Paid to Parent | (750,000,000) | (625,000,000) |
| **Net Cash Provided by (Used in) Financing Activities** | **340,964,711** | **(69,843,571)** |
| | | |
| Net Increase (Decrease) in Cash and Cash Equivalents | 16,376,718 | 2,282,084 |
| | | |
| Cash and Cash Equivalents at Beginning of Period | 16,182,026 | 13,899,942 |
| | | |
| Cash and Cash Equivalents at End of period | 32,558,744 | 16,182,026 |
| | | |

Note(s): Detail amounts may not add to totals shown due to rounding.

/A



**DUKE ENERGY CAROLINAS, LLC** **Item No. 2**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide a trial balance as of the last day of the test year.
All income statement accounts should show activity for total twelve (12) months showing account number, account title, and amount. Clearly identify accounts maintained on a total company basis and accounts maintained on a jurisdictional basis (indicate jurisdiction). Show the balance in each control and all underlying subaccounts per company books. Any differences between the amounts contained in this item and Item 1 should be reconciled and explained in sufficient detail.

**Response:**

See attached file for answer to E1-2 request.

DEC Rate Case E1-2 Trial Balance.xlsx

**DUKE ENERGY CAROLINAS, LLC** **Item No. 2**
**Docket No. E-7, Sub 1214** **Balance Sheet**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

| Account-Account Description | December 31, 2018 |
|---|---|
| *Assets* | |
| 0101000 - Property Plant and Equipment | 34,476,433,822 |
| 0101499 - Asset Retirement Obligations | (306,156,175) |
| 0101315 - ARO Asset - Coal Ash | 873,874,417 |
| 0101350 - IC Lease - PP&E | 41,450,841 |
| Production | 35,085,602,905 |
| 0114000 - Elec Plant Acquisition Adj | 284,106 |
| Electric Plant Acquisition Adjustment | 284,106 |
| 0105100 - Plt Held For Future Use - Wo Sys | 43,460,199 |
| 0105200 - Plt Held For Future Use - Prs | 13,590,404 |
| 0105300 - Comp Future Use Unclassified | 17,318,571 |
| Electric Plant for Future Use | 74,369,173 |
| 0106000 - Comp Const Unclassified | 6,001,606,839 |
| Completed Contr, Not Yet | 6,001,606,839 |
| Other Utility Plant | 6,076,260,118 |
| Utility Plant (101-106,114) | 41,161,863,023 |
| 0107000 - SCHM Cwip | 1,626,337,985 |
| 0107950- Allocated - Common CWIP | 1,097 |
| 0107004 - SCHM CWIP (SOFTWARE) | 6,319,378 |
| Construction Work in Progress (107) | 1,632,658,461 |
| Total Utility Plant | 42,794,521,483 |
| 0111100 - Acc Prov - Amor Plt in Ser | (615,947,489) |
| 0115000 - Acc Prov Plt Acquis Adj | (269,675) |
| Accumulative Provision for Depreciation Elec | (616,217,164) |
| 0108600 - SCHM Retirement Wip | (152,984,654) |
| Retirement Work In Progress Electric | (152,984,654) |
| 0108499 - Aro Asset Accum Depreciation | 92,296,388 |
| 0108000 - Accumulated DDandA - Ppande | (13,515,292,331) |
| 0108301 - Accum Depreciation COR | (1,946,255,560) |
| 0108620 - RWIP - Reg Liab | 400,799,517 |
| 0108315 - ARO Accum Depr - Coal Ash | (202,284,461) |
| 0108640 - ARO Liability - Ash Mgmt | 2,912,960 |
| 0108350 - IC Lease - Acc Depr & Amort | (806,118) |
| EXT RESERVE DECOMM | (15,168,629,605) |
| Accum Prov for Depr Amort Depl (108, 110, 111, 115) | (15,937,831,422) |
| Net Utility and Plant | 26,856,690,061 |
| 0120100 - Nuclear Fuel in Process | 276,467,667 |
| Nuclear Fuel in Process of Ref., Conv., Enrich., and Fab (120.1) | 276,467,667 |
| 0120510 - Acc Amor - Nuc Fuel Assemblies | (2,856,885,424) |
| 0120512 - Nuclear Fuel Retirements | 1,767,211,405 |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 2**
**Balance Sheet**

| Account-Account Description | December 31, 2018 |
|---|---|
| 0120550 - Acc amort-Canister-Oconee Rob | 0 |
| 0120551 - Acc Amor-Canister_McGuire Brun | 0 |
| 0120552 - Schm Acc Amor - Canister - Catawba | 0 |
| Accum. Provision for Amort. of Nuclear Assemblies (120.5) | (1,089,674,019) |
| 0120200 - Nuclear Fuel Material and Assemb | 1 |
| Nuclear Materials and Assemblies - Stock Account (120.2) | 1 |
| 0120300 - Nuc Fuel Assemblies in Reactor | 1,152,233,077 |
| Nuclear Fuel Assemblies in Reactor (120.3) | 1,152,233,077 |
| 0120400 - Spent Nuclear Fuel Assemblies | 475,269,001 |
| Spent Nuclear Fuel (120.4) | 475,269,001 |
| Nuclear Fuel | 1,627,502,078 |
| Nuclear Fuel, Net - GB | 537,828,059 |
| Net Nuclear Fuel | 814,295,726 |
| *Total Net Utility Plant* | *27,670,985,787* |
| 0116000 - Other Electric Plant Adj | 1,012,652 |
| *Utility Plant Adjustments (116)* | *1,012,652* |
| 0121500 - NonUtility - Construction Wip | 2,134,827 |
| 0121600 - Comp Const Not Classified - Nonu | 3,450,630 |
| 0121000 - NonUtil Prop - General | 113,560,419 |
| Non Utility Property (121) | 119,145,876 |
| 0122200 - NonUtility - Rwip | 74,827 |
| 0122000 - DDandA - NonUtil Prop - Gen | (41,322,731) |
| Accum Prov for Depr and Amort Non-Utility (122) | (41,247,904) |
| Other Property, net - at cost | 77,897,973 |
| 1231005 - Investment in Sub - Equity | 13,114,070 |
| 1231015 - Current Year Earnings of Sub - Loaded | 0 |
| 0123220 - Duke Engineering and Servs Inc | 11 |
| Investment in Subsidiary Companies (123.1) | 13,114,081 |
| 0124100 - Stocks and Bonds in Other Co. | 94,370 |
| 0124106 - Investment in Nustart (I) | 0 |
| Other Investments (124) | 94,370 |
| 0128800 - Funds DEC Qual Contr | 1,371,170,217 |
| 0128801 - Funds DEC NQ Contr | (151,277,885) |
| 0128802 - Funds DEC Qual Clean Contr | 160,573,112 |
| 0128810 - Funds DEC Qual Real Earn | 725,476,438 |
| 0128811 - Funds DEC NQ Real Earn | 77,429,448 |
| 0128812 - Funds DEC Qual Non Real Earn | 940,030,124 |
| 0128813 - Funds DEC NQ Non Real Earn | 169,778,871 |
| 0128814 - Funds DEC Qual Clean Real Earn | 80,445,334 |
| 0128815 - Funds DEC Qual Clean NR Earn | 161,527,387 |
| 0128803 - Funds DEC NQ Clean Contr | 84,722,993 |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 2**
**Balance Sheet**

| Account-Account Description | December 31, 2018 |
|---|---|
| 0128816 - Funds DEC NQ Clean Real Earn | (27,496,710) |
| 0128817 - Funds DEC NQ Clean NR Earn | (34,813,171) |
| Other Special Funds Decommision | 3,557,566,157 |
| 0128716 - Prefunded Pension (major) | 129,440,038 |
| 0128717 -Prefunded Pension | 84,007,043 |
| Other Special Funds | 213,447,081 |
| Other Special Funds (128) | 3,771,013,238 |
| Total Investments and Other Assets | 3,784,221,689 |
| 0176002 - 3rd Party Derivative Asset Long-Term | 207,518 |
| Long Term Portion of Derivative Assets - Hedges (176) | 207,518 |
| 0118300 - Other Utility CWIP | 0 |
| Other Utility Work in Progress | 0 |
| *Total Other Property and Investments* | *3,862,327,180* |
| 0131100 - Cash - Various Banks | 68,226,306 |
| 0131300 - Retail Branch/Cash Collections | 8,272,375 |
| 0131315 - Cash - DPCBIS - Bank of Travelers Rest | 27,842 |
| 0131324 - Cash-DPCBIS-Chase-ACHRcpts | (4,797,910) |
| 0131325 - Cash - DPCBIS - Chase - Ctwba Wires | (5,574,688) |
| 0131326 - Cash-DPCBIS-WachoviaRecpts | (468,075) |
| 0131327 - Cash - DPCBIS - BofA - Receipts | 15,983,961 |
| 0131329 - Cash - DPCBIS - BofA - CreditCard | 7,725,581 |
| 0131351 - Cash - Chase - General | (14,247,876) |
| 0131352 - Cash - Chase - Bpm | (1) |
| 0131354 - Cash-Wachovia-General | 781,934 |
| 0131355 - Cash-Wachovia-MARBS | (4,572) |
| 0131359 - Cash - BofA - GeneralAcct | 104,594 |
| 0131376 - Cash - Wachovia - DCS | (158,473) |
| 0131377 - Cash - Chase - Control Disburs | (43,605,831) |
| 0131227 - Cash Wells 0020 PEC | (6,422) |
| Cash (131) | 32,258,744 |
| 0135200 - Wk Funds - Branch Managers | 300,000 |
| Working Funds (135) | 300,000 |
| Total Cash | 32,558,744 |
| 0142011 - Accounts Receivable Other | 974,510 |
| 0142200 - Cust Acct - Edp | 444,564,024 |
| 0142210 - Acct Rec - D/FD EPP | (6,262,413) |
| 0142300 - Cust Acct - Cash Not Posted - Edp | 710,253 |
| 0142801 - A/R-Passport Interface | 9,606,737 |
| 0142830 - A/R-Merch/Jobb/Contract Work | 587,643 |
| 0142231 - Current BPM Sharing Receivable | (5,967,924) |
| 0142430 - AR Wholesale Billed | 56,756 |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 2**
**Balance Sheet**

| Account-Account Description | December 31, 2018 |
|---|---|
| 0142050 - Transmission Billing | 10,942,184 |
| 0142450 - A/R - Cogeneration | (1,490) |
| 0142802 - A/R - Gas | 1,298,590 |
| 0142970 - A/R - ENRB Holding Account | (474,696) |
| 0142997 - A/R BPM - Estimate | 41,686 |
| Customer Accounts Receivable (142) | 456,075,858 |
| 0143011 - A/R - Other - Gen Acctg | 1 |
| 0143110 - Misc A/R - Clearing | 44,990,983 |
| 0143130 - Misc A/R - Stores | 154,983 |
| 0143180 - Ret Med Life Den/Prem Withheld | 360,065 |
| 0143230 - Pole Attach Rental - Sou Bell | 2,449,823 |
| 0143221 - LT Asset: Interest Receiv | 0 |
| 0143290 - Misc Coal A/R | 9,993,238 |
| 0143320 - Mar Billed - Edp | 34,976,151 |
| 0143430 - Wholesale Revenue - Billed | (556) |
| 0143710 - Accrued Power Agency Rec | (18,712,685) |
| 0143720 - Accrued Power Agency Rec - IA | (263) |
| 0143730 - Accrued Ncemc Receivable | (14,848,750) |
| 0143740 - Accrued Ncemc Receivable - IA | 3,961 |
| 0143770 - Accrued Pmpa Receivable | (1,505,011) |
| 0143780 - Accrued Pmpa Rec - IA | 3,213 |
| 0143810 - Central Csh Remittance Posting | 5,819 |
| 0143830 - Ccr Ret Cks | 20,713 |
| 0143009 - Cust Accts-Special Billed Acct | 100 |
| 0143155 - Other A/R - Miscelleneous | 60,410,759 |
| 0143022 - A/R Byproducts | 368,459 |
| 0143023 - A/R Byproducts - Gypsum | 101,637 |
| 0142999 - AR Estimate Unbilled | 47,762,173 |
| 0143341 - Accounts Receivable - Joint Owners | (289,360) |
| 0143342 - Receivables Misc Transactions | 726 |
| 0143119 - Off - System Storms Receivables | 1,431 |
| 0143735 - A/R CJO Special Projects | 1 |
| Other Accounts Receivable (143) | 166,247,610 |
| 0146000 - AR Intercompany Crossbill | 90,304,305 |
| 0146990 - A/R Prop/BI - Bison Interco | 0 |
| 0146999 - Inter - Unit Unconsolidated BU | 2,742 |
| 0146009 - I/C AR Rollup | (216,410,839) |
| 0146250 - IC Netting - Accts Receivable | 252,750,620 |
| 0146104 - IC AR - Joint Dispatch | 58,455,425 |
| 0146992 - Federal Tax Refunds - Interco | 56,308,467 |
| 0146994 - State Tax Refunds - Interco | 3,867,879 |

**DUKE ENERGY CAROLINAS, LLC**
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**For the test year ended December 31, 2018**

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**Balance Sheet**

| Account-Account Description | December 31, 2018 |
|---|---|
| 0146998 - Franchise Tax - Interco - P/Y | 0 |
| 0146996 - Franchise Tax - Interco | (1) |
| 0146501 - Intercompany Gas True-Up | (575,256) |
| Accounts Receivable from Associated Companies (146) | 244,703,341 |
| 0171104 - Cur Asset: Interest Receiv | 0 |
| Interest and Dividends Receivable (171) | 0 |
| 0172004 - Rents Rec-Real Estate | 236,004 |
| Rents Receivable (172) | 236,004 |
| 0173100 - Unbilled Revenue Receivable | 267,458,428 |
| Accrued Utility Revenue (173) | 267,458,428 |
| Receivables | 1,134,721,242 |
| 0144100 - SCHM Uncollectible Accrual Electric | (25,595,137) |
| 0144110 - SCHM Uncollectible Accrual NC Elec | 12,039,138 |
| 0144120 - SCHM Uncollectible Accrual SC Elec | 4,555,868 |
| 0144400 - SCHM Uncollectible Accrual Ht Pump | 294 |
| 0144410 - SCHM Uncollectible Accrual NC Ht Pm | (77) |
| 0144420 - SCHM Uncollectible Accrual SC Ht Pm | (137) |
| 0144700 - Prov for MARBS Uncollectibles | (138,598) |
| Accum Prov for Uncollectible Account (144) | (9,138,649) |
| Receivables, Net | 1,125,582,593 |
| 0151130 - Coal Stock | 163,646,610 |
| 0151131 - Coal Stock in Transit | 11,644,425 |
| Coal Stocks | 175,291,036 |
| 0151140 - Diesel Fuel Stock | 41,591,897 |
| Fuel Stock Oil | 41,591,897 |
| 0151660 - Natural Gas Inventory | 3,877,954 |
| Fuel Stock (151) | 3,877,954 |
| Fuel Stock (151) | 220,760,888 |
| 0154100 - Inventory | 813,742,366 |
| 0154120 - Catawba Stm Station Stk Contra | (130,323,468) |
| 0154140 - Misc Inventory | 11,195,615 |
| 0154150 - Spent Fuel Canisters | (5,074,181) |
| 0154200 - Limestone Inventory | 5,354,872 |
| 0154990 - Schm Inv Cr - Surplus Mat'L Ident | (12,298,256) |
| 0154103 - M&S Inventory-WVPA, IMPA contra | (370,658) |
| Plant Material and Operating Supplies (154) | 682,226,291 |
| 0158150 - SO2 Current Vintage | 425,369 |
| 0158120 - RECs - DE Carolinas - NC | 45,738,290 |
| 0158183 - Seasonal NOx Current | 0 |
| Allowances (158.1 and 158.2) | 46,163,658 |
| 0163110 - Stores Expense | 43,597,161 |

**DUKE ENERGY CAROLINAS, LLC**
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**For the test year ended December 31, 2018**

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**Balance Sheet**

| Account-Account Description | December 31, 2018 |
|---|---|
| 0163160 - Stores Exp Distribution - Credit | 436,704 |
| 0163180 - Freight and Express | 1,154,903 |
| Store Expenses Undistributed (163) | 45,188,768 |
| 0156010 - Other M&S / Inventory | 103,378 |
| Other Materials and Supplies (156) | 103,378 |
| Inventory - at average cost | 994,442,983 |
| 0165075 - Interco Prepaid Insu SchM | 0 |
| 0165100 - Unexpired Insurance | 0 |
| 0165110 - Unexpired Ins - Catawba Contra | (2,017,994) |
| 0165120 - Unexpired Insurance - Nuclear | 7,684,032 |
| 0165401 - Prepaid NRC License Fees | (1) |
| 0165500 - SCHM Prepaid Taxes - Huntersville | 3,558,722 |
| 0165400 - Misc Prepaid Expenses | 9,697,132 |
| 0165011 - Ppd - Software - Purchase | 3,553 |
| 0165513 - Prepaid Expense - Misc. | 0 |
| 0165538 - LTSA - Long Term Portion FTG | 4,565,753 |
| Prepayments (165) | 23,491,197 |
| 0174015 - Customer Collateral | 3,000,000 |
| 0174300 - Swap Int Recvbl Cur Reg Asset | 9,410,350 |
| Miscellaneous Current and Accrued Assets (174) | 12,410,350 |
| 0176001 - 3rd Party Derivative Asset Current | 300,933 |
| L T Portion of Derivative Instruments Assets Hedges (CALC) | 207,518 |
| Derivative Instrument Assets Hedges (176) | 508,451 |
| (Less) Long Term Portion of Derivative Instruments Assets - Hedges | (207,518) |
| Current Assets | 2,188,786,799 |
| *Total Current and Accrued Assets* | *2,188,786,799* |
| 0181055 - 500M 3.9% FMB due6/15/21 | 675,698 |
| 0181150 - $300M 6.0% Sr Nte Due 12/1/28 | 476,921 |
| 0181240 - Sr Unsecured Bds Due 10/15/32 | 1,226,919 |
| 0181380 - 8.95% Grnsbor Transit Due 2027 | 5,205 |
| 0181400 - Credit Facilities Fee | 3,532,264 |
| 0181610 - 6.75% 1St Mortg Bonds Due 8/25 | 779,210 |
| 0181620 - Issue Costs For Quips | 755,612 |
| 0181805 - PC Bonds 2008B 11/1/2040 | 867,170 |
| 0181021 - Unamortized Debt Expense | 659,585 |
| 0181801 - $500M 6.1% Sr Nte due 6/1/37-A | 2,344,036 |
| 0181803 - $500M 6.0% FMB due 1/15/38 | 2,607,032 |
| 0181804 - PC Bonds 2008A 11/1/2040 | 782,461 |
| 0181038 - $600M 6.05% FMB due 4/18/2038 | 3,014,968 |
| 0181285 - $750M 5.3% FMB due 2/15/2040 | 4,179,905 |
| 0181286 - $450M 4.3% FMB due 6/15/2020 | 307,258 |

**DUKE ENERGY CAROLINAS, LLC**
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**Balance Sheet**

| Account-Account Description | December 31, 2018 |
|---|---|
| 0181284 - $650M 4.25% FMB due 12/15/41 | 4,047,218 |
| 0181062 - $650M 4% FMB due 09/30/2042 | 4,396,044 |
| 0181856 - Unamort Debt 3.75% due 6/1/2045 | 3,883,487 |
| 0181056 - Unamortized Debt Exp - CurrLTD | 0 |
| 0181857 - Unamort Debt 2.5% due 3/15/23 | 1,419,183 |
| 0181858 - Unamort Debt 3.875% due 3/15/46 | 3,746,872 |
| 0181859 - Unamort Debt 2.95% due 12/1/26 | 2,523,553 |
| 0181094 - $550M 3.7% FMB due 12/1/2047 | 4,542,285 |
| 0181096 - $500M 3.05% FMB due 3/15/2023 | 1,842,269 |
| 0181097 - $500M 3.95% FMB due 3/15/2048 | 4,090,597 |
| 0181287 - $350M 3.35% FMB due 5/15/22 | 1,396,736 |
| 0181288 - $650M 3.95% FMB due 11/15/28 | 3,369,959 |
| Unamortized Debt Expenses (181) | 57,472,450 |
| 0189000 - Schm Unamt Loss Reaq Dt Pre Sc | 27,230,103 |
| 0189100 - Schm Unamt Loss Reaq Dt | 15,183,006 |
| 0189101 - Schm Unamt Loss Reaq Dt-MAXES | 15,025,847 |
| Unamortized Loss on Reaquired Debt (189) | 57,438,955 |
| Debt expense (refinancing costs, amortized over terms) | 114,911,405 |
| 0182320 - Regulatory Asset - Inc Tax | 464,514,062 |
| Regulatory Asset Tax | 464,514,062 |
| 0182340 - Sch M: Vac Accrual Reg Asset | 78,292,988 |
| 0182399 - Aro Regulatory Asset | 0 |
| 0182323 - Rate Case Cost NC CUR | 982,160 |
| 0182410 - Interest Rate Swap Reg Asset | 71,876,710 |
| 0182801 - Pension Post Retire P Acctg - FAS87 NQ | 4,585,351 |
| 0182342 - Deferred Asset | 265,145,693 |
| 0182318 - Other Reg Assets - Gen Acct | 576,278,985 |
| 0182361 - SC Energy Efficiency Reg Asset | 53,635,861 |
| 0182329 - Reg Asset Section 124 Asset | 1,774,997 |
| 0182359 - REPS Incremental Costs | (2,960,268) |
| 0182381 - NC Energy Efficiency Reg Asset | 115,589,490 |
| 0182391 - NPL Extraordinary Repairs | 28,366 |
| 0182374 - Duke Generated REC Certificate | 6,926,760 |
| 0182314 - Buck Bridgewater Deferred Cost | 10,219,322 |
| 0182301 - Buck Bridge Return Deferral | (5,054,197) |
| 0182408 - NC Retain Defer Fuel Clause | 88,716,893 |
| 0182004 - Dan River Cliff 6 Def Cost | 36,504,692 |
| 0182005 - Dan River Cliff 6 Deferral | (11,663,164) |
| 0182420 - Deferred Fuel Retail | 66,002,539 |
| 0182428 - NC Nuclear Levelization | 18,901,534 |
| 0182429 - SC Nuclear Levelization | 6,400,285 |

**DUKE ENERGY CAROLINAS, LLC**
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| Account-Account Description | December 31, 2018 |
|---|---|
| 0182135 - McGuire Uprate Deferred Deprec | 6,080,714 |
| 0182430 - Coal Inventory Rider NC | 91,560 |
| 0182431 - NC Nuclear Levelize Cur | 62,061,167 |
| 0182321 - REG ASSET-DERIV MTM OIL | 20,063,623 |
| 0182332 - SC 2014 Ice Storm | 238 |
| 0182310 - McGuire Uprates Equity Reserve | (2,308,849) |
| 0182433 - Rate Case Cost NC LT | 6,315,099 |
| 0182438 - Billing System Deferral - Ltg | 656,028 |
| 0182449 - Fukushima CyberSecurity Def-SC | 0 |
| 0182448 - Fukushima CyberSecurity Equity | 0 |
| 0182446 - Rate Case Cost SC CUR | 31,078 |
| 0182452 - Rate Case Cost SC LT | 1,138,154 |
| 0182470 - Coal Ash Spend - Retail SC&FL | 218,102,467 |
| 0182315 - Reg Asset - Coal Ash Pond ARO | 895,295,601 |
| 0182040 - SC Long-Term Deferred Fuel | 17,675,974 |
| 0182458 - NC Long-Term Deferred Fuel | 23,385,539 |
| 0182471 - Coal Ash Spend - Retail (NC&MW) | 158,314,089 |
| 0182472 - Coal Ash Spend - Wholesale | 18,639,909 |
| 0182494 - Deferred Asset - SC DERP | 39,394,070 |
| 0182483 - Rotable Fleet Spare Reg Asset | 1,687,961 |
| 0182484 - NC Regulatory Fee | 3,181,250 |
| 0182495 - SC Non-AMI Meter NBV | 46,373,484 |
| 0182496 - SC AMI Meter Deferred Costs | 33,276,627 |
| 0182497 - SC AMI Def Costs - Equity Rtrn | (13,767,026) |
| 0182506 - Spend RA Amortization (NC&MW) | 507,572,000 |
| 0182524 - NC CustomerConnect Deferral LT | 11,260,692 |
| 0182525 - Non-AMI Meter NBV 182.3 | 66,567,437 |
| 0182531 - Lee CC - NC | 13,771,521 |
| 0182532 - Lee CC - SC | 12,754,209 |
| 0182533 - Lee CC - NC Contra Equity | (5,257,808) |
| 0182534 - Lee CC - SC Contra Equity | (4,303,557) |
| 0182528 - CPRE Rider | 445,740 |
| 0182560 - NC Solar Rebate Program Costs | 3,441,235 |
| 0182541 - Customer Connect SC LT | 3,378,527 |
| 0182543 - Customer Connect SC EQ LT | (93,356) |
| 0182544 - ABSAT Projects Deferred Costs | 7,996,828 |
| 0182546 - ABSAT Proj Deferred Costs-SC | 3,060,477 |
| 0182547 - Contra Eq-ABSAT Proj Def Costs | (2,989,031) |
| 0182548 - Con Eq-ABSAT Proj Def Costs SC | (1,085,544) |
| 0182549 - Contra Eq-CWDC Def Costs SC | (1,139,305) |
| 0182551 - COR Settlement | 57,145,120 |

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| Account-Account Description | December 31, 2018 |
|---|---|
| 0182552 - CWDC Deferred Costs - SC | 3,514,588 |
| 0182557 - Customer Connect NC EQ LT | (247,982) |
| 0182561 - Grid Deferral - SC | 3,877,028 |
| 0182562 - Grid Deferral - SC Contra EQ | (722,434) |
| 0182563 - NC Solar Amort & Returns | 61,928 |
| 0182606 - Managment Penalty Amortization | (41,730,375) |
| 0182615 - Coal Ash Contra Equity | (31,284,102) |
| Misc Regualtory Assets | 3,523,867,591 |
| Other Regulatory Assets (182.3) | 3,988,381,653 |
| 0183000 - Prelim Survey and Investigation | 9,500,938 |
| Preliminary Survey and Investigation Charges (183) | 9,500,938 |
| 0184495 - Rail Car Leasing Clearing | 0 |
| 0803100 - Sedans and Station Wagons | (7,920,978) |
| 0803110 - Light Trucks Gvwr < 10K | 9,575,934 |
| 0803120 - Light/Med Trucks Gvwr 10K - 26K | 1,355,869 |
| 0803130 - Medium/Heavy Trucks Gvwr > 26K | 2,525,564 |
| 0803140 - Light/Med Trucks Gvwr 10K - 26K | 3,040,499 |
| 0803150 - Med/Heavy Trucks Gvwr > 26K | 4,701,496 |
| 0803170 - Road Tractors | 916,457 |
| 0803180 - Trailers All | 2,520,265 |
| 0803290 - Miscellaneous Expense | (33,628,078) |
| 0804110 - Unproductive Time Distributed | (23,653) |
| 0804210 - Vacations | 13,038 |
| 0804220 - Holidays | 6,091 |
| 0804240 - Inclement Weather | 0 |
| 0804280 - Scheduled Time Earned Unworked | 0 |
| 0804300 - Doctor/Dentist | 436 |
| 0804330 - Sick | 4,087 |
| 0820000 - Fabricated Equipment | 911,538 |
| 0830200 - Trenchers and Cable Plows | 434,069 |
| 0830210 - Rubber Tired Tractors | 3,211,127 |
| 0830300 - Heavy Const. Equip | 2,096,547 |
| 0830330 - Mobile Cranes | 2,294,987 |
| 0830350 - Forklifts | 4,856,017 |
| 0830360 - Mobile Equipment | 676,010 |
| 0830370 - Misc Non - Hwy Equip | 3,344,216 |
| 0999998 - Allocations Suspense | 890 |
| 0184023 - Clearing Payroll Fixed Distr | (1,814) |
| Clearing Accounts (184) | 910,613 |
| 0186220 - Schm Deferred Dsm Costs - Nc | (4,814,931) |
| Deferred DSM | (4,814,931) |

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|---|---|
| 0186110 - Miscellaneous Work in Process | 0 |
| 0186120 - Misc. Wip - Fp Dist. Wids | 1,092,095 |
| 0186290 - Oth Deferred Charges - Operation | 1,722 |
| 0186420 - Error Suspense - Customer Acct'G | 83,422 |
| 0186480 - Misc Debits To Be Cleared | 681 |
| 0186550 - Odd Cent Adj - Plt in Ser | 17 |
| 0186910 - Deferred Benefit Plan - As | 12,054 |
| 0186802 - Accr Pen FAS158 - Qual | 0 |
| 0186889- Asset Recovery Deferred | (17) |
| 0186500 - Other Long Term Receivable | 14,226,027 |
| 0186090 - I&D O/S Svcs Receivable | 125,486 |
| 0186222 - Reserve Equity BPM Sharing AR | 691,299 |
| 0186660 - Solar - Deferred Cost | 3,202,731 |
| 0186661 - Reserve Equity - Solar | (5,551,975) |
| 0186610 - PEC Unrecovered Plant | 117,633,095 |
| 0186700 - DEC Unrecovered Plant | 21,392,113 |
| 0186195 - Deferred PEC Rate Case Expens | 2,273,258 |
| 0186998 - Fukushima Pooled Inventory Opt | 4,534,508 |
| 0186295 - Deferred Storm Expenses | 147,910,351 |
| 0186041 - Def Dr - Gas Acctg | 736,917 |
| 0186181 - COR Settlement - NC | 0 |
| 0186180 - COR Settlement - SC | 48,588,842 |
| 0186318 - Coal AshSpend - Wholesale | 0 |
| 0186251 - Contra Equity Coal Ash Spend RA | 0 |
| 0186316 - Coal Ash Spend - NC Retail | 0 |
| 0186036 - DEF EVCS Deferral | 451 |
| Other Deferred Charges | 356,953,078 |
| 0186060 - IandD Insurance Receivable | 739,324,790 |
| I&D Insurance Receivable | 739,324,790 |
| Miscellaneous Deferred Debits (186) | 1,091,462,938 |
| 0190001 - Adit: Prepaid: Federal Taxes | 2,361,812,971 |
| 0190002 - Adit: Prepaid: State Taxes | 327,958,228 |
| 0190051 - Accum Deferred FIT-OCI | 2,044,951 |
| 0190052 - Accum Deferred SIT-OCI | 298,584 |
| 0190155 - Deferred Tax - Nol | 5,146,507 |
| Accumulated Deferred Income Taxes (190) | 2,697,261,240 |
| *Total Deferred Debits* | *7,902,428,788* |
| *Total Assets* | **41,625,541,206** |

*Liabilities and Other Credits*

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|---|---|
| 0211000 - Miscellaneous Paid-In Capital | 2,298,939,833 |
| 0211003 - Misc Paid in Capital | 1,167,823,711 |
| 0211006 - Other Misc Paid in Cap | 258,303,908 |
| Other Paid In Capital (208-211) | 3,725,067,453 |
| 0215100 - Approp. Retained Earnings -- | 127,481,901 |
| 0216000 - Unapprop Retained Earnings | 7,515,607,008 |
| Current Month Net Income | 1,070,378,654 |
| 0438000 - Dividend Declared Common | (750,000,000) |
| Retained Earnings (215, 215.1, 216) | 7,963,467,563 |
| 0216100 - Unappr Undistr Subsid Earnings | 4,810,163 |
| 0216150 - Equity IC AR Rollup | 2,873,039,189 |
| 2161500 - IC AR Rollup | (2,873,039,189) |
| Unappropriated Undistributed Subsidiary Earnings (216.1) | 4,810,163 |
| 2191002 - OCI Rollup | (6,167,891) |
| Accumulated Other Comprehensive Income (219) | (6,167,891) |
| *Total Proprietary Capital* | *11,687,177,288* |
| 0221055 - $500M 3.90% FMB due 6/15/21 | 500,000,000 |
| 0221160 - 8.95% Grnsboro Transit Due2027 | 9,011,177 |
| 0221240 - Sr Unsecured Bds Due 10/15/32 | 350,000,000 |
| 0221380 - Series A 6% Snr Notes Due 2028 | 300,000,000 |
| 0221400 - Npandl 6.9% Ser C Due 12/31/16 | 0 |
| 0221410 - Npandl 7.4% Ser B Due 11/30/12 | 0 |
| 0221801 - $500M 6.1% Sr Nte due 6/1/37-L | 500,000,000 |
| 0221802 - $400M 5.25% FMB Due 1/15/18 | 0 |
| 0221803 - $500M 6.0% FMB due 1/15/38 | 500,000,000 |
| 0221004 - 5.1% FMB due 4/15/2018 | 0 |
| 0221005 - 6.05% FMB due 4/15/2038 | 600,000,000 |
| 0221201 - $500M 7.00% FMB due 11/15/2018 | 0 |
| 0221285 - $750M 5.3% FMB due 2/15/2040 | 750,000,000 |
| 0221286 - $450M 4.3% FMB due 6/15/2020 | 450,000,000 |
| 0221284 - $650M 4.25% FMB due 12/15/41 | 650,000,000 |
| 0221062 - $650M 4% FMB due 09/30/2042 | 650,000,000 |
| 0221856 - $500M 3.75% FMB due 6/1/2045 | 500,000,000 |
| 0221857 - $500M 2.5% FMB due 3/15/23 | 500,000,000 |
| 0221858 - $500M 3.875% FMB due 3/15/2046 | 500,000,000 |
| 0221859 - $600M 2.95% FMB due 12/1/26 | 600,000,000 |
| 0221094 - $550M 3.7% FMB due 12/1/2047 | 550,000,000 |
| 0221096 - $500M 3.05% FMB due 3/15/2023 | 500,000,000 |
| 0221097 - $500M 3.95% FMB due 3/15/2048 | 500,000,000 |
| 0221287 - $350M 3.35% FMB due 5/15/22 | 350,000,000 |
| 0221288 - $650M 3.95% FMB due 11/15/28 | 650,000,000 |

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| Account-Account Description | December 31, 2018 |
|---|---|
| Bonds (221) | 9,909,011,177 |
| 0224020 - Gains on Terminated Swaps | 5,061,570 |
| 0224560 - Long-Term Debt Derf Due 9/5/06 | 450,000,000 |
| 0224610 - Pollution Control Fin Due 2017 | 71,605,000 |
| 0224620 - PC Bonds 2006B 10-1-2031 | 71,595,000 |
| 0224805 - PC Bonds 2007B 11/01/2040 | 50,000,000 |
| 0224804 - PC Bonds 2007A 11/01/2040 | 50,000,000 |
| Other Long Term Debt (224) | 698,261,570 |
| 0226055 -500M 3.9% FMB | (124,335) |
| 0226240 - Sr Unsecured Bds Due 10/15/32 | (932,444) |
| 0226380 - Series A 6% Snr Notes Due 2028 | (1,222,073) |
| 0226801 - $500M 6.1% Sr Nt du 6/1/37-LTD | (39,918) |
| 0226803 - $500M 6.0% FMB due 1/15/38 | (222,018) |
| 0226021- Unamort Discount-Curr | 0 |
| 0226023 - 6.05% FMB due 4/15/2038 | (1,060,791) |
| 0226285 - $750M 5.3% FMB due 2/15/2040 | (2,236,977) |
| 0226286 - $450M 4.3% FMB due 6/15/2020 | (153,584) |
| 0226284 - $650M 4.25% FMB due 12/15/2041 | (840,011) |
| 0226061 - $350M 1.75% FMB due 12/15/2016 | 0 |
| 0226062 - $650M 4% FMB due 09/30/2042 | (4,092,194) |
| 0226856 - $500M 3.75% FMB due 6/1/2045 | (3,645,252) |
| 0226857 - $500M 2.5% FMB due 3/15/2023 | (116,969) |
| 0226858 - $500M 3.875% FMB due 3/15/2046 | (1,600,001) |
| 0226859 - $600M 2.95% FMB due 12/1/2026 | (1,145,047) |
| 0226094 - $550m 3.7% FMB due 12/1/2047 | (772,786) |
| 0226096 - $500M 3.05% FMB 3/15/2023 | (488,252) |
| 0226097 - $500M 3.95% FMB 3/15/2048 | (2,299,391) |
| 0226287 - $350M 3.35% FMB due 5/15/22 | (124,083) |
| 0226288 - $650M 3.95% FMB due 11/15/28 | (2,363,257) |
| Unamortized Discount on LT Debt (226) | (23,479,383) |
| 0223306 - Intercompany Notes Payable LT | 300,000,000 |
| Advances from Associated Companies (223) | 300,000,000 |
| *Total Long Term Debt* | *10,883,793,365* |
| 0227103 - LT Cap Lease Oblig - Tax Oper | 63,718,091 |
| 0227350 - IC Lease - LT Cap Lease Oblig | 40,248,206 |
| Obligations Under Capital Leases (227) | 103,966,297 |
| 0228110 - Prprty Insrnc Rsrv - Nuclear | 77,660,443 |
| 0228120 - Prprty Insrnc Rsrv - Other | 500,000 |
| 0228130 - Nuclear Liab Insurance Reserve | 30,252,776 |
| Accumulated Provision for Property Insurance (228.1) | 108,413,219 |
| 0228020 - Inactive - Schm Employees - N.C.(Electric) | 0 |

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| Account-Account Description | December 31, 2018 |
|---|---|
| 0228040 - Inactive - Schm Employees - S.C.(Electric) | 0 |
| 0228150 - Schm IandD - Extraordinary | 630,464,790 |
| 0228280 - Schm Environmental | 3,454,700 |
| Accumulated Provision for Injuries and Damages (228.2) | 633,919,490 |
| 0228314 - Schm Dpc Opeb FAS 106 | 0 |
| 0228315 - Schm Opeb (Fas106) | 59,261,043 |
| 0228325 - Schm Post Emp FAS 112 | 23,280,617 |
| 0228348 - Pension Liab - FAS 87(Cinergy) | 0 |
| 0253630 - Schm Exec Cash Bal Plan | 12,354,786 |
| Accumulated Provision for Pensions and Benefits (228.3) | 94,896,447 |
| 0228405 - 2000 Class Deferred Compensat | 4,538,620 |
| Accumulated Miscellaneous Operating Provisions (228.4) | 4,538,620 |
| 0229010 - Accm Prv-Rate Refnd-Tax Ref | 182,332,111 |
| Accumulated Provision for Rate Refund (229) | 182,332,111 |
| 0230999 - ARO Liability | 2,380,925,363 |
| 0230315 - ARO Liability - Coal Ash | 1,567,853,678 |
| Asset Retirement Obligations (230) | 3,948,779,041 |
| 0245002 - 3rd Party Derivative Liability Noncurren | 9,127,400 |
| LT Portion of Derivative Instrument Liabilities - Hedges | 9,127,400 |
| *Total Other NonCurrent Liabilities* | *5,085,972,625* |
| 0232016 - AP PS8.9 Vendors Payable | 347,455,946 |
| 0232120 - Vouchers Payable - Special | 63,699 |
| 0232122 - Annual FERC Adm and Hydro Fee | 2,018,601 |
| 0232123 - Ncuc Regulatory Fee Pay | 1,777,636 |
| 0232125 - NRC Inspection Fee Pay | 1,622,417 |
| 0232140 - Customer Refunds Payable | 4,294,957 |
| 0232150 - Accounts Payable - Stores | (2,850) |
| 0232151 - Pp Accounts Payable - Stores | 34,155,561 |
| 0232170 - Accounts Payable - Coal | 11,421,170 |
| 0232175 - Limestone and Freight Payable | 408,419 |
| 0232180 - Accounts Payable - Oil Stocks | 469,872 |
| 0232190 - Coal Freight Payable | 2,906,474 |
| 0232195 - Railcar Lease Payable | 3,009,997 |
| 0232200 - Cbis Refund Payable | (7,424,991) |
| 0232892 - A/P Miscellaneous | 0 |
| 0232142 - Advance Payable-NCMPA | 0 |
| 0232143 - Advance Payable-NCEMC | 3,839,828 |
| 0232144 - Advance Payable-PMPA | 0 |
| 0232460 - Bulk Power Marketing Payable | 3,207,039 |
| 0232480 - Co - Generation | (685,792) |
| 0232410-Transmission Payables | 202,895 |

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|---|---|
| 0232109 - A/P BPM - Actual | (7,890,140) |
| 0232205 - A/P ENRB Holding Account | 29,150,447 |
| 0232999 - A/P BPM - Estimate | 22,897,751 |
| 0232145 - A/P CJO Special Projects | 3,237,608 |
| Power Accounts Payable (232) | 53,959,635 |
| 0232061 - Checks not presented - reclass | 68,226,306 |
| Unpaid Bank Checks (232) | 68,226,306 |
| 0232996 - Capital - Accruals | 125,972,086 |
| 0232039 - Payable 401K Incentive Match | 6,676,173 |
| 0232181 - Natural Gas Payable | 132,528,306 |
| 0232002 - A/P - Misc - Gen - Acctg | 165,910,279 |
| 0232176 - Reagent Payable | 497,549 |
| 0232177 - Generic By Products Payable | 403,756 |
| 0232129 - SC PSC Reg Fee Pay | 1,204,072 |
| 0232000 - A/P Vendors Payable | 0 |
| 0232155 - Accounts Payable - Stores CAS | (4,990,938) |
| 0232178 - Accrued Settlements Payable | 20,863,498 |
| Accounts Payable (232) | 973,427,628 |
| 0233150 - IC Moneypool - ST Notes Pay | 438,690,000 |
| Notes Payable to Associated Companies (233) | 438,690,000 |
| 0234000 - IC Moneypool - ST Interest Pay | 57,331 |
| 0234010 - I/C AP - Joint Dispatch | (23,303) |
| 0234819 - Intercompany Payable | 0 |
| 0234250 - IC Netting - Accts Payable | 252,750,620 |
| Accounts Payable to Associated Companies (234) | 252,784,648 |
| 0235110 - Cust Dep For Srvc - Edp Billing | 108,717,721 |
| 0235130 - Cust Dep Transf To Gen Office | 1,454,336 |
| 0235140 - Special Customer Deposits | 16,337,595 |
| 0235004 - Deferred Liability OL | 75,000 |
| Customer Deposits (235) | 126,584,652 |
| 0236000 - NC Prop Tax - Electric | 25,918,002 |
| 0236020 - FAS 5 Non-Income Tax Reserves | 0 |
| 0236040 - NC Prop Tax - Misc Non - Util | 310,956 |
| 0236150 - St/Local Unemployment Tax Liab | 4,818 |
| 0236360 - SC Prop Tax - Electric | 115,935,452 |
| 0236400 - SC Prop Tax - Misc Non - Util | 404,160 |
| 0236460 - SC Kwh Power Generation Tax | 653,510 |
| 0236470 - Franchise Tax Accrual | 3,357,224 |
| 0236700 - Employer FICA Tax Liab | 9,411,212 |
| 0236750 - Federal Unemployment Tax Liab | 7,815 |
| 0236906 - Use Tax Payable | 1,114,509 |

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|---|---|
| 0236940 - Current Tax Reclass State Cr | 3,867,879 |
| 0236942 - State Inc Tax Payable - Prior Yrs LT | 943,354 |
| 0236951- Current Liability UTP: State | 0 |
| 0236980 - Current Tax Reclass Fed Cr | 56,308,467 |
| 0236990 - Fed Inc Tax Payable - Current | (56,308,467) |
| 0236992 - Current Liability UTP - Fed | 0 |
| 0236943 - State Inc Tax Payable- Prior Yrs | 4 |
| 0236983 - Fed Inc Payable-Prior Yrs | 0 |
| 0236993 - LT Liability Fed - UTP | 6,494,559 |
| 0236996 - LT Liability Fed UTP 06-07 yr (I) | (198,116) |
| 0236001 - State It Payable Other | (2,838,095) |
| 0236986 - LT Liability Fed - KTRA | 0 |
| Taxes Accrued (236) | 165,387,243 |
| 0230690 - S.C. Mun. License - Elect. | 5,040,030 |
| 0232630 - NC Sales Tax Payable - Inactive | 0 |
| 0232661 - Mecklenburg 1/2% Sales Tax - Inactive | 0 |
| Other Accounts Payable | 5,040,030 |
| Consolidated Taxes Accrued | 170,427,273 |
| 0237038 - LT Interest Accrued | 0 |
| 0237110 - Bonds Interest Payable | 88,862,569 |
| 0237220 - Int Accrued on NC Cust Deposit | 85,565,152 |
| 0237230 - Int Pd Curr Yr on NC Cust Dep | (72,694,399) |
| 0237240 - Int Accrued on SC Cust Dep | 12,347,574 |
| 0237250 - Int Pd Curr Yr on SC Cust Dep | (12,062,425) |
| Interest Accrued (237) | 102,018,472 |
| 0241110 - State Income Tax Wh - Employee | 711,702 |
| 0241150 - Federal Income Tax Wh - Employee | (130,479) |
| 0241160 - FICA Withheld - Employee | (46,766) |
| 0241170 - SC salestx-cust refunds | 0 |
| 0241310 - General Sales Tax | 2,651,592 |
| 0241320 - Utility Sales Tax | 9,175,824 |
| 0241335 - Local Taxes Withheld | 10,289 |
| Tax Collections Payable (241) | 12,372,163 |
| 0242215 - Payroll Severance Reserves | 100,139,706 |
| 0242310 - Green Power Payable | 52,548 |
| 0242320 - Transmission Open Acc - Deposits | 4,166,508 |
| 0242420- Collect For Usa Union | (20) |
| 0242460 - Prov For Incentive Ben Prog | 114,235,736 |
| 0242461 - Prior Year Incentive Accrual | 0 |
| 0242470 - NC Alternative Energy Payable | 174,525 |
| 0242490 - Vacation Carryover | 108,382,205 |

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|---|---|
| 0242510 - Escheats Officer Dpt Treas - Nc | (952,946) |
| 0242540 - Escheaments Payable | (302,817) |
| 0242650 - Accrued Payable - Other | 627,719 |
| 0242690 - Executive Incentive Accrual | 0 |
| 0242216 - Payrll ST Retention/Spcl Rsrvs | 780,864 |
| 0242998 - Misc Liab - FAS 106 | 3,528 |
| 0242999 - Misc Liab - FAS 112 | 3,766,715 |
| 0242330 - Carbon Offset Program - NC | 8,775 |
| 0242340 - Carbon Offset Program - SC | 132 |
| 0242033 - Wages Payable - Accrual | 21,827,315 |
| 0242221 - Current Year BPM Sharing | (1,423,569) |
| 0242897 - NC Pension Liability - FAS 87 | 1,560,999 |
| 0242898 - OPEB Current Liability | 0 |
| 0242398 - CURR&ACCR LIAB MISC | 4,633,301 |
| 0232005 - Long Term Disability Deduction | 112,351 |
| 0232045 - Supplemental Life Deductions | 436,082 |
| 0232048 - Supplemental AD&D Deduction | 61,236 |
| 0242152 - Solar Interconnect Deposits | 7,040,884 |
| 0242153 - Performance Securities | 4,603,642 |
| Other Current Accrued Liability | 369,935,418 |
| 0242110 - Contract Retentions | 2,591,244 |
| Contruction Contra Ret | 2,591,244 |
| 0242710 - 8.95% Grnsboro Transit Due2027 | 0 |
| Current Port Debt | 0 |
| Miscellaneous Current and Accrued Liabilities (242) | 372,526,662 |
| 0243103 - Current Cap Lease Oblig - Tax | 4,773,972 |
| 0243350 - IC Lease - Curr Cap Lease Oblig | 530,106 |
| Obligations Under Capital Leases - Current (243) | 5,304,078 |
| 0244005 - Derivative Instr-Regulatory-ST | 9,410,350 |
| Derivative Instrument Liabilities - Current | 9,410,350 |
| Derivative Instrument Liabilities (244) | 9,410,350 |
| Long-Term Portion of Derivative Instrument Liabilities-Hedges Calc | 9,127,400 |
| 0245001 - 3rd Party Derivative Liability Current | 12,125,678 |
| Derivative Instrument Liabilities - Hedges (245) | 21,253,078 |
| (Less) Long-Term Portion of Derivative Instrument Liabilities-Hedges | (9,127,400) |
| *Total Current and Accrued Liabilities* | *2,475,671,603* |
| 0252001 - Cust Adv For Construction | 0 |
| Customer Advances for Construction (252) | 0 |
| 0255000 - Accum Def Inv Tax Credits | 231,369,819 |
| Accumulated Deferred Investment Tax Credits (255) | 231,369,819 |
| 0253036 - JEA Option Agreement | 7,500,000 |

**DUKE ENERGY CAROLINAS, LLC**
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**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 2**
**Balance Sheet**

| Account-Account Description | December 31, 2018 |
|---|---|
| 0253200 - Cashier'S Overs and Shorts - <$1 | (15) |
| 0253300 - Cashiers' Overs and Shorts | 184,508 |
| 0253500 - Net Proceeds on Property Sales | 1,651 |
| 0253820 - Schm Deferred Benefit Plan - NPL | 12,054 |
| 0253890 - Schm Tax and S/L For Surplus Mat'Ls | 641,193 |
| 0253910 - Pole Attach - Advance Billing | 54,764 |
| 0253990 - Deferred Prepaid Ef - Lighting | 14,465,971 |
| 2531006 - Defr Cr - A/R A/P Elim Diff | (23,924,943) |
| Historical Equity Roll - Up Plug | (2,873,039,189) |
| 2531008 - Defr Cr - Other Bal Sheet Elim Diff | 23,924,943 |
| 0253039 - Deferred Revenue | 262,975 |
| 0253920 - Other Deferred Credits | 2,366,611 |
| 0253035 - Misc Def Cr - Genl Acctg | 35,905 |
| 0253905 - Deferred Debt Return - Solar | 6,569,101 |
| 0253006 - SC EDP Deferred Depreciation | 0 |
| 0253082 - OTH DEFER CR MISCELLANEOUS | 700,000 |
| 0253086 - ACCRUED INDEMNIFICATIONS - SFAS 5 | 11,900,000 |
| 0253600 - Def NC Tax Rate Change - TAX | 87,003,245 |
| 0253070 - Reserves - Mgp Sites FERC 228 | 7,875,000 |
| 0253059 - C-W Licensing Proj - Future Liab | 7,456,869 |
| ICNET_PLUG | 2,873,039,189 |
| 0253062 - Long Term Def Rev - OL | 1,194,306 |
| Misc Deferred Credit (253) | 148,224,139 |
| 0253980 - Schm Accrued Decommissioning Costs - | 425,168,043 |
| Nuclear Decommission Trust Fund (253) | 425,168,043 |
| Other Deferred Credits (253) | 573,392,182 |
| 0254210 - Reg Liability Emission Swaps | 8,155 |
| 0254220 - Reg Liab Em Swp GAAP Int Asset | (8,155) |
| 0254002 - Interest Rate Swap Reg Liability | 18,335,725 |
| 0254990 - Aro Reg Liab - Accr/Arc Depr | 77,074,032 |
| 0254120 - I and D Regulatory Liability | 33,538,626 |
| 0254250 - NC REC Liability - Retail | 63,385,727 |
| 0254251 - NC REC Liability - Whse | 5,973,438 |
| 0254450 - SC Storm Reserve Fund | (12,347,270) |
| 0254689 - Reg Liability - OPEB | 37,762,728 |
| 0254690 - OPEB regulatory liability | 61,650 |
| 0254013 - Reg Liab NC Deferred Fuel | 0 |
| 0254988 - Current Regulatory Liabilities | 0 |
| 0254021 - Nuclear Fuel Last Core Reserv | 52,716,874 |
| 0254022 - M and S Inventory Reserve PEC RC | 42,236,223 |
| 0254023 - NDTF Contaminated Liability | 460,505,258 |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 2**
**Docket No. E-7, Sub 1214** **Balance Sheet**
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**For the test year ended December 31, 2018**

| Account-Account Description | December 31, 2018 |
|---|---|
| 0254800 - Reg Liability - MTM Fuel - LT | 542,850 |
| Misc Regulatory Liab (254) | 779,785,861 |
| 0254100 - Regulatory Liablility - Inc Tax | 78,744,314 |
| 0254150 - Reg Liab - State Tax Rate Change | 223,049,319 |
| 0254036 - Reg Liab - Excess Fed ADIT | 1,666,438,970 |
| 0254038 - Excess ADIT Grossup LT | 751,310,033 |
| 0254041 - Reg Liab - D&E Ret on St EDIT | 2,567,346 |
| 0254042 - Reg Liab - Fed EDIT - SC Retail | 573,865,830 |
| 0254044 - Reg Liab - Fed EDIT - W/S | 225,952,570 |
| Regulatory Liability Tax (254) | 3,521,928,382 |
| Other Regulatory Liabilities (254) | 4,301,714,243 |
| 0282100 - Adit: PpandE: Federal Taxes | 3,865,752,912 |
| 0282101 - Adit: PpandE: State Taxes | 477,440,027 |
| Accumulated Deferred Income Taxes Oth Property (282) | 4,343,192,939 |
| 0283100 - Adit: Other: Federal Taxes | 1,782,664,039 |
| 0283101 - Adit: Other: State Taxes | 260,593,103 |
| Accum Deferred Income Tax Other (283) | 2,043,257,142 |
| *Total Deferred Credits* | *11,492,926,325* |
| ***Total Liabilities and Other Credit*** | ***41,625,541,206*** |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 2**
**Income Statement**

| Account-Account Description | Twelve Months Ended December 31, 2018 |
|---|---|
| *Income Statement* | |
| 0440000 - Residential | 3,064,112,585 |
| 0440990 - Residential Unbilled Rev | (18,724,609) |
| 0442100 - General Service | 2,312,582,741 |
| 0442190 - General Service Unbilled Rev | (9,536,477) |
| 0442200 - Industrial Service | 1,229,773,067 |
| 0442290 - Industrial Svc Unbilled Rev | (3,909,565) |
| 0444000 - Public St and Highway Lighting | 45,922,053 |
| 0444990 - Public Street/Highway Unbilled | (406,723) |
| 0447100 - Sales For Resale - Catawba | 20,475,003 |
| 0447150 - Sales For Resale - Outside | 508,128,879 |
| 0449100 - Provisions For Rate Refunds | (10,271,560) |
| 0447016 - I/C Joint Disp - Revenue | 83,709,932 |
| 0449111 - Tax Reform - Residential | (174,243,116) |
| Electric Revenue | 7,047,612,209 |
| 0450100 - Late Pmt and Forf Disc | 18,641,467 |
| 0450200 - Charge on Returned Checks | 1,358,726 |
| 0451100 - Misc Service Revenue | 12,509,098 |
| 0451200 - Generation Application Fee | (881) |
| 0454100 - Extra - Facilities | 30,682,810 |
| 0454110 - Inter - Connection - Cogeneration | 2,163,940 |
| 0454200 - Pole and Line Attachments | 35,152,691 |
| 0454300 - Tower Lease Revenues | 11,698,937 |
| 0454400 - Other Electric Rents | 4,366,722 |
| 0454500 - Leased Facilities Fee - Catawba | 661,663 |
| 0454510 - Rtn & Dep-Joint-Owner Gen Plt | 16,633,684 |
| 0456100 - Profit Or Loss on Sale of M&S | (1,738) |
| 0456102 - Distribution Charge - Network | 3,534,759 |
| 0456103 - Metering - Network | 67,207 |
| 0456104 - Transmission Charge Network | 54,027,606 |
| 0456105 - Sched, Sys Cntl, Disp-Network | 4,113,997 |
| 0456106 - Reactive Pur/Volt Cntl Svc | 4,669,498 |
| 0456107 - Regulation/Frequency Response | 579,761 |
| 0456108 - Op Res - Spinning Reserve | 1,486,695 |
| 0456109 - Op Res - Supplemental Reserve | 1,486,695 |
| 0456110 - Transmission Charge Ptp | 28,068,296 |
| 0456300 - Comp For Serv Oth JointOwner | 17,988,996 |
| 0456500 - NC Unbilled Fuel Clause Rev | 1,059,538 |
| 0456510 - NC Unbilled Fuel Emf | 0 |

**DUKE ENERGY CAROLINAS, LLC**
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**For the test year ended December 31, 2018**

**Item No. 2**
**Income Statement**

| Account-Account Description | Twelve Months Ended December 31, 2018 |
|---|---|
| 0456530 - SC Unbilled Fuel Clause Rev | 1,339,787 |
| 0456610 - Other Electric Revenues | 5,374,341 |
| 0456630 - Gross Up - Contr in Aid of Const | 1,413,537 |
| 0456640 - Deferred Dsm Costs - Nc | (377,472) |
| 0456949 - Other Revenue Affiliate | 12,890,259 |
| 0454601 - Other Miscellaneous Revenue | (4,041) |
| 0456016 - I/C Joint Disp - Trans NW Rev | (228,224) |
| 0456111 - Other Transmission Revenues | 1,915,987 |
| 0456001 - Other Variable Revenues-Reg | 566,153 |
| 0456191 - NC Unbilled Coal Inv Rev | 91,560 |
| 0456560 - NC EE Deferred Revenue | (40,020,094) |
| 0456570 - SC EE Deferred Revenue | (8,265,896) |
| 0454004 - Rent - Joint Use | 104,523 |
| 0456050 - Transmission Study Revenue | 1,738 |
| Other Revenue | 225,752,327 |
| Total Electric Revenue | 7,273,364,536 |
| Operating Revenues (400) | 7,273,364,536 |
| 0501110 - Coal Consumed - Fossil Steam | 676,787,906 |
| 0501310 - Oil Consumed - Fossil Steam | 8,586,389 |
| 0501330 - Oil Light - Off - Fossil Steam | 7,287,851 |
| 0509000 - Emission Allowances | 4,202 |
| 0509210 - NOx Emission Expense | 0 |
| 0557450 - Commissions/Brokerage Expense | 11,250 |
| 0557451 - EA & Coal Broker Fees | 4,883 |
| 0509213 - RECS Consumption Expense | 17,165,794 |
| 0501007 - Beneficial Reuse - Coal Ash | 69,033,482 |
| 0501008 - Contra fuel Exp BR Ash - SC | (16,395,042) |
| 0501009 - Contra Fuel Exp BR Ash - W/S | (115,964) |
| 0501015 - Contra Fuel Exp BR Ash - NCR | (41,063,333) |
| Steam Fossil Production Fuel (500-509) | 721,307,417 |
| 0547100 - Natural Gas | 98,356,933 |
| 0547101 - Natural Gas - CC | 373,047,230 |
| 0547200 - Oil | 25,830,495 |
| 0547106 - Biogas Expense | 3,466,205 |
| 0547107 - REC Biogas Contra Expense | (1,800,555) |
| 0547124 - I/C Gas Purchases | 8,437,660 |
| 0547108 - REC Biogas Contra Expense - SC | (79,134) |
| Combustion Production Fuel | 507,258,835 |
| 0518100 - Burnup of Owned Fuel | 275,311,826 |
| 0518620 - Canister Design Expense | 813,802 |

**DUKE ENERGY CAROLINAS, LLC**
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**For the test year ended December 31, 2018**

**Item No. 2**
**Income Statement**

| Account-Account Description | Twelve Months Ended December 31, 2018 |
|---|---|
| Nuclear Production Fuel (517-525) | 276,125,628 |
| Fuel Used in Electric Generation | 1,504,691,880 |
| 0555120 - Purchased Power - Other | 13,320 |
| 0555130 - Purchased Power - Co Generation | 39,064,689 |
| 0555150 - Purchased Power - Sepa | 95,017 |
| 0555180 - Interchange | (468,016) |
| 0555181 - Interchange Contra | 468,016 |
| 0555200 - Interchange Power | 197,473,680 |
| 0555220 - Interchange Power - Joint Owners | (3,669,129) |
| 0555230 - JO Negative Generation | (231,146) |
| 0555550 - Purchases Energy Imbalance | 434,371 |
| 0555750 - Purchases - Generation Imbalance | 3,782,663 |
| 0557980 - Retail Deferred Fuel Expenses | (183,557,101) |
| 0555125 - Purchased Power- Renewable | 57,275,506 |
| 0555135 - SC DERS Purchased Power | 46,266 |
| Other Power Supply Expense | 110,728,136 |
| 0555016 - I/C Joint Disp - Pur Pwr | 207,069,622 |
| Purchased Power (555) | 317,797,758 |
| 0920000 - A and G Salaries | 241,042,999 |
| 0921100 - Employee Expenses | 9,297,835 |
| 0921200 - Office Expenses | 16,646,404 |
| 0921300 - Telephone and Telegraph Exp | 6,341 |
| 0921400 - Computer Services Expenses | 2,817,018 |
| 0921540 - Computer Rent (Go Only) | 3,162,383 |
| 0921600 - Other | 4,342,915 |
| 0921980 - Office Supplies and Expenses | 50,110,386 |
| 0921990 - Corp Governance Office | 146 |
| 0922000 - Admin Exp Transfer | 3,841 |
| 0922100 - Admin Exp Transf - Construction | 0 |
| 0922700 - Admin Exp Transf - Catawba | (39,767,705) |
| 0923000 - Outside Services Employed | 67,489,022 |
| 0923980 - Outside Services Employee and | 3,749,472 |
| 0924000 - Property Insurance | 58,780 |
| 0924050 - Intercompany Property Insurance Exp | 3,753,100 |
| 0924100 - Admin - EH&S Expense | 108 |
| 0924980 - Property Insurance For Corp. | (1,412,398) |
| 0925200 - Injuries and Damages - Other | 266,216 |
| 0925300 - Environmental Inj and Damages | 2,074,106 |
| 0925980 - Injuries and Damages For Corp. | 7,787,752 |
| 0926000 - Empl Pensions and Benefits | 245,276,637 |

**DUKE ENERGY CAROLINAS, LLC**
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**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 2**
**Income Statement**

| Account-Account Description | Twelve Months Ended December 31, 2018 |
|---|---|
| 0926420 - Employees' Tuition Refund | 1,952 |
| 0926430 - Employees'Recreation Expense | 79,872 |
| 0926600 - Employee Benefits - Transferred | (83,000,962) |
| 0927001 - General and Administration | 47 |
| 0928000 - Regulatory Expenses (Go) | 12,121,234 |
| 0929000 - Duplicate Chrgs - Enrgy To Exp | (12,822,299) |
| 0930200 - Misc General Expenses | (34,056,191) |
| 0930210 - Industry Association Dues | 1,037,568 |
| 0930220 - Exp of Servicing Securities | 107,541 |
| 0930230 - Dues To Various Organizations | 433,016 |
| 0930240 - Director'S Expenses | 1,814,682 |
| 0930250 - Buy\Sell Transf Employee Homes | 1,495,583 |
| 0930600 - Leased Circuit Charges - Other | 4,787 |
| 0930700 - Research and Development | 756,998 |
| 0930800 - R and D - Alternative Energy | 2,121,677 |
| 0930940 - General Expenses | 224,376 |
| 0931001 - Rents - AandG | 26,752,360 |
| 0931008 - A and G Rents IC | 18,854,789 |
| 0107888 - CWIP - BU Bal Sht - Svc Co Exp | 0 |
| 0920300 - Project Development Labor | 231,794 |
| 0921110 - Relocation Expenses | 211 |
| 0921900 - Office Supply And Exp-Partner | 4,547 |
| 0925000 - Injuries and Damages | 293,089 |
| 0925051 - Intercompany Gen Liab Expense | 11,414,400 |
| 0930150 - Miscellaneous Advertising Exp | 5,346,453 |
| 0929500 - Admin Exp Transf | (21,770,528) |
| 0920100 - Salaries & Wages - Proj Supt - NCRC Rec | 40,746 |
| 0921101 - Employee Exp - NC | 8,698 |
| 0921102 - Employee Exp - SC | (1,113) |
| 0926999 - Non Service Cost (ASU 2017-07) | (60,117,517) |
| Admin & General Operation Expenses (920-931) | 488,083,166 |
| 0546000 - Suprvsn and Enginring - Ct Oper | 8,636,365 |
| 0547150 - Natural Gas Handling - Ct | 414,758 |
| 0547300 - Fuel Handling and Testing - Ct | 4,146 |
| 0548100 - Generation Expenses - Other Ct | 790,375 |
| 0548020 - Ammonia - Qualifying | 439,013 |
| 0548200 - Prime Movers - Generators - Ct | 947,080 |
| 0549000 - Misc - Power Generation Expenses | 9,922,331 |
| 0550001 - Other Power Gen Op Rents | (61,682) |
| 0549200 - CT Misc Power Exp-Recoverable | 39 |

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| Account-Account Description | Twelve Months Ended December 31, 2018 |
|---|---|
| 0546002 - Supvs and Engineer CT Opt - SC | 48,384 |
| 0546003 - Supvs and Engineer CT Opt - WH | 49,380 |
| 0546001 - Supvs and Engineer CT Opt - NC | 0 |
| Combustion Production Op Expense (546-550.1) | 21,190,189 |
| 0901000 - Supervision - Cust Accts | 92,741 |
| 0902000 - Meter Reading Expense | 2,455,088 |
| 0903000 - Cust Records and Collection Exp | 23,515,995 |
| 0903100 - Cust Contracts and Orders - Local | 8,108,129 |
| 0903200 - Cust Billing and Acct | 24,130,474 |
| 0903220 - Customer Billing - Ncemc | 0 |
| 0903240 - Customer Billing - Pmpa | 0 |
| 0903250 - Customer Billing - Common | 0 |
| 0903300 - Cust Collecting - Local | 10,325,012 |
| 0903400 - Cust Receiv and Collect Exp - Edp | 998,010 |
| 0903600 - Computer Serv Exps - Cust Accts | 6,017 |
| 0903720 - Cust Billing Ncemc - Operating | 0 |
| 0903750 - Common - Operating - Cust Accts | (5,262) |
| 0904000 - Uncollectible Accounts | 16,594,908 |
| 0905000 - Misc Customer Accts Expenses | 264,709 |
| 0904001 - Bad Debt Expense | 42,779 |
| Customer Account Expenses (901-905) | 86,528,601 |
| 0908150 - Commer/Indust Assistance Exp | 1,164 |
| 0909650 - Misc Advertising Expenses | 149,499 |
| 0910000 - Misc Cust Serv/Inform Exp | 14,583,781 |
| 0910100 - Exp - Rs Reg Prod/Svces - Cstaccts | 4,567,631 |
| 0908000 - Cust Asst Exp-Conservation Programs - Rec | 3,041 |
| Customer Service and Information (907-910) | 19,305,116 |
| 0580000 - Supervsn and Engring - Dist Oper | 1,207,429 |
| 0582100 - Station Expenses - Other - Dist | 1,281,887 |
| 0582200 - Relays and Meters - Dist | 219 |
| 0583100 - Overhead Line Exps - Other Dist | 1,429,862 |
| 0583200 - Transf Set Rem Reset Test - Dist | 1,551,043 |
| 0584000 - Underground Line Expenses - Dist | 11,475,994 |
| 0585000 - St Lghtng and Sgnl Systm - Dist | 492,035 |
| 0586000 - Meter Expenses - Dist | 10,709,054 |
| 0587000 - Cust Install Exp - Other Dist | 10,526,283 |
| 0587100 - Lcd - Opting and Installing - Dist | 130 |
| 0588100 - Misc Distribution Exp - Other | 47,490,235 |
| 0588300 - Load Mang - Gen and Control - Dist | 5,419 |
| 0589000 - Rents - Dist Oper | 117,896 |

**DUKE ENERGY CAROLINAS, LLC** | **Item No. 2**
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**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

| Account-Account Description | Twelve Months Ended December 31, 2018 |
|---|---|
| 0581004 - Load Dispatch-Dist of Elec | 8,425,724 |
| 0588101 - Grid Solutions O&M Deferral | (1,880,349) |
| Distribution General Expense Other (580-589) | 92,832,861 |
| 0535000 - Supervsn and Engrng - Hydro Oper | 8,646,000 |
| 0537100 - Hydraulic Expenses | 95,283 |
| 0537400 - Recreation Expenses - Hydro | (1,028,221) |
| 0538100 - Electric Expenses - Other - Hydro | 5,612,382 |
| 0539000 - Misc Hydraulic Expenses | 8,678,588 |
| Hydraulic Production Operating | 22,004,032 |
| 0517000 - Supervsn and Engnring - Nuc Oper | 36,656,416 |
| 0518510 - Oil in Aux Stm Gen Fac - Nuc Opr | 11,419 |
| 0518530 - Diesel Unit Oil Cons - Nuc Oper | 106,987 |
| 0519000 - Coolants and Water - Nuc Oper | 9,091,343 |
| 0520000 - Steam Expenses - Nuc Oper | 46,192,663 |
| 0523000 - Electric Expenses | 21,321,886 |
| 0524000 - Misc Expenses - Nuc Oper | 179,504,609 |
| 0525001 - Nuc Power Gen Op Rents | 618 |
| 0517200 - Nuclear Op Super & Eng - NCRC Rec | 187 |
| 0524400 - Misc Expenses-Nuc Oper - Recoverable | 11,544 |
| 0524410 - Nuclear Misc Expense - NCRC Rec | 2,922 |
| 0517001 - Sup and Engineer - NC | (60,586) |
| 0517002 - Sup and Engineer - SC | (22,868) |
| 0519001 - Coolants and Water Nuc Op - NC | (32,571) |
| 0519002 - Coolants and Water Nuc Op - SC | (11,882) |
| 0520001 - Steam Exp Nuc Op - NC | (553,775) |
| 0520002 - Steam Exp Nuc Op - SC | (215,638) |
| 0523001 - Electric Exp - NC | (389,065) |
| 0523002 - Electric Exp - SC | (141,856) |
| 0524001 - Misc Exp Nuc - NC | (226,825) |
| 0524002 - Misc Exp Nuc - SC | (76,067) |
| Nuclear Production Operating Expense (517-525) | 291,169,463 |
| 0557000 - Other Expenses - Oper | 165,639,614 |
| 0556000 - System Cnts & Load Dispatching | 32,042 |
| Other Expenses (557) | 165,671,656 |
| 0912000 - Demonstrating and Selling Exp | 13,605,042 |
| 0911000 - Supervision | 4,784 |
| 0913001 - Advertising Expense | 565,426 |
| 0916000 - Miscellaneous Sales Expense | 58,889 |
| 0912100 - Demonstration & Sell-Proj Supt - NCRC Rec | 5,029 |
| Sales Expense (911-917) | 14,239,170 |

**DUKE ENERGY CAROLINAS, LLC**
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**For the test year ended December 31, 2018**

**Item No. 2**
**Income Statement**

| Account-Account Description | Twelve Months Ended December 31, 2018 |
|---|---|
| 0500000 - Suprvsn and Engrg - Steam Oper | 14,106,955 |
| 0501150 - Coal Handling | 9,047,197 |
| 0501160 - Coal Sampling and Testing | 31,504 |
| 0501180 - Sale of Fly Ash - Revenues | (793,723) |
| 0501190 - Sale of Fly Ash - Expenses | 4,296,418 |
| 0502040 - Cost of Lime | 19,594,631 |
| 0502100 - Fossil Steam Exp - Other | 21,064,445 |
| 0505000 - Electric Expenses - Steam Oper | 7,450,715 |
| 0506000 - Misc Fossil Power Expenses | 18,743,126 |
| 0502020 - Ammonia - Qualifying | 3,131,057 |
| 0504000 - Steam Transferred - Credit | (65) |
| 0502030 - Urea - Qualifying | 928,117 |
| 0502070 - Gypsum - Qualifying | 6,190,611 |
| 0502051- Limestone Handling | 13,054 |
| 0502080 - Mag Hydroxide Qualifying Reag | 1,675,320 |
| 0502090 - Calcium Carbonate | 678,564 |
| 0502410 - Steam Oper-Bottom Ash/Fly Ash FL | 1,449 |
| 0506300 - Misc Fossil Power Expenses - Recoverable | 459 |
| 0502082 - Re-emission Chem Exp - Reagent | 69,161 |
| 0502083 - Activated Carbon Exp - Reagent | 170,782 |
| Steam Production Operating (500-509) | 106,399,777 |
| 0560000 - Supervsn and Engrng - Trans Oper | 12,057 |
| 0561100 - Load Dispatch - Reliability | 1,569,257 |
| 0561200 - Load Dispatch - MnitorandOprtrnsys | 8,618,014 |
| 0561300 - Load Dispatch - TranssvcandSch | 812,692 |
| 0561400 - Scheduling - Sys CntrlandDisp Svs | 832 |
| 0561500 - Reliability Planning and Stdsdev | 305,750 |
| 0561600 - Trans Svc Studios | 9,768 |
| 0561700 - Generation Interconnect Studies | (1,511) |
| 0562000 - Station Expenses | 1,647,297 |
| 0563000 - Overhead Line Expenses - Trans | 938,130 |
| 0565000 - Transm of Elec By Others | 483,473 |
| 0565010 - Trans of Elect - Purchase | 0 |
| 0566000 - Misc Trans Exp - Other | 10,912,020 |
| 0566100 - Misc Trans - Trans Lines Related | 402,131 |
| 0567000 - Rents - Trans Oper | 147,140 |
| 0565016 - I/C Joint Disp - Trans NW Exp | 2,552,151 |
| Transmission Operating Expense (560-567) | 28,409,202 |
| Other Operation | 1,335,833,231 |
| 0852000 - Communication System Expenses | 0 |

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| Account-Account Description | Twelve Months Ended December 31, 2018 |
|---|---|
| Gas Operating Expenses | 0 |
| Operation Expenses (401) | 3,158,322,869 |
| 0403500 - Depr of General Plant | 61,294,439 |
| 0403100 - Depr of Steam Prod Plant | 260,980,355 |
| 0403200 - Depr of Hydro Prod Plant | 39,571,275 |
| 0403300 - Depr of Transm Plant | 80,280,998 |
| 0403400 - Depr of Distribution Plant | 257,841,798 |
| 0403600 - Depr of Comb Turb Plant | 87,900,747 |
| 0403700 - Depr of Nuc Prod Plant | 249,844,895 |
| 0403201 - Depr Hydro Prod Plnt - Sec 124 | 75,977 |
| 0403850 - Deferral of Depr. Exp. - Solar | (671,504) |
| 0403501 - SC EDP Depreciation Expense | (79,849) |
| 0403111 - Depr Steam Prdn Plt- SC | 1,062,626 |
| 0403112 - Depr Steam Prdn Plt - WH | 682,731 |
| 0403210 - Depr of Hydro Prod - NC | 0 |
| 0403211 - Depr of Hydro Prod - SC | 19,475 |
| 0403311 - Depr Transm Plt - SC | 147,364 |
| 0403312 - Depr Transm Plt - WH | 4,347 |
| 0403310 - Depr Transm Plt - NC | (885) |
| 0403410 - Depr Distribn - NC | (59,078) |
| 0403411 - Depr Distribn - SC | (3,029,976) |
| 0403412 - Depr Distribn Plt - WH | 103 |
| 0403350 - IC Lease - Depr of CT Plant | 806,118 |
| Electric Depreciation | 1,036,671,955 |
| 0403610 - Depr Cmb Turbine - NC | (3,600,045) |
| 0403611 - Depr Cmb Turbine - SC | (3,261,172) |
| 0403612 - Depr Cmb Turbine - WH | 108,635 |
| 0403710 - Depr Nuc Product - NC | 9,006 |
| 0403711 - Depr Nuc Product - SC | (5,441,284) |
| 0403712 - Depr Nuc Product - WH | 1,971 |
| 0403212 - Depr of Hydro Prod - WH | 3,432 |
| 0403110 - Depr Steam Prdn Plt - NC | 3,115,325 |
| 0403602 - Rotable Fleet Spare Amort | 1,938,375 |
| Depreciation Expenses (403) | 1,029,546,198 |
| 0404100 - Amor of Limited Term Elec Plt | 127,400 |
| 0404200 - Amort of Elec Plt - Software | 65,733,086 |
| 0404400 - Franchise Amortization | 60 |
| Amort of LT Term Elec Plt | 65,860,546 |
| Amortization and Depletion of Utility Plant (404-405) | 65,860,546 |
| 0407307 - SC Cliff Amortization | 0 |

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|---|---|
| 0407309 - Pension Amortization | 0 |
| 0407356 - Deferred VOP Amortization | 0 |
| 0407305 - Regulatory Debits | 12,018,542 |
| 0407350 - REPS Rider NC Retail | 848,344 |
| 0407351 - REPS Rider NC Whse | 89,820 |
| 0407352 - REPS Rider NC Retail-Cert | 21,268,322 |
| 0407353 - REPS Rider NC Whse-Cert | 1,284,556 |
| 0407391 - SC Storm Reserve Accrual | 5,000,000 |
| 0407324 - NC & MW Coal As Amort Exp | 47,052,005 |
| 0407326 - Wholesale Coal Ash Amort Exp | 34,804,327 |
| 0407327 - Unbillable Coal Ash Expense | 768,973 |
| 0407342 - Nuclear Fuel - Last Core Amort | 7,751,874 |
| 0407375 - M&S Inv LOL Reserve Amort | 9,128,723 |
| 0407343 - Buck/Bridgewater Amort-NC | 0 |
| 0407344 - Buck/Bridgewater Amort-SC | 581,964 |
| 0407346 - Cliffside 6 Amort-NC | 0 |
| 0407347 - Cliffside 6 Amort-SC | 464,160 |
| 0407349 - Dan River Amort-NC | 0 |
| 0407362 - Dan River Amort-SC | 810,852 |
| 0407364 - Oconee HELB Amort - SC | 54,768 |
| 0407365 - McGuire Uprate Amort - NC | 1,086 |
| 0407366 - McGuire Uprate Amort-SC | 177,408 |
| 0407368 - Fukushima CyberSecurity Amort-SC | 1,146 |
| 0407369 - Buck Retired Plant Amort-NC | 1,431,992 |
| 0407373 - Buck Retired Plant Amort-SC | 51,853 |
| 0407376 - Clemson Univ Grant Amort | 225,000 |
| 0407392 - Amort Debt Ret-NC | 296 |
| 0407393 - Amort Debt Ret-SC | 907,624 |
| 0407385 - Deferred NDTF Overfund | 4,995,000 |
| 0407383 - Amort Coal Ash Spend - Whlsale | 0 |
| 0407398 - ECIT Rider Amortization | (3,016,460) |
| 0407115 - Meter Amortization | 1,652,780 |
| 0407388 - COR Settlement Amortz - NC | 850,880 |
| 0407447 - Lee CC Amort-NC Equity | 494,247 |
| 0407448 - Lee CC Amort-NC Debt Ret | 172,544 |
| 0407449 - Amort Levelized Ret LeeCC | 127,352 |
| Regulatory Debits (407.3) | 149,999,980 |
| 0411822 - SO2 Sales Proceeds | (166) |
| 0411832 - NOx Sales Proceeds | (84,671) |
| 0411875- Annual NOx Proceeds | 0 |

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|---|---|
| 0411861 - RECS COS | 335,400 |
| Gains from Disposition of Allowances (411.8) | 250,563 |
| 0407450 - NC Amort of Retail REC Exp | (16,383,758) |
| 0407451 - NC Amort of Whse REC Exp | (782,036) |
| 0407445 - SC Storm Reserve | (37,518,100) |
| 0407700 - SC DERP Amortization | 2,788,199 |
| Regulatory Credits (407.4) | (51,895,694) |
| Depreciation and Amortization | 1,193,761,593 |
| 0510000 - Suprvsn and Engrng - Steam Maint | 13,012,747 |
| 0511000 - Maint of Structures - Steam | 25,391,613 |
| 0512100 - Maint of Boiler Plant - Other | 40,874,905 |
| 0513100 - Maint of Electric Plant - Other | 18,612,933 |
| 0514000 - Maintenance - Misc Steam Plant | 5,950,994 |
| 0513101 - Maint Elec Plant - Mitigation | 3,045 |
| 0510100 - Suprvsn and Engrng-Steam Maint - Rec | 499,867 |
| 0511200 - Maint Of Structures-Steam - Recoverable | 0 |
| 0512300 - Maint Of Boiler Plant-Other - Recoverable | 0 |
| 0514300 - Maintenance - Misc Steam Plant | 6,191 |
| 0510001 - Deferred O&M-NC | 550 |
| 0510002 - Deferred O&M - SC | 45,720 |
| 0510003 - Deferred O&M - WH | 39,324 |
| 0513102 - Main. Electric Plt - NC | 1,544 |
| 0513103 - Main. Electict Plt - SC | 551 |
| STEAM PRODUCTION MAINTENANCE (510-515) | 104,439,983 |
| 0541000 - Suprvsn and Engrng - Hydro Maint | 2,733,907 |
| 0542000 - Maint of Structures - Hydro | 743,175 |
| 0543000 - Maint - Reservoir Dam and Waterway | 3,173,870 |
| 0544000 - Maint of Electric Plant - Hydro | 6,051,617 |
| 0545100 - Maint - Misc Hydraulic Plant | 3,068,068 |
| 0545400 - Recreation Facilities - Hydro | 952,951 |
| HYDRO PRODUCTION MAINTENANCE (541-545.1) | 16,723,589 |
| 0569000 - Maint of Structures - Trans | 943,999 |
| 0569100 - Maint of Computer Hardware | 77,034 |
| 0569200 - Maint of Computer Software | 2,667,421 |
| 0569300 - Maint of Communication Equipment | 210 |
| 0570100 - Maint Stat Equip - Other_Trans | 1,043,811 |
| 0570200 - Main - Cir Brkrs Trnsf Mtrs - Trans | 7,409,505 |
| 0571000 - Maint of Overhead Lines - Trans | 25,081,167 |
| 0573000 - Maint of Misc Transm Plant | 1,451,315 |
| 0572000 - Maintenanace of Underground Lines | (1,248) |

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|---|---|
| TRANSMISSION MAINTENANCE (568-574) | 38,673,214 |
| 0590000 - Supervsn and Engrng - Dist Maint | 977,779 |
| 0592100 - Maint Station Equip - Other - Dist | 551,617 |
| 0592200 - Cir Brkrs Trnsf Mters Rely - Dist | 4,017,692 |
| 0593000 - Maint Overhd Lines - Other - Dist | 137,012,854 |
| 0593100 - Right - Of - Way Maintenance - Dist | 58,051,182 |
| 0594000 - Maint - Underground Lines - Dist | 20,327,339 |
| 0595100 - Maint Lines Transfrs - Other - Dist | 1,334,715 |
| 0595200 - Cir Brkrs Transf Capcitrs - Dist | 1,481,601 |
| 0596000 - Maint - Streetlightng/Signl - Dist | 12,799,453 |
| 0597000 - Maintenance of Meters - Dist | 2,314,975 |
| 0598100 - Main Misc Dist Plt - Other - Dist | 3,921,975 |
| 0591000 - Maintenance of Structures - Dist | 2,056 |
| DISTRIBUTION GENERAL EXPENSE MAINTENANCE (590-598) | 242,793,238 |
| 0551000 - Suprvsn and Enginring - Ct Maint | 5,050,700 |
| 0552000 - Maintenance of Structures - Ct | 6,882,389 |
| 0553000 - Maint - Gentg and Elect Equip - Ct | 6,772,926 |
| 0554000 - Misc Power Generation Plant - Ct | 4,264,290 |
| 0554100 - Other Production Maintenance | 140,576 |
| 0553100 - CT Maint of Gen and Plant-Recoverable | 650 |
| Combustion Production Maintenance (551-554.1) | 23,111,531 |
| 0528000 - Maint Suprvsn and Enginrng - Nuc | 60,587,136 |
| 0529000 - Maintenance of Structures - Nuc | 13,571,207 |
| 0530000 - Maint of Reactor Plt Equip - Nuc | 86,167,991 |
| 0531100 - Maint Electric Plt - Other - Nuc | 58,892,206 |
| 0531200 - Monitor Ventiltn Gas - Nuc Maint | (243,502) |
| 0532100 - Maint Misc Nuclear Plt - Other | 60,395,557 |
| 0528001 - Main Sup and Eng Nuc - NC | (671,571) |
| 0528002 - Main Sup and Eng Nuc - SC | (248,482) |
| 0529001 - Main of Structure Nuc - NC | (133,186) |
| 0529002 - Main of Structure Nuc - SC | (49,987) |
| 0530001 - Main Reactor Plt Eq Nuc - NC | (2,347,358) |
| 0530002 - Main Reactor Plt Eq Nuc - SC | (901,246) |
| 0531101 - Main Elect Plt Other Nuc - NC | (3,665,062) |
| 0531102 - Main Elect Plt Other Nuc - SC | (1,351,997) |
| 0532101 - Main Misc Nuc Plt - NC | (3,602,549) |
| 0532102 - Main Misc Nuc Plt - SC | (1,304,096) |
| NUCLEAR PRODUCTION MAINTENANCE (528-532) | 265,095,062 |
| 0935100 - Maint General Plant-Elec | 2,922,713 |
| 0935200 - Cust Infor and Computer Control | (61,439) |

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|---|---|
| 0932000 - Maintenance of General Plant | 33 |
| ADMIN GENERAL EXPENSE MAINT (935) | 2,861,306 |
| 0551220 - Solar: Maint Supv & Eng | 0 |
| 0553220 - Solar: Maint Gen & Elect Plt | 2,001 |
| 0554220 - Solar: Maint Misc Gen Plt | 67,523 |
| Solar Maintenance Expense | 69,524 |
| Maintenance Expenses (402) | 693,767,447 |
| 0408000 - NC Property Tax - Electric | 89,585,588 |
| 0408100 - Franchise Tax - Electric | 311,213 |
| 0408150 - State Unemployment Tax | 406,487 |
| 0408151 - Federal Unemployment Tax | 285,900 |
| 0408152 - Employer FICA Tax | 70,660,436 |
| 0408200 - NC Industrial Comm - Electric | 180,894 |
| 0408360 - SC Property Tax - Electric | 117,108,190 |
| 0408460 - SC Kwh Power Gen Tax - Electric | 9,701,369 |
| 0408470 - Franchise Tax | 25,491,697 |
| 0408620 - SC Greenwood Tax - Electric | 761 |
| 0408800 - Federal Highway Use Tax - Elec | 57,594 |
| 0408960 - Allocated Payroll Taxes | (20,052,280) |
| 0408120 - Franchise Tax - Non Electric | 864,920 |
| 0408121 - Taxes Property - Operating | 0 |
| 0408205 - Highway Use Tax | 24,620 |
| 0408851 - Sales and Use Tax Exp | (2,924,063) |
| 0408123 - Deferred Property Tax - NC | 40,251 |
| 0408124 - Deferred Property Tax - SC | 45,984 |
| 0408125 - Deferred Property Taxes-WH | 39,860 |
| Taxes Other Than Income Taxes (408.1) | 291,829,421 |
| Total Operating Expense Before Income Taxes | 5,337,681,329 |
| 0409190 - Federal Income Tax - Electric CY | 74,309,787 |
| 0409192 - UTP Tax Expense: Fed Utility | (597,789) |
| Federal Income Tax - Electric CY | 73,711,998 |
| 0409191 - Federal Income Tax - Electric PY | (79,386,624) |
| 0409195 - UTP Tax Expense: Fed Util-PY | 2,167,967 |
| Federal Income Tax - Electric PY | (77,218,656) |
| Income Taxes Federal (409.1) | (3,506,659) |
| 0409112 - UTP Tax Expense: State Utility | 3,460,441 |
| 0409113 - UTP Tax Exp: State Util-PY | (613,827) |
| NC Income Tax - Electric | 2,846,614 |
| 0409102 - SIT Exp - Utility | 10,428,517 |
| 0409104 - Current State Income Tax - PY | (6,216,421) |

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|---|---|
| Income Tax - Other (409.1) | 7,058,710 |
| 0410100 - Dfit: Utility: Current Year | 1,045,490,430 |
| 0410102 - Dsit: Utility: Current Year | 154,907,033 |
| 0410105 - Dfit: Utility: Prior Year | 201,841,987 |
| 0410106 - Dsit: Utility: Prior Year | 23,660,641 |
| 0410109 - DFIT Utility - prior year | 0 |
| 0410110 - Prov/Defd Inc Tax - Electric CY | 0 |
| Provision for Deferred Income Taxes | 1,425,900,089 |
| 0411100 - Dfit: Utility: Curr Year Cr | (801,637,439) |
| 0411101 - Dsit: Utility: Curr Year Cr | (146,590,881) |
| 0411102 - Dfit: Utility: Prior Year Cr | (122,620,892) |
| 0411103 - Dsit: Utility: Prior Year Cr | (17,888,824) |
| 0411106 - DFIT Utility - Prior year | 0 |
| 0411107 - DSIT Utility - Prior Year | 0 |
| Provision for Deferred Income Tax Credit | (1,088,738,036) |
| Provision for Deferred Income (410.1) | 337,162,053 |
| 0411410 - Invest Tax Credit Adj - Electric | (5,258,630) |
| Investment Tax Credit Adjustment Net (411.4) | (5,258,630) |
| Total Income Taxes On Operating Income | 335,455,475 |
| Total Utility Operating Expenses | 5,673,136,804 |
| Net Utility Operating Income | 1,600,227,733 |
| 0416330 - Miscellaneous Expense | 110,300 |
| Costs and Exp. of Merchandising Job and Contract Work (416) | 110,300 |
| 4181107 - Earnings of Sub | 0 |
| Equity in Earnings of Subsidiary Companies (418.1) | 0 |
| 0419240 - Miscellaneous Interest | 457,714 |
| 0419429 - IC Moneypool - Interest Inc | 721,839 |
| 0419040 - Interest Inc (sch M) | (251,734) |
| 0419003 - Int Income - Tax Exempt | 0 |
| Interest and Dividend Income (419) | 927,820 |
| 0419110 - AFUDC Equity Component | 73,017,943 |
| Allowance for Other Funds Under Construction (419.1) | 73,017,943 |
| 0418200 - Non - Util - Depreciation Expense | (2,946,961) |
| Non Operating Rental Income (418) | (2,946,961) |
| 0421310 - Sundry Revenues | 1,475 |
| 0421640 - Return on Deferred Dsm - Nc | 3,954,811 |
| 0421650 - Return on Deferred Dsm - Sc | 3,585,687 |
| 0421910 - NC Ret on BPM Sharing | (594,562) |
| 0421940 - Misc Income | 9,633,163 |
| 0421032 - Equity Return - Deferred Project | 47,370 |

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|---|---|
| 0421660 - Return on Deferred Solar | 283,482 |
| 0421060 - MINI-TIMBER SALES-NC | 377,069 |
| 0421315 - Return on Equity - Coal Ash Sp | 1,920,816 |
| Miscellaneous Nonoperating Income | 19,209,311 |
| 0421100 - Gain on Disposal of Property | 0 |
| Gain On Disposal Of Property | 0 |
| 0417310 - Products and Svcs - NonReg | 19,140,858 |
| 0417000 - Misc Revenue | 1,449,772 |
| 0417007 - Misc Revenue-Reg | 525,272 |
| Revenues from Nonutility Operations (417) | 21,115,902 |
| 0417320 - Exp - Unreg Products and Svcs | 19,620,457 |
| 0417620 - Expense - Mox Fuel | 84 |
| 0417107 - Administrative Expenses | (5,999) |
| Expenses of Nonutility Operations (417.1) | 19,614,542 |
| Total Expense - Nonutility Operations | 1,501,361 |
| Other - Net | 17,763,710 |
| Total Other Income | 91,599,174 |
| 0421200 - Loss on Disposal of Property | 392,522 |
| Loss on Disposition of Property (421.2) | 392,522 |
| 0425000 - Miscellaneous Amortization | 9,979 |
| Miscellaneous Amortization (425) | 9,979 |
| 0426100 - Donations | 9,085,955 |
| 0426101 - BPM Donations | 439,205 |
| Donations (426.1) | 9,525,160 |
| 0426200 - Life Insurance Expense | (60,141) |
| Life Insurance (426.2) | (60,141) |
| 0426300 - Penalties | 1,830,590 |
| Penalties (426.3) | 1,830,590 |
| 0426400 - Exp/Civic and Political Activity | 4,083,343 |
| Exp. For Certain Civic, Political and Related Activity (426.4) | 4,083,343 |
| 0426510 - Other | 6,003,156 |
| Other Administrative Expense Affiliate | 6,003,156 |
| 0426540 - Employee Service Club Dues | 802 |
| Employee Service Club Dues | 802 |
| 0426551 - Impairment and Other Rel Chgs | 0 |
| 0426553 - PpandE Impairments | 191,963,296 |
| Other Deductions (426.5) | 197,967,254 |
| Other Income Deductions | 213,356,185 |
| Total Other Income Deductions | 213,748,707 |
| 0408040 - NC Property Tx - Misc NonUtility | 3,059,463 |

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|---|---|
| 0408400 - SC Property Tx - Misc NonUtility | 404,160 |
| 0408820 - Misc NonUtility Tax | 103 |
| Taxes Other than Income Taxes (408.2) | 3,463,726 |
| 0409220 - Federal Income Tax - NonUtility CY | 325,781 |
| 0409221 - Federal Income Tax - NonUtility PY | (5,295,912) |
| Income Taxes - Federal (409.2) | (4,970,131) |
| 0409233 - Tax expense - state nonutility - PY | (546,711) |
| NC Income Tax - Nonutility | (546,711) |
| 0409202 - State Income Tax NonUtility | 82,930 |
| GA Income Tax - Nonutility | 82,930 |
| Income Tax Non Utility (409.2) | (463,781) |
| Income Taxes - Non Utility (Deduction) | (5,433,912) |
| 0410240 - Dfit: Non - Utility: Curr Year | 12,870,147 |
| 0410241 - Dfit: Non - Utility: Prior Yr Cr | 3,748,439 |
| 0410242 - Dsit: Non - Utility: Curr Year | 1,879,176 |
| 0410243 - Dsit: Non - Utility: Prior Year | 596,557 |
| 0410246 - DFIT Non-Utility - Prior Yr | 0 |
| Provision for Deferred Income Taxes (410.2) | 19,094,320 |
| 0411240 - Dfit: Non - Utility: Curr Yr Cr | (40,199,987) |
| 0411241 - Other Deferred Taxes PY | (1,413,567) |
| 0411242 - Dsit: Non - Utility: Curr Yr Cr | (5,869,188) |
| 0411243 - Dsit: Non - Utility: Prior Yr Cr | (88,252) |
| Provision for Deferred Income Tax Credit (411.2) | (47,570,994) |
| Provision for Deferred Income Tax (Non Utility) | (28,476,674) |
| Total Taxes on Other Income and Deductions | (30,446,860) |
| Net Other Income and Deductions | (91,702,673) |
| Gross Income | 1,508,525,059 |
| 0428025 - Amortization of Debt Discount | 1,474,208 |
| 0428100 - Amort of Debt Discount and Exp | 4,052,252 |
| 0428021 - Amort of Deferred Debt Exp | 837,654 |
| Amortization of Debt Discount and Exp (428) | 6,364,114 |
| 0428165 - Amort on Loss of Reaquired Debt | 6,441,077 |
| Amortization of Loss on Reaquired Debt (428.1) | 6,441,077 |
| Total Amortization of Debt Discount and Loss | 12,805,191 |
| 0430216 - IC Moneypool - Interest Exp | 16,249,127 |
| Interest on Debt to Associated Companies (430) | 16,249,127 |
| 0431100 - Int Accrued/Cust Deposits - Nc | 7,129,673 |
| 0431200 - Int Accrued/Cust Deposits - Sc | 1,038,996 |
| 0431400 - Int/Other Notes and Acct Pay | 113,229 |
| 0431510 - Int/Cat Working Capital Fund | 156,643 |

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|---|---|
| 0431520 - Int/Cat Buyer Advances | 1,268,013 |
| 0431710 - Int Exp on Revenue Refunds | 3,674,697 |
| 0431900 - Interest Expense Other | 5,778,185 |
| 0431130 - Interest Exp - Capital Lease | 3,231,778 |
| 0431550 - Interest Exp-Assign From Svc | 3,523,699 |
| 0431011 - Debt Return - Deferred Projects | (14,440,669) |
| 0431000 - Int Exp - Taxes | 3,258 |
| 0431013 - Int Exp - 2013 Rate Case Light | 536 |
| 0431315 - Coal Ash Spend - Debt Return | (30,304,612) |
| 0431350 - IC Lease - Int Exp Cap Lease | 5,579,798 |
| Other Interest Expense (431) | (13,246,775) |
| Other Interest | 3,002,352 |
| 0432000 - AFUDC Debt Component | (35,192,184) |
| Allowance for Borrowed Funds Used During Construction - CR(432) | (35,192,184) |
| 0427100 - Interest on Bonds | 457,531,046 |
| 0427430 - Int - Oconee Co Pollution Contrl | 0 |
| Interest on LT Debt | 457,531,046 |
| Total Interest on Long - Term Debt (427) | 457,531,046 |
| Net Interest Charges | 438,146,405 |
| Income Before Extraordinary Items | 1,070,378,654 |
| *FERC Net Income* | **1,070,378,654** |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 3**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

a. Provide the balance in each total company current asset account and each current liability account and subaccount included in the applicant's chart of accounts by months for the test year. Additionally, show total current assets, total current liabilities, and net current position (current assets less current liabilities) by months and average (13 month) for the test year. Provide a reconciliation of total company current assets, current liabilities and net current position as shown on the total company balance sheet for each month of the test year.

**Response:**

See attached file for response to request E1-3.

DEC Rate Case E1-3
Current Position.xls›

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the Test Year Ended December 31, 2018**

**Item No. 3**
**Current Position**

| Account & Description | Dec 2017 | Jan 2018 | Feb 2018 | Mar 2018 | Apr 2018 | May 2018 | Jun 2018 | Jul 2018 | Aug 2018 | Sep 2018 | Oct 2018 | Nov 2018 | Dec 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CURRENT AND ACCRUED ASSETS** | | | | | | | | | | | | | |
| 0131100 - Cash - Various Banks | 57,983,864 | 8,204,066 | 5,450,461 | 10,168,515 | 11,413,648 | 26,928,875 | 47,213,377 | 13,901,567 | 37,323,504 | 53,680,526 | 31,764,397 | 47,235,616 | 68,226,306 |
| 0131300 - Retail Branch/Cash Collections | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26,420,255 | 26,420,255 | 26,420,155 | 26,423,000 | 8,272,375 |
| 0131315 - Cash - DPCBIS - Bank of Travelers Rest | 27,842 | 27,842 | 27,842 | 27,842 | 27,842 | 27,842 | 27,842 | 27,842 | 27,842 | 27,842 | 27,842 | 27,842 | 27,842 |
| 0131324 - Cash-DPCBIS-Chase-ACHRcpts | (1,794,469) | (2,238,271) | (7,033,542) | (13,040,478) | (8,423,659) | (8,736,794) | (9,220,254) | (9,744,207) | (9,229,365) | (9,734,323) | (3,970,995) | (4,386,366) | (4,797,910) |
| 0131325 - Cash - DPCBIS - Chase - Ctwba Wires | (5,200) | 7,615 | 4,793,879 | 1,280,910 | 5,404,948 | 4,869,949 | 4,879,358 | 5,226,359 | (5,520,681) | (5,439,969) | (11,764,549) | (11,907,476) | (5,574,688) |
| 0131326 - Cash-DPCBIS-WachoviaRecpts | 1,369,580 | 464,925 | 408,087 | 1,240,897 | 2,759 | 1,351,602 | 1,489,006 | 3,701,164 | 906,087 | 1,578,291 | (57,254) | 1,065,771 | (468,075) |
| 0131327 - Cash - DPCBIS - BofA - Receipts | 11,230,896 | 12,478,631 | 18,776,726 | 785,880 | 7,204,504 | 12,465,802 | 11,008,756 | 15,576,999 | 2,020,020 | (1,135,763) | (4,956,324) | 429,501 | 15,983,961 |
| 0131329 - Cash - DPCBIS - BofA - CreditCard | 2,962,624 | 3,012,750 | 3,956,853 | (33,542) | 6,190,094 | 2,704,264 | 2,993,012 | 4,076,888 | (5,500,815) | (1,030,893) | 3,082,749 | 3,003,566 | 7,725,581 |
| 0131351 - Cash - Chase - General | (52,318,666) | (420,709) | (547,134) | 4,294,933 | (6,617,658) | (16,519,054) | (37,268,528) | (4,617,783) | (18,175,229) | (33,861,357) | (9,334,007) | (27,244,123) | (14,247,876) |
| 0131352 - Cash - Chase - Bpm | 551,999 | 175,999 | 130,999 | (1) | 2,748,235 | (1) | (59,451) | (1) | 129,999 | 233,999 | 79,999 | 217,999 | (1) |
| 0131354 - Cash-Wachovia-General | 645,830 | 754,199 | 646,531 | 1,026,798 | 805,587 | 648,491 | 726,918 | 685,422 | 630,741 | 671,460 | 604,765 | 1,007,575 | 781,934 |
| 0131355 - Cash-Wachovia-MARBS | (5,840) | (388) | (6,825) | (66,836) | (68,201) | (66,063) | (66,048) | (85,986) | (86,653) | 321,706 | 301,229 | (930) | (4,572) |
| 0131359 - Cash - BofA - GeneralAcct | 100,000 | 100,554 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,800 | 100,000 | 101,847 | 74,005 | 100,005 | 104,594 |
| 0131376 - Cash - Wachovia - DCS | (448,907) | (432,868) | (156,135) | (20,119) | (174,593) | (15,027) | (281,770) | (93,353) | (180,925) | (323,025) | (309,162) | (309,585) | (158,473) |
| 0131377 - Cash - Chase - Control Disburs | (4,417,528) | (5,728,699) | (2,794,663) | (2,703,880) | (4,525,514) | (6,542,975) | (5,544,502) | (4,765,935) | (4,528,227) | (4,878,877) | (6,774,845) | (3,915,650) | (43,605,831) |
| 0131227 - Cash Wells 0020 PEC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (6,422) |
| 0131228 - Cash Wells 8238 PEF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 89 | 89 | 0 | 0 | 0 | 0 |
| **131 Cash** | **15,882,026** | **16,405,647** | **23,753,079** | **3,060,920** | **14,087,993** | **17,216,910** | **15,997,716** | **23,989,865** | **24,336,642** | **26,631,720** | **25,188,005** | **31,746,746** | **32,258,744** |
| 0135200 - Wk Funds - Branch Managers | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 |
| **135 Working Funds** | **300,000** | **300,000** | **300,000** | **300,000** | **300,000** | **300,000** | **300,000** | **300,000** | **300,000** | **300,000** | **300,000** | **300,000** | **300,000** |
| 0142010 - Accounts Receivable | 0 | 31 | 31 | 0 | 0 | 0 | 0 | 144 | 576 | 576 | 0 | 0 | 0 |
| 0142011 - Accounts Receivable Other | 1,659,655 | 1,892,541 | 1,933,468 | 1,906,347 | 1,760,568 | 1,895,988 | 1,555,075 | 1,593,968 | 2,114,224 | 1,457,170 | 1,116,745 | 913,315 | 974,510 |
| 0142050 - Transmission Billing | 853,725 | 10,123,354 | 8,209,644 | 7,058,316 | 8,241,424 | 7,452,690 | 8,835,460 | 9,541,050 | 5,958,865 | 15,867,637 | 14,055,972 | 13,302,343 | 10,942,184 |
| 0142100 - Cust Accts - Special Billed Acct | 0 | 672 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0142200 - Cust Acct - Edp | 372,172,862 | 466,390,409 | 458,264,376 | 383,057,978 | 367,286,979 | 329,014,823 | 430,738,186 | 470,658,358 | 431,154,518 | 560,974,451 | 423,893,287 | 389,905,272 | 444,564,024 |
| 0142210 - Acct Rec - D/FD EPP | (24,710,782) | (11,416,552) | (5,062,636) | (9,369,164) | (14,297,003) | (19,952,366) | (15,436,759) | (6,295,342) | 563,304 | 7,599,044 | 3,021,729 | (5,536,973) | (6,262,413) |
| 0142231 - Current BPM Sharing Receivable | 4,303,636 | 2,589,399 | 1,553,018 | 601,851 | (415,315) | (1,960,892) | (3,512,935) | (4,164,531) | (4,832,054) | (5,519,262) | (6,189,886) | (5,878,678) | (5,967,924) |
| 0142300 - Cust Acct - Cash Not Posted - Edp | (8,176) | (7,611) | (268,731) | (227,004) | (448,138) | 9,687 | (54) | 924 | 1,922 | 29,589,581 | (23,078,437) | (29,306,427) | 710,253 |
| 0142310 - Draft Exceptions | 0 | 0 | 0 | 28 | 28 | 28 | 28 | 37 | 37 | 38 | 38 | 38 | 0 |
| 0142430 - AR Wholesale Billed | 52,351 | 57,168 | 63,968 | 52,234 | (3,014) | 50,007 | 52,415 | 4,520 | 394,020 | 64,737 | 62,604 | 56,742 | 56,756 |
| 0142440 - A/R BPM - Actual | 0 | 0 | 0 | 0 | (49,719) | (26,543) | (108,966) | 26,665 | 0 | 0 | 0 | 0 | 0 |
| 0142450 - A/R - Cogeneration | 3,028 | (252) | (363) | 99 | 202 | 4,119 | (141) | (58) | 240 | 332 | (1,016) | (1,208) | (1,490) |
| 0142801 - A/R-Passport Interface | 2,655,200 | 4,051,861 | 2,733,804 | 3,587,187 | 4,730,544 | 3,261,806 | 3,667,076 | 4,658,598 | 5,193,514 | 5,132,112 | 7,246,635 | 7,084,956 | 9,606,737 |
| 0142802 - A/R - Gas | (6,665) | 1,005,995 | (660,956) | (645,466) | (86,163) | (593,141) | 166,408 | 233,740 | 35,100 | 187,148 | 935,145 | 6,908,057 | 1,298,590 |
| 0142830 - A/R-Merch/Jobb/Contract Work | 34,272 | 34,272 | 34,272 | 42,307 | 597,265 | 461,859 | 580,181 | 409,976 | 460,139 | 491,288 | 546,025 | 539,334 | 587,643 |
| 0142970 - A/R - ENRB Holding Account | (488,522) | (418,734) | (348,945) | 20,573,661 | (209,367) | (140,180) | (838,999) | (813,335) | (744,726) | (676,999) | (610,152) | (542,424) | (474,696) |
| 0142997 - A/R BPM - Estimate | 46,000 | 2,184,754 | 558,760 | 279,380 | 410,663 | 1,084,714 | 310,149 | 279,380 | 295,940 | 279,380 | 303,836 | 621,508 | 41,686 |
| **142 Customer Accounts Receivable** | **356,566,585** | **476,487,306** | **467,009,710** | **406,917,755** | **367,518,954** | **320,562,598** | **426,007,124** | **476,134,094** | **440,595,620** | **615,447,234** | **421,302,524** | **378,065,853** | **456,075,858** |
| 0142999 - AR Estimate Unbilled | 44,000,239 | 47,185,898 | 40,270,579 | 23,645,063 | 38,608,682 | 41,016,107 | 20,873,600 | 48,082,881 | 47,298,726 | 45,473,485 | 42,979,782 | 42,390,236 | 47,762,173 |
| 0143009 - Cust Accts-Special Billed Acct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 100 |
| 0143011 - A/R - Other - Gen Acctg | 1 | 1 | 1 | 244,313 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 0143012 - A/R - Employee Misc | 0 | 0 | 0 | 0 | 0 | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0143022 - A/R Byproducts | 97,579 | 83,160 | 237,849 | 88,257 | 87,604 | 213,664 | 1,639,456 | 1,740,048 | 1,757,921 | 1,341,868 | 1,293,726 | 288,017 | 368,459 |
| 0143023 - A/R Byproducts - Gypsum | 5,217 | 13,285 | 0 | 85,777 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 101,637 |
| 0143068 - Parking Funding Receivable | 0 | 3 | 7 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0143110 - Misc A/R - Clearing | 53,963,351 | 53,963,351 | 53,963,351 | 44,944,476 | 34,147,855 | 34,147,855 | 38,279,976 | 38,279,976 | 17,479,151 | 18,704,804 | 18,704,804 | 18,704,804 | 44,990,983 |
| 0143119 - Off - System Storms Receivables | 56,438 | 567,679 | 2,076,746 | 2,952,263 | 3,246,556 | 3,330,510 | 2,888 | 6,088 | 3,619 | (1,946) | 1,579 | 1,331 | 1,431 |
| 0143130 - Misc A/R - Stores | 224,428 | 428,045 | 407,166 | 296,439 | 368,102 | 282,150 | 309,556 | 207,076 | 241,858 | 386,132 | 284,107 | 149,344 | 154,983 |
| 0143151 - Other A/R-Misc Non-Utility | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,007 | 1,007 | 1,007 | 1,007 | 0 | 0 |
| 0143155 - Other A/R - Miscellaneous | 2,747,986 | 2,841,942 | 118,185,187 | 577,994 | 89,441,306 | 106,247,055 | 4,202,035 | 3,864,980 | 3,955,298 | 4,017,218 | 3,768,072 | 3,910,374 | 60,410,759 |
| 0143180 - Ret Med Life Den/Prem Withheld | 118,562 | 139,959 | 158,506 | 181,443 | 200,286 | 220,664 | 240,696 | 260,780 | 280,079 | 301,505 | 322,939 | 349,118 | 360,065 |
| 0143221 - LT Asset: Interest Receiv | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) |
| 0143230 - Pole Attach Rental - Sou Bell | 416,071 | 1,347,345 | 3,865,234 | 5,411,489 | 7,284,008 | 9,482,224 | 11,136,039 | 12,262,820 | 13,873,026 | 15,408,039 | 17,191,391 | 18,807,858 | 2,449,823 |
| 0143290 - Misc Coal A/R | 11,582,668 | 11,582,668 | 11,582,668 | 14,281,509 | 14,281,509 | 14,281,509 | 16,726,236 | 5,124,740 | 5,124,740 | 7,934,809 | 7,934,809 | 7,934,809 | 9,993,238 |
| 0143320 - Mar Billed - Edp | 29,587,088 | 33,247,169 | 33,074,607 | 15,941,436 | 21,939,407 | 16,782,188 | 12,656,378 | 16,041,822 | 11,372,263 | 9,386,351 | 15,540,985 | 14,345,861 | 34,976,151 |
| 0143341 - Accounts Receivable - Joint Owners | 2,048,316 | (232,273) | (3,115,338) | (1,881,152) | (471,503) | (389,233) | 2,369,211 | (1,041,399) | 230,100 | (126,800) | (20,770) | 589,588 | (289,360) |
| 0143342 - Receivables Misc Transactions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 726 | 726 | 726 | 726 |
| 0143430 - Wholesale Revenue - Billed | (556) | (556) | (556) | (556) | (556) | (556) | (556) | (556) | (556) | (556) | (556) | (556) | (556) |
| 0143710 - Accrued Power Agency Rec | 0 | 67,346 | (50,591,592) | 0 | (45,698,249) | (48,714,782) | 0 | 0 | 0 | 0 | 0 | (4,178,590) | (18,712,685) |

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**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the Test Year Ended December 31, 2018**

**Item No. 3**
**Current Position**

| Account & Description | Dec 2017 | Jan 2018 | Feb 2018 | Mar 2018 | Apr 2018 | May 2018 | Jun 2018 | Jul 2018 | Aug 2018 | Sep 2018 | Oct 2018 | Nov 2018 | Dec 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0143720 - Accrued Power Agency Rec - IA | 0 | 0 | 2,574 | 0 | 2,942 | 3,012 | 0 | 0 | 0 | 0 | 0 | 0 | (263) |
| 0143730 - Accrued Ncemc Receivable | 0 | 56,342 | (30,587,284) | 0 | (26,850,025) | (29,079,550) | 0 | 0 | 0 | 0 | 0 | 0 | (14,848,750) |
| 0143735 - A/R CJO Special Projects | 1,158,686 | 6,007,495 | 732,981 | 8,048,771 | 3,440,302 | 3,657,686 | 3,657,686 | 830,395 | 830,395 | 4,164,174 | 0 | 1 | 1 |
| 0143740 - Accrued Ncemc Receivable - IA | 0 | 0 | 3,503 | 0 | 3,923 | 4,016 | 0 | 0 | 0 | 0 | 0 | 0 | 3,961 |
| 0143770 - Accrued Pmpa Receivable | 0 | 8,021 | (8,306,098) | 0 | (6,604,046) | (7,614,494) | 0 | 0 | 0 | 0 | 0 | 0 | (1,505,011) |
| 0143780 - Accrued PMPA Rec - IA | 0 | 0 | 2,574 | 0 | 2,942 | 3,011 | 0 | 0 | 0 | 0 | 0 | 0 | 3,213 |
| 0143810 - Central Csh Remittance Posting | (6,612) | (11,695) | (4,309) | (3,987) | (5,081) | (13,678) | 33,443 | 1,449 | 2,167 | 1,571 | 47,327 | 5,986 | 5,819 |
| 0143830 - Ccr Ret Cks | 7,993 | 684,559 | 8,285 | 15,657 | 9,602 | 7,875 | 9,274 | 21,157 | 7,871 | 5,763 | 11,367 | 13,326 | 20,713 |
| Rounding | (3) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **143 Other Accounts Receivable** | **146,007,450** | **157,979,745** | **171,966,639** | **114,829,191** | **133,435,567** | **143,867,235** | **112,136,104** | **125,683,266** | **102,457,666** | **106,998,151** | **108,061,298** | **103,312,284** | **166,247,610** |
| | | | | | | | | | | | | | |
| 0144100 - SCHM Uncollectible Accrual Electric | (21,834,072) | (10,523,850) | (10,523,850) | (11,342,964) | (12,398,542) | (15,009,647) | (16,547,427) | (18,644,840) | (19,819,910) | (21,221,348) | (22,425,302) | (24,245,577) | (25,595,137) |
| 0144110 - SCHM Uncollectible Accrual NC Elec | 9,732,256 | 1,117,555 | 1,185,052 | 1,666,747 | 2,397,989 | 4,216,594 | 5,293,548 | 6,862,630 | 7,740,595 | 8,775,617 | 9,661,125 | 11,008,606 | 12,039,138 |
| 0144120 - SCHM Uncollectible Accrual SC Elec | 3,101,816 | 406,229 | 504,444 | 676,151 | 961,141 | 1,753,641 | 2,253,748 | 2,782,079 | 3,075,016 | 3,445,599 | 3,764,046 | 4,236,841 | 4,555,868 |
| 0144400 - SCHM Uncollectible Accrual Ht Pump | 131 | 182 | 182 | 182 | 246 | 282 | 293 | 294 | 294 | 294 | 294 | 294 | 294 |
| 0144410 - SCHM Uncollectible Accrual NC Ht Pm | (116) | (85) | (98) | (138) | (138) | (138) | (149) | (77) | (77) | (77) | (77) | (77) | (77) |
| 0144420 - SCHM Uncollectible Accrual SC Ht Pm | (15) | (31) | (31) | (31) | (31) | (67) | (67) | (137) | (137) | (137) | (137) | (137) | (137) |
| 0144700 - PROV FOR MARBS UNCOLLECTIBLES | (41,317) | (52,964) | (52,964) | (52,964) | (58,289) | (89,025) | (89,025) | (76,147) | (76,147) | (76,147) | (97,221) | (97,221) | (138,598) |
| **144 Accum Prov for Uncollectible Account** | **(9,041,317)** | **(9,052,964)** | **(8,887,265)** | **(9,053,018)** | **(9,097,624)** | **(9,128,360)** | **(9,089,078)** | **(9,076,197)** | **(9,080,366)** | **(9,076,197)** | **(9,097,272)** | **(9,097,272)** | **(9,138,649)** |
| | | | | | | | | | | | | | |
| 0146000 - AR Intercompany Crossbill | 101,637,047 | 106,040,688 | 105,022,778 | 104,063,820 | 102,923,660 | 99,974,658 | 98,668,434 | 97,445,684 | 96,628,387 | 95,352,560 | 94,123,346 | 91,629,441 | 90,304,305 |
| 0146009 - I/C AR Rollup | (273,549,494) | (228,468,940) | (276,883,708) | (323,395,039) | (221,525,807) | (210,851,468) | (203,802,430) | (115,441,666) | (271,196,366) | (164,866,989) | (218,191,164) | (257,813,670) | (216,410,839) |
| 0146100 - A/R Maintenance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0146104 - IC AR - Joint Dispatch | 50,742,171 | 148,390,313 | 43,250,746 | 53,073,241 | 29,546,995 | 37,481,915 | 52,328,189 | 51,722,450 | 48,033,359 | 64,213,403 | 43,284,395 | 46,797,019 | 58,455,425 |
| 0146250 - IC Netting - Accts Receivable | 227,731,509 | 183,155,957 | 223,585,731 | 273,571,111 | 201,128,727 | 182,954,301 | 181,207,565 | 114,136,608 | 258,388,538 | 165,359,754 | 188,857,812 | 198,290,739 | 252,750,620 |
| 0146501 - Intercompany Gas True-Up | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (575,256) | (575,256) | (575,256) | (575,256) |
| 0146990 - A/R Prop/BI - Bison Interco | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) |
| 0146992 - Federal Tax Refunds - Interco | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29,312,514 | 29,312,514 | 29,312,514 | 56,308,467 |
| 0146994 - State Tax Refunds - Interco | 1,512,624 | 0 | 0 | 283,209 | 283,209 | 283,209 | 0 | 0 | 0 | 5,138,948 | 5,138,948 | 5,138,948 | 3,867,879 |
| 0146996 - Franchise Tax - Interco | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| 0146998 - Franchise Tax - Interco - P/Y | 2,369,712 | 2,369,712 | 2,369,712 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0146999 - Inter - Unit Unconsolidated BU | 0 | 0 | 1,590 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 491,381 | 2,742 |
| **146 Accounts Receivable from Associated Companies** | **110,443,568** | **211,487,729** | **97,346,849** | **107,596,341** | **112,356,783** | **109,842,615** | **128,401,757** | **147,863,073** | **131,853,917** | **193,934,933** | **141,950,595** | **113,271,116** | **244,703,341** |
| | | | | | | | | | | | | | |
| 0151130 - Coal Stock | 179,412,789 | 121,791,957 | 151,973,073 | 163,337,625 | 184,189,272 | 176,631,443 | 159,329,945 | 164,355,557 | 167,338,850 | 165,125,388 | 172,921,353 | 168,163,033 | 163,646,610 |
| 0151131 - Coal Stock in Transit | 12,457,217 | 14,806,863 | 10,508,380 | 12,481,666 | 17,839,306 | 19,349,205 | 13,670,906 | 14,471,482 | 15,366,788 | 10,411,064 | 8,879,507 | 11,349,429 | 11,644,425 |
| 0151140 - Diesel Fuel Stock | 35,478,392 | 41,966,087 | 41,643,948 | 41,615,039 | 41,672,165 | 41,387,994 | 41,769,394 | 41,791,742 | 41,854,427 | 42,303,584 | 42,423,644 | 42,025,024 | 41,591,897 |
| 0151660 - Natural Gas Inventory | 1,952,933 | 2,236,099 | 3,050,936 | 3,377,718 | 3,268,982 | 2,737,506 | 3,358,622 | 3,346,048 | 2,684,310 | 2,314,094 | 2,740,993 | 1,991,691 | 3,877,954 |
| **151 Fuel Stock** | **229,301,332** | **180,801,005** | **207,176,337** | **220,812,047** | **246,969,724** | **240,106,147** | **218,128,868** | **223,964,829** | **227,244,374** | **220,154,129** | **226,965,497** | **223,529,177** | **220,760,888** |
| | | | | | | | | | | | | | |
| 0154100 - Inventory | 835,393,180 | 837,011,024 | 838,172,993 | 846,537,009 | 841,006,783 | 843,093,752 | 847,024,145 | 855,162,331 | 839,431,116 | 841,434,798 | 845,730,138 | 831,300,327 | 813,742,366 |
| 0154103 - M&S Inventory-WVPA, IMPA contra | 0 | 0 | 0 | 0 | 0 | 0 | (280,902) | (281,226) | (309,786) | (334,675) | (360,724) | (368,355) | (370,658) |
| 0154120 - Catawba Stm Station Stk Contra | (132,764,274) | (133,223,021) | (133,052,454) | (130,035,290) | (130,817,710) | (132,195,453) | (132,297,007) | (132,522,256) | (132,522,256) | (131,718,281) | (130,482,084) | (127,809,407) | (130,323,468) |
| 0154140 - Misc Inventory | 9,401,919 | 8,822,112 | 8,802,893 | 9,152,833 | 13,687,436 | 15,812,427 | 15,114,442 | 3,350,424 | 15,392,019 | 15,236,215 | 9,146,898 | 8,741,001 | 11,195,615 |
| 0154150 - Spent Fuel Canisters | (12,043,373) | (11,041,373) | (11,019,372) | (9,694,749) | (9,694,749) | (9,087,794) | (11,078,504) | (11,086,089) | (13,318,387) | (13,318,387) | (18,130,825) | (21,716,094) | (5,074,181) |
| 0154200 - LIMESTONE INVENTORY | 7,031,087 | 5,897,379 | 5,785,741 | 5,049,181 | 6,182,592 | 7,005,044 | 6,555,712 | 6,729,119 | 6,718,540 | 5,487,609 | 5,807,470 | 5,864,843 | 5,354,872 |
| 0154990 - Schm Inv Cr - Surplus Mat'l Ident | (9,476,414) | (9,273,379) | (9,085,719) | (8,789,774) | (8,739,233) | (8,086,697) | (5,793,983) | (5,798,439) | (5,956,173) | (5,508,061) | (6,269,274) | (5,846,670) | (12,298,256) |
| **154 Plant Material and Operating Supplies** | **697,542,126** | **698,192,742** | **699,604,082** | **712,219,210** | **711,625,121** | **716,541,279** | **719,243,903** | **715,553,864** | **709,435,074** | **711,279,218** | **705,441,599** | **690,165,645** | **682,226,291** |
| | | | | | | | | | | | | | |
| 0156010 - Other M&S / Inventory | 71,125 | 79,243 | 79,111 | 85,117 | 85,447 | 75,816 | 99,008 | 81,925 | 100,595 | 134,549 | 108,232 | 116,248 | 103,378 |
| **156 Other Materials and Supplies** | **71,125** | **79,243** | **79,111** | **85,117** | **85,447** | **75,816** | **99,008** | **81,925** | **100,595** | **134,549** | **108,232** | **116,248** | **103,378** |
| | | | | | | | | | | | | | |
| 0158120 - RECs - DE Carolinas - NC | 38,260,073 | 39,665,138 | 41,137,002 | 27,895,437 | 29,160,509 | 34,124,409 | 34,983,616 | 36,801,919 | 38,210,958 | 39,783,501 | 41,395,242 | 43,096,659 | 45,738,290 |
| 0158150 - SO2 Current Vintage | 429,570 | 429,186 | 428,603 | 428,461 | 428,131 | 427,929 | 427,564 | 427,080 | 426,713 | 426,282 | 425,869 | 425,674 | 425,369 |
| 0158183 - Seasonal NOx Current | 5,279 | 5,279 | 5,279 | 5,279 | 5,279 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **158 Allowances** | **38,694,923** | **40,099,604** | **41,570,885** | **28,329,177** | **29,593,919** | **34,552,338** | **35,411,179** | **37,228,999** | **38,637,671** | **40,209,782** | **41,821,111** | **43,522,333** | **46,163,658** |
| | | | | | | | | | | | | | |
| 0163110 - Stores Expense | 44,105,943 | 44,481,963 | 46,742,755 | 46,780,537 | 46,021,683 | 47,664,808 | 46,009,084 | 45,585,074 | 43,988,864 | 43,176,616 | 46,404,161 | 44,676,541 | 43,597,161 |
| 0163160 - Stores Exp Distribution - Credit | (840,834) | (875,930) | (844,540) | (766,453) | (773,554) | (777,255) | (713,994) | (695,784) | (106,736) | (291,095) | (214,435) | (245,982) | 436,704 |
| 0163180 - Freight And Express | 1,154,903 | 1,154,903 | 1,154,903 | 1,154,903 | 1,154,903 | 1,154,903 | 1,154,903 | 1,154,903 | 1,154,903 | 1,154,903 | 1,154,903 | 1,154,903 | 1,154,903 |
| **163 Store Expenses Undistributed** | **44,420,013** | **44,760,937** | **47,053,119** | **47,168,987** | **46,403,032** | **48,042,457** | **46,449,994** | **46,044,194** | **45,037,032** | **44,040,425** | **47,344,629** | **45,585,463** | **45,188,768** |
| | | | | | | | | | | | | | |
| 0165011 - Ppd - Software - Purchase | 412,445 | 0 | 0 | 1,730,413 | 1,730,413 | 0 | 0 | 898,008 | 0 | 3,553 | 3,553 | 3,553 | 3,553 |
| 0165075 - Interco Prepaid Insu SchM | (0) | 13,903,542 | 12,639,583 | 11,375,625 | 10,111,667 | 8,847,708 | 7,583,750 | 6,319,792 | 5,055,833 | 3,791,875 | 2,527,917 | 1,263,958 | (0) |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the Test Year Ended December 31, 2018**

**Item No. 3**
**Current Position**

| Account & Description | Dec 2017 | Jan 2018 | Feb 2018 | Mar 2018 | Apr 2018 | May 2018 | Jun 2018 | Jul 2018 | Aug 2018 | Sep 2018 | Oct 2018 | Nov 2018 | Dec 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0165100 - Unexpired Insurance | (0) | 7,228,833 | 6,571,667 | 5,914,500 | 5,257,333 | 4,600,167 | 3,943,000 | 3,285,833 | 2,628,667 | 1,971,500 | 1,314,333 | 657,167 | 0 |
| 0165110 - Unexpired Ins - Catawba Contra | (2,285,754) | (3,490,476) | (3,024,734) | (2,558,993) | (2,093,251) | (1,627,510) | (1,161,768) | (696,029) | (3,727,952) | (3,300,463) | (2,872,973) | (2,445,483) | (2,017,994) |
| 0165120 - UNEXPIRED INSURANCE - NUCLEAR | 8,434,015 | 12,555,717 | 10,866,615 | 9,177,513 | 7,488,411 | 5,799,309 | 4,110,207 | 2,421,110 | 14,011,873 | 12,429,912 | 10,847,951 | 9,265,990 | 7,684,032 |
| 0165400 - Misc Prepaid Expenses | 4,295,597 | 8,043,125 | 7,310,597 | 6,578,068 | 5,845,540 | 5,113,011 | 4,380,483 | 3,647,954 | 3,075,295 | 2,342,766 | 1,610,238 | 1,045,728 | 9,697,132 |
| 0165401 - Prepaid NRC License Fees | (0) | 5,245,333 | 2,622,666 | (1) | 5,245,333 | 2,622,666 | (1) | (1) | (1) | (1) | 7,929,249 | 2,643,083 | (1) |
| 0165500 - SCHM Prepaid Taxes - Huntersville | 3,608,974 | 3,604,935 | 3,600,870 | 3,596,777 | 3,592,658 | 3,588,513 | 3,584,339 | 3,580,139 | 3,575,911 | 3,571,656 | 3,567,373 | 3,563,061 | 3,558,722 |
| 0165513 - Prepaid Expense - Misc. | 159,797 | 154,756 | 22,496 | 7,292 | 18,107 | 6,080 | 6,000 | 4,726 | 4,253 | 0 | 0 | 0 | 0 |
| 0165538 - LTSA - Long Term Portion FTG | 673,391 | 704,773 | 704,773 | 889,069 | 920,653 | 920,653 | 1,591,903 | 1,988,157 | 1,988,157 | 3,497,658 | 3,514,367 | 3,514,367 | 4,565,753 |
| **165 Prepayments** | **15,298,464** | **47,950,539** | **41,314,532** | **36,710,264** | **38,116,864** | **29,870,597** | **24,037,914** | **21,449,689** | **26,612,036** | **24,308,456** | **28,442,008** | **19,511,424** | **23,491,197** |
| 0172004 - RENTS REC-REAL ESTATE | 299,733 | 238,066 | 249,500 | 181,284 | 255,365 | 273,077 | 409,135 | 428,987 | 225,239 | 323,617 | 432,638 | 315,724 | 236,004 |
| **172 Rent Receivable** | **299,733** | **238,066** | **249,500** | **181,284** | **255,365** | **273,077** | **409,135** | **428,987** | **225,239** | **323,617** | **432,638** | **315,724** | **236,004** |
| 0173100 - Unbilled Revenue Receivable | 300,035,802 | 300,559,442 | 219,476,767 | 267,472,497 | 229,616,908 | 287,638,661 | 295,922,271 | 308,684,442 | 326,142,991 | 233,316,089 | 259,174,808 | 266,368,390 | 267,458,428 |
| **173 Accrued Utility Receivable** | **300,035,802** | **300,559,442** | **219,476,767** | **267,472,497** | **229,616,908** | **287,638,661** | **295,922,271** | **308,684,442** | **326,142,991** | **233,316,089** | **259,174,808** | **266,368,390** | **267,458,428** |
| 0174015 - Customer Collateral | 0 | 7,000,000 | 7,000,000 | 7,000,000 | 7,000,000 | (0) | (0) | (0) | (0) | (0) | (0) | (0) | 3,000,000 |
| 0174300 - Swap Int Recvbl Cur Reg Asset | 24,594,139 | 24,594,139 | 0 | 0 | 0 | 0 | 994,312 | 994,312 | 994,312 | 0 | 0 | 0 | 9,410,350 |
| **174 Miscellaneous Current and Accrued Assets** | **24,594,139** | **31,594,139** | **7,000,000** | **7,000,000** | **7,000,000** | **(0)** | **994,312** | **994,312** | **994,312** | **(0)** | **(0)** | **(0)** | **12,410,350** |
| 0175001 - Deriv Assets - Noncashflw - ST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,246,048 | 5,246,048 | 0 | 0 |
| **175 Derivative Instrument Assets** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **5,246,048** | **5,246,048** | **0** | **0** |
| 0176001 - 3rd Party Derivative Asset Current | 1,589,119 | 3,139,326 | 1,352,894 | 1,792,655 | 712,587 | 2,771,076 | 797,430 | 406,966 | 689,800 | 428,178 | 1,747,661 | 21,121,509 | 300,933 |
| L T Portion of Derivative Instruments Assets Hedges (CALC) | 94,297 | 30,707 | 67,846 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 555,950 | 757,865 | 207,518 |
| **176 Derivative Instruments Assets Hedges** | **1,683,416** | **3,170,032** | **1,420,740** | **1,792,655** | **712,587** | **2,771,076** | **797,430** | **406,966** | **689,800** | **428,178** | **2,303,611** | **21,879,374** | **508,451** |
| (Less) Long Term Portion of Derivative Instruments Assets - Hedges | (94,297) | (30,707) | (67,846) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (555,950) | (757,865) | (207,518) |
| **Current Maturities of Deferred Debits** | **1,589,119** | **3,139,326** | **1,352,894** | **1,792,655** | **712,587** | **2,771,076** | **797,430** | **406,966** | **689,800** | **5,674,226** | **6,993,709** | **21,121,509** | **300,933** |
| **Total Current and Accrued Assets** | **1,972,005,088** | **2,201,022,504** | **2,016,366,239** | **1,945,422,429** | **1,928,980,640** | **1,942,532,445** | **2,015,247,636** | **2,119,732,308** | **2,065,582,603** | **2,213,676,333** | **2,004,429,381** | **1,927,834,639** | **2,188,786,799** |

**CURRENT AND ACCRUED LIABILITIES**

| Account & Description | Dec 2017 | Jan 2018 | Feb 2018 | Mar 2018 | Apr 2018 | May 2018 | Jun 2018 | Jul 2018 | Aug 2018 | Sep 2018 | Oct 2018 | Nov 2018 | Dec 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0232000 - A/P Vendors Payable | 113,492 | 15,167,500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 563,331 | 0 | 0 | 0 |
| 0232002 - A/P - Misc - Gen - Acctg | 45,340,491 | 42,582,752 | 36,242,552 | 41,645,426 | 45,643,622 | 38,628,346 | 41,678,329 | 43,732,506 | 44,258,802 | 76,780,684 | 108,433,398 | 82,674,727 | 165,910,279 |
| 0232016 - AP PS8.9 Vendors Payable | 384,018,612 | 317,751,043 | 294,028,263 | 319,703,973 | 330,063,262 | 277,158,317 | 304,046,457 | 294,600,586 | 232,989,254 | 333,210,256 | 311,633,463 | 269,645,760 | 347,455,946 |
| 0232018 - EAM Payables | 0 | 0 | 0 | 0 | 0 | (533,724) | 0 | 0 | (9) | 0 | 0 | 0 | 0 |
| 0232039 - Payable 401K Incentive Match | 7,037,856 | 7,494,243 | 7,911,629 | 1,413,325 | 1,886,140 | 2,367,463 | 2,825,451 | 3,282,225 | 3,820,141 | 4,298,081 | 4,812,516 | 5,971,216 | 6,676,173 |
| 0232061 - Checks not presented - reclass | 57,983,864 | 8,204,066 | 5,450,461 | 10,168,515 | 11,413,648 | 26,928,875 | 47,213,377 | 13,901,567 | 37,323,504 | 53,680,526 | 31,764,397 | 47,235,616 | 68,226,306 |
| 0232070 - Unbilled Fuel Revenue - Wholesale | 0 | (11,849,982) | (7,714,973) | (8,798,984) | (7,649,177) | (9,126,358) | (11,347,831) | (10,081,058) | (9,250,199) | (5,366,065) | (5,304,118) | (4,944,783) | 0 |
| 0232109 - A/P BPM - Actual | (2,574,719) | (25,530,203) | (257,958) | (199,021) | 255,557 | 470,587 | 1,458,149 | 2,653,536 | 2,972,961 | (565,680) | 911,191 | (1,508,483) | (7,890,140) |
| 0232120 - Vouchers Payable - Special | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 63,699 |
| 0232122 - Annual FERC Adm and Hydro Fee | 2,041,076 | 2,721,435 | 3,401,794 | 4,082,153 | 4,762,512 | 5,442,871 | 6,123,230 | 4,178,892 | (187,229) | 493,130 | 672,867 | 1,345,734 | 2,018,601 |
| 0232123 - NCUC Regulatory Fee Pay | 1,735,321 | 719,336 | 1,418,451 | 1,976,983 | 2,551,496 | 1,126,391 | 1,818,248 | 2,351,048 | 1,532,772 | 2,358,441 | 2,937,769 | 1,136,375 | 1,777,636 |
| 0232124 - NRC License Fee Pay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,724,750 | 5,449,500 | 0 | 2,643,083 | 0 | 0 |
| 0232125 - NRC Inspection Fee Pay | 1,775,080 | 1,989,178 | 1,426,972 | 1,882,164 | 2,623,639 | 1,615,544 | 2,387,818 | 3,283,211 | 2,726,796 | 2,453,866 | 3,269,479 | 3,013,116 | 1,622,417 |
| 0232129 - SC PSC Reg Fee Pay | 1,217,336 | 1,420,225 | 1,623,114 | 1,826,003 | 2,028,893 | 2,231,782 | 0 | 200,679 | 401,357 | 602,036 | 802,714 | 1,003,393 | 1,204,072 |
| 0232140 - Customer Refunds Payable | 3,636,436 | 4,543,107 | 3,972,146 | 4,289,869 | 4,194,310 | 4,594,330 | 4,906,014 | 3,187,985 | 3,249,598 | 4,369,866 | 4,164,313 | 4,241,675 | 4,294,957 |
| 0232142 - Advance Payable-NCMPA | 40,275,905 | 66,409,651 | 0 | 34,008,328 | 0 | 0 | 53,807,055 | 40,115,127 | 62,815,165 | 66,391,731 | 44,417,863 | 36,136,039 | 0 |
| 0232143 - Advance Payable-NCEMC | 25,657,096 | 48,594,946 | 3,459,044 | 21,092,323 | 3,852,178 | 3,443,490 | 36,262,628 | 25,441,456 | 43,896,014 | 46,956,120 | 29,336,236 | 22,850,441 | 3,839,828 |
| 0232144 - Advance Payable-PMPA | 4,935,755 | 13,560,759 | 0 | 2,741,327 | 0 | 0 | 9,316,139 | 4,756,722 | 12,356,199 | 13,546,856 | 6,233,359 | 3,485,818 | 0 |
| 0232145 - A/P CJO Special Projects | 1,852,786 | 3,275,201 | 3,380,552 | 9,251,417 | 11,892,282 | 13,459,202 | 13,435,699 | 12,926,209 | 11,869,576 | 3,634,025 | 2,636,895 | 1,803,658 | 3,237,608 |
| 0232150 - Accounts Payable - Stores | 0 | 0 | 0 | 0 | 0 | 0 | (1,135) | (1,135) | (1,135) | (1,135) | (1,135) | (1,135) | (2,850) |
| 0232151 - PP Accounts Payable - Stores | 24,481,758 | 9,052,692 | 7,387,965 | 10,362,633 | 25,075,658 | 18,978,271 | 9,948,875 | 8,145,033 | 62,192,173 | 16,161,070 | 24,330,051 | 15,793,310 | 34,155,561 |
| 0232155 - Accounts Payable - Stores CAS | (10,663,534) | (9,660,681) | (8,659,075) | 2,414,559 | (1,928,213) | (2,593,414) | (1,962,620) | 1,406,446 | 4,618,496 | 2,046,769 | 2,619,710 | 3,348,296 | (4,990,938) |
| 0232170 - Accounts Payable - Coal | 12,101,620 | 18,562,873 | 18,205,101 | 19,225,592 | 19,952,819 | 17,307,600 | 20,390,654 | 20,809,055 | 21,534,748 | 17,019,633 | 12,845,556 | 12,356,786 | 11,421,170 |
| 0232175 - LIMESTONE AND FREIGHT PAYABLE | 1,004,919 | 898,124 | 687,939 | 446,164 | 1,671,023 | 1,282,167 | 1,513,531 | 1,518,126 | 1,335,150 | 664,285 | 579,061 | 689,141 | 408,419 |
| 0232176 - Reagent Payable | 378,515 | 1,432,002 | 581,592 | 204,876 | 279,655 | 346,677 | 1,019,180 | 914,063 | 461,243 | 369,784 | 316,831 | 689,017 | 497,549 |
| 0232177 - Generic By Products Payable | 367,364 | 331,643 | 349,176 | 706,302 | 446,492 | 414,223 | 454,774 | 480,266 | 575,737 | 464,867 | 470,125 | 565,354 | 403,756 |
| 0232178 - Accrued Settlements Payable | 42,717,970 | 42,332,149 | 40,992,495 | 33,479,626 | 31,233,252 | 34,248,559 | 31,859,727 | 27,895,143 | 25,308,210 | 23,573,941 | 22,060,438 | 20,979,358 | 20,863,498 |
| 0232180 - Accounts Payable - Oil Stocks | 2,107,429 | 5,486,018 | 100,255 | 279,451 | 111,402 | 626,068 | 337,369 | 475,724 | 664,221 | 413,788 | 53,004 | 229,334 | 469,872 |
| 0232181 - Natural Gas Payable | 97,866,498 | 222,466,064 | 90,393,521 | 88,521,288 | 63,551,852 | 72,124,141 | 100,405,913 | 126,835,358 | 109,485,397 | 113,150,979 | 100,333,635 | 108,387,967 | 132,528,306 |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the Test Year Ended December 31, 2018**

**Item No. 3**
**Current Position**

| Account & Description | Dec 2017 | Jan 2018 | Feb 2018 | Mar 2018 | Apr 2018 | May 2018 | Jun 2018 | Jul 2018 | Aug 2018 | Sep 2018 | Oct 2018 | Nov 2018 | Dec 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0232190 - Coal Freight Payable | 3,150,854 | 3,341,073 | 2,498,608 | 2,863,902 | 4,457,070 | 1,763,851 | 5,157,309 | 2,121,040 | 3,193,038 | 2,564,147 | 1,948,456 | 3,496,209 | 2,906,474 |
| 0232195 - RAILCAR LEASE PAYABLE | 3,009,997 | 501,666 | 1,003,332 | 1,504,999 | 2,006,665 | 2,508,331 | 3,009,997 | 501,666 | 1,003,332 | 1,504,999 | 2,006,665 | 2,508,331 | 3,009,997 |
| 0232200 - CBIS Refund Payable | (1,742,410) | (2,174,026) | (2,620,447) | (3,063,308) | (3,453,616) | (3,799,493) | (4,387,718) | (4,824,113) | (5,527,554) | (5,983,034) | (6,583,223) | (6,834,434) | (7,424,991) |
| 0232205 - A/P ENRB Holding Account | 13,180,455 | 13,180,455 | 13,180,455 | 38,889,290 | 18,036,473 | 18,036,473 | 10,960,000 | 10,960,000 | 10,960,000 | 31,227,918 | 31,227,918 | 34,937,450 | 29,150,447 |
| 0232410 - Transmission Payables | 896,148 | 102,884 | 265,586 | 86,152 | (71,198) | 868,309 | 227 | 9,602 | (739,234) | 89,405 | 313,901 | 142,908 | 202,895 |
| 0232460 - Bulk Power Marketing Payable | (54,716,889) | (110,194,613) | 1,085,342 | (51,909,726) | 3,193,543 | 1,116,280 | (66,074,305) | (28,960,470) | (88,941,625) | (104,421,554) | (51,029,479) | (50,146,670) | 3,207,039 |
| 0232480 - Co - Generation | (515,434) | (553,274) | (960,514) | (619,200) | (716,270) | (875,212) | (1,241,331) | (1,144,259) | (916,066) | (832,769) | (528,950) | (780,639) | (685,792) |
| 0232892 - A/P Miscellaneous | (47,000) | (47,000) | (47,000) | (47,000) | (47,000) | (47,000) | (47,000) | (47,000) | (47,000) | (47,000) | (47,000) | 12,679 | 0 |
| 0232955 - A/P Wholesale Pwr - Estimate | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,808,074 | 0 |
| 0232996 - Capital - Accruals | 103,898,076 | 80,656,744 | 80,298,689 | 102,029,570 | 104,881,278 | 94,274,840 | 146,947,270 | 112,332,436 | 103,711,580 | 147,236,674 | 165,997,193 | 113,645,527 | 125,972,086 |
| 0232999 - A/P BPM - Estimate | 5,328,879 | 33,407,881 | 3,349,181 | 2,505,269 | 1,311,092 | 2,925,984 | 6,900,913 | 2,109,870 | 5,018,489 | 15,771,233 | 11,541,636 | 7,779,110 | 22,897,751 |
| **232 Accounts Payable** | **817,851,599** | **806,175,929** | **602,434,249** | **692,964,240** | **683,510,337** | **627,313,770** | **779,122,393** | **728,792,292** | **710,113,403** | **864,381,201** | **867,819,817** | **743,696,276** | **973,427,628** |
| | | | | | | | | | | | | | |
| 0233150 - IC Moneypool - ST Notes Pay | 103,631,000 | 857,347,000 | 811,996,000 | 44,993,000 | 471,063,000 | 500,703,000 | 740,036,000 | 713,730,000 | 511,337,000 | 803,772,000 | 672,260,000 | 223,308,000 | 438,690,000 |
| **233 Notes Payable to Associated Companies** | **103,631,000** | **857,347,000** | **811,996,000** | **44,993,000** | **471,063,000** | **500,703,000** | **740,036,000** | **713,730,000** | **511,337,000** | **803,772,000** | **672,260,000** | **223,308,000** | **438,690,000** |
| | | | | | | | | | | | | | |
| 0234000 - IC Moneypool - ST Interest Pay | 55,497 | 56,204 | 56,023 | 44,049 | 49,060 | 48,849 | 129,123 | 62,593 | 48,032 | 211,076 | 64,341 | 36,918 | 57,331 |
| 0234010 - I/C AP - Joint Dispatch | 421,743 | 306,157 | 175,536 | (16,413) | (48,902) | 278,791 | 605,320 | 191,200 | 179,137 | 5,119 | 124,341 | 27,195 | (23,303) |
| 0234250 - IC Netting - Accts Payable | 227,731,509 | 183,155,957 | 223,585,731 | 273,571,111 | 201,128,727 | 182,954,301 | 181,207,565 | 114,136,608 | 258,388,538 | 165,359,754 | 188,857,812 | 198,290,739 | 252,750,620 |
| 0234819 - Intercompany Payable | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) |
| **234 Accounts Payable to Associated Companies** | **228,208,749** | **183,518,318** | **223,817,289** | **273,598,748** | **201,128,885** | **183,281,941** | **181,942,008** | **114,390,401** | **258,615,708** | **165,575,948** | **189,046,494** | **198,354,852** | **252,784,648** |
| | | | | | | | | | | | | | |
| 0235004 - Deferred Liability OL | 0 | 0 | 0 | 0 | 75,000 | 75,000 | 75,000 | 75,000 | 75,000 | 75,000 | 124,078 | 117,994 | 75,000 |
| 0235110 - Cust Dep For Srvc - Edp Billing | 106,785,330 | 107,231,371 | 107,492,917 | 107,380,316 | 107,982,984 | 107,382,095 | 106,220,174 | 106,627,135 | 107,116,623 | 107,603,204 | 107,801,439 | 108,118,537 | 108,717,721 |
| 0235130 - Cust Dep Transf To Gen Office | 232,052 | 231,829 | 231,829 | 244,456 | 112,802 | 112,802 | 112,802 | 1,447,211 | 1,434,428 | 1,424,284 | 1,457,499 | 1,457,214 | 1,454,336 |
| 0235140 - Special Customer Deposits | 13,740,459 | 13,507,191 | 14,203,803 | 14,648,085 | 15,206,285 | 15,304,165 | 15,867,908 | 16,038,339 | 16,113,486 | 15,506,848 | 15,796,212 | 16,653,459 | 16,337,595 |
| **235 Customer Deposits** | **120,757,841** | **120,970,391** | **121,928,548** | **122,272,858** | **123,377,071** | **122,874,062** | **122,275,885** | **124,187,686** | **124,739,537** | **124,609,337** | **125,179,228** | **126,347,204** | **126,584,652** |
| | | | | | | | | | | | | | |
| 0230690 - S.C. Mun. License - Elect. | 4,633,645 | 2,180,276 | 3,843,955 | 4,974,484 | 1,493,418 | 2,890,429 | 4,765,958 | 2,248,681 | 4,248,384 | 6,508,764 | 1,825,929 | 3,310,710 | 5,040,030 |
| 0236000 - Nc Prop Tax - Electric | 19,644,803 | 7,913,213 | 15,622,231 | 24,966,234 | 32,691,842 | 40,418,789 | 47,914,684 | 55,640,292 | 63,207,086 | 68,910,573 | 76,636,181 | 84,361,789 | 25,918,002 |
| 0236001 - State IT Payable Other | 293,508 | 293,508 | 3,801,531 | 767,643 | 767,643 | 645,669 | 2,059,095 | 2,059,095 | 6,231,470 | 4,962,461 | 10,522,805 | (84,799) | (2,838,095) |
| 0236020 - FAS 5 Non-Income Tax Reserves | 1,998,080 | 1,998,080 | 1,570,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0236040 - NC Prop Tax - Misc Non - Util | 0 | 25,913 | 51,826 | 77,739 | 103,652 | 129,565 | 155,478 | 181,391 | 207,304 | 233,217 | 259,130 | 285,043 | 310,956 |
| 0236150 - St/Local Unemployment Tax Liab | 11,720 | 188,064 | 346,051 | 378,075 | 5,382 | 9,791 | 13,686 | 3,527 | 7,305 | 9,492 | 1,477 | 3,220 | 4,818 |
| 0236200 - Nc Industr Comm - Electric | 0 | 20,696 | 41,392 | 56,518 | 33,373 | 48,499 | (13,565) | 1,561 | 16,686 | 31,812 | (30,252) | (15,126) | 0 |
| 0236360 - Sc Prop Tax - Electric | 115,317,006 | 10,016,191 | 20,205,820 | 30,228,201 | 39,413,756 | 49,429,245 | 59,384,930 | 69,403,662 | 79,422,394 | 85,879,256 | 95,897,988 | 105,916,720 | 115,935,452 |
| 0236400 - Sc Prop Tax - Misc Non - Util | 0 | 33,680 | 67,360 | 101,040 | 134,720 | 168,400 | 202,080 | 235,760 | 269,440 | 303,120 | 336,800 | 370,480 | 404,160 |
| 0236460 - Sc Kwh Power Generation Tax | 653,510 | 827,076 | 749,500 | 672,500 | 610,350 | 636,300 | 672,200 | 921,500 | 901,354 | 821,349 | 700,581 | 662,247 | 653,510 |
| 0236470 - Franchise Tax Accrual | 4,083,296 | 6,351,074 | 2,965,556 | 4,583,533 | 7,001,222 | 4,835,378 | 7,253,067 | 9,670,756 | 4,835,378 | 7,253,067 | 8,276,321 | 1,678,612 | 3,357,224 |
| 0236620 - S. C. Greenwood Tax - Electric | 0 | (65) | (129) | 0 | (64) | (127) | 0 | (63) | (127) | 0 | (62) | (125) | 0 |
| 0236700 - Employer FICA Tax Liab | 11,915,282 | 12,687,506 | 12,873,913 | 2,525,549 | 3,370,742 | 3,354,751 | 4,003,568 | 4,649,956 | 5,412,004 | 6,089,087 | 6,817,869 | 9,589,283 | 9,411,212 |
| 0236750 - Federal Unemployment Tax Liab | 4,982 | 333,801 | 376,854 | 389,465 | 4,007 | 9,284 | 15,895 | 5,577 | 9,940 | 13,155 | 3,432 | 5,632 | 7,815 |
| 0236906 - Use Tax Payable | 2,161,519 | 1,250,596 | 884,375 | 1,483,162 | 892,129 | 738,994 | 1,562,190 | 472,499 | 307,928 | 457,890 | 975,765 | 774,345 | 1,114,509 |
| 0236940 - Current Tax Reclass State Cr | 1,512,624 | 0 | 0 | 283,209 | 283,209 | 283,209 | 0 | 0 | 0 | 5,138,948 | 5,138,948 | 5,138,948 | 3,867,879 |
| 0236942 - State Inc Tax Payable - Prior Yrs LT | 943,354 | 943,354 | 943,354 | 943,354 | 943,354 | 943,354 | 943,354 | 943,354 | 943,354 | 943,354 | 943,354 | 943,354 | 943,354 |
| 0236943 - State Inc Tax Payable- Prior Yrs | 30,340,213 | 30,340,213 | 30,340,213 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 0236951 - Current Liability UTP: State | 723,303 | 723,303 | 723,303 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0236965 - Accrued SIT - Prior Year | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (10,101,408) | (10,101,408) | (6,763,132) | 0 | 0 |
| 0236980 - Current Tax Reclass Fed Cr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29,312,514 | 29,312,514 | 29,312,514 | 56,308,467 |
| 0236981 - FED Inc Tax Payable - Prev Yr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (84,723,256) | (84,723,256) | (84,493,882) | 40,721 | 0 |
| 0236983 - Fed Inc Payable-Prior Yrs | (7,250,030) | (7,250,030) | (7,250,030) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) |
| 0236986 - LT Liability FED - KTRA | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) |
| 0236990 - Fed Inc Tax Payable - Current | 48,016,457 | 48,016,457 | 25,114,740 | 7,484,640 | 16,928,557 | 9,441,500 | 27,941,353 | 89,616,797 | 45,993,360 | 55,410,743 | 94,639,456 | (2,966,606) | (56,308,467) |
| 0236992 - Current Liability UTP - Fed | (151,894) | (151,894) | (151,894) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0236993 - LT Liability Fed - UTP | 4,326,592 | 4,326,592 | 4,326,592 | 4,326,592 | 4,326,592 | 4,326,592 | 4,326,592 | 4,326,592 | 4,326,592 | 6,494,559 | 6,494,559 | 6,494,559 | 6,494,559 |
| 0236996 - LT Liability Fed UTP 06-07 yr (I) | (198,116) | (198,116) | (198,116) | (198,116) | (198,116) | (198,116) | (198,116) | (198,116) | (198,116) | (198,116) | (198,116) | (198,116) | (198,116) |
| 0236997 - LT Receiv Gain Cont | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **236 Taxes Accrued** | **238,979,854** | **120,869,488** | **117,248,398** | **84,043,827** | **108,805,772** | **118,111,510** | **161,002,454** | **240,182,824** | **121,317,075** | **183,750,584** | **247,297,669** | **245,623,409** | **170,427,273** |
| | | | | | | | | | | | | | |
| 0237038 - LT Interest accrued | 25,171,498 | 25,171,498 | 25,171,498 | 878,681 | 878,681 | 878,681 | 878,681 | 878,681 | 878,681 | 610,392 | 610,392 | 610,392 | 0 |
| 0237110 - Bonds Interest Payable | 90,760,999 | 101,367,662 | 116,451,277 | 125,642,366 | 122,764,100 | 139,680,550 | 89,440,464 | 110,294,295 | 127,087,256 | 128,905,594 | 120,067,748 | 137,767,529 | 88,862,569 |
| 0237220 - Int Accrued On Nc Cust Deposit | 78,455,634 | 79,037,604 | 79,602,382 | 80,186,475 | 80,772,182 | 81,357,222 | 81,946,352 | 82,541,045 | 83,141,104 | 83,742,580 | 84,347,690 | 84,954,503 | 85,565,152 |
| 0237230 - Int Pd Curr Yr On Nc Cust Dep | (62,424,949) | (62,715,531) | (62,976,103) | (63,279,695) | (63,532,590) | (63,804,820) | (64,085,573) | (64,436,191) | (71,725,830) | (71,986,657) | (72,200,622) | (72,541,635) | (72,694,399) |
| 0237240 - Int Accrued On Sc Cust Dep | 11,308,578 | 11,394,096 | 11,480,473 | 11,567,162 | 11,655,121 | 11,741,979 | 11,828,692 | 11,915,341 | 12,001,996 | 12,089,099 | 12,175,919 | 12,262,088 | 12,347,574 |

/A



**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the Test Year Ended December 31, 2018**

**Item No. 3**
**Current Position**

| Account & Description | Dec 2017 | Jan 2018 | Feb 2018 | Mar 2018 | Apr 2018 | May 2018 | Jun 2018 | Jul 2018 | Aug 2018 | Sep 2018 | Oct 2018 | Nov 2018 | Dec 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0237250 - Int Pd Curr Yr On Sc Cust Dep | (10,417,881) | (10,461,243) | (10,514,483) | (10,552,989) | (10,594,747) | (10,638,380) | (10,681,033) | (10,726,489) | (11,947,255) | (11,984,671) | (12,005,562) | (12,050,911) | (12,062,425) |
| **237 Interest Accrued** | **132,853,878** | **143,794,086** | **159,215,044** | **144,442,000** | **141,942,747** | **159,215,232** | **109,327,584** | **130,466,682** | **139,435,951** | **141,376,336** | **132,995,565** | **151,001,966** | **102,018,472** |
| | | | | | | | | | | | | | |
| 0241110 - State Income Tax WH - Employee | 658,884 | 645,950 | 516,341 | 1,132,955 | 668,134 | 670,271 | 702,474 | 672,653 | 34,939 | 1,245,933 | 776,773 | 1,111,154 | 711,702 |
| 0241150 - Federal Income Tax WH - Employee | 0 | 0 | (2,056,951) | 0 | (534) | (534) | (534) | (553) | (553) | (553) | (877) | 1,823,306 | (130,479) |
| 0241160 - Fica Withheld - Employee | (550) | (116) | (611,640) | (116) | 138 | 112 | 112 | 109 | 109 | 109 | 101 | 1,130,078 | (46,766) |
| 0241170 - SC salestx-cust refunds | 121,454 | 127,963 | 33,543 | 33,706 | (71,034) | 50,279 | 0 | 0 | (18) | (18) | 0 | 0 | 0 |
| 0241310 - General Sales Tax | 2,405,494 | 2,700,781 | 2,563,858 | 2,046,691 | 2,344,276 | 2,372,891 | 2,964,032 | 3,336,571 | 3,077,120 | 3,601,261 | 2,858,957 | 2,543,356 | 2,651,592 |
| 0241320 - Utility Sales Tax | 7,788,319 | 14,220,483 | 9,601,110 | 5,624,832 | 5,712,041 | 4,823,162 | 10,538,684 | 13,742,878 | 12,134,502 | 13,867,943 | 6,994,936 | 5,026,803 | 9,175,824 |
| 0241335 - Local Taxes Withheld | 7,667 | 9,925 | 8,515 | 21,311 | 9,889 | 9,909 | 10,910 | 10,000 | 10,437 | 10,382 | 9,481 | 9,500 | 10,289 |
| **241 Tax Collections Payable** | **10,981,269** | **17,704,987** | **10,054,776** | **8,859,378** | **8,662,911** | **7,926,090** | **14,215,678** | **17,761,657** | **15,256,535** | **18,725,057** | **10,639,371** | **11,644,197** | **12,372,163** |
| | | | | | | | | | | | | | |
| 0232004 - Vision Deduction | 0 | (2,609) | (5,830) | 9,271 | 6,182 | 2,835 | (269) | (3,371) | 11,416 | 97,057 | 4,833 | 1,619 | 0 |
| 0232005 - Long Term Disability Deduction | 110,699 | 119,684 | 115,099 | 133,209 | 128,162 | 123,626 | 118,454 | 113,419 | 130,610 | 125,657 | 121,244 | 116,726 | 112,351 |
| 0232045 - Supplemental Life Deductions | 404,150 | 435,111 | 425,310 | 482,142 | 466,909 | 455,571 | 441,078 | 426,112 | 478,193 | 464,282 | 447,177 | 435,460 | 436,082 |
| 0232048 - Supplemental AD&D Deduction | 60,047 | 61,772 | 59,411 | 70,381 | 67,762 | 65,220 | 62,746 | 60,195 | 70,694 | 68,058 | 66,200 | 63,888 | 61,236 |
| 0232049 - Medical & HSA Deductions | 0 | 0 | (268) | (150) | (362) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0232052 - Medical Spending Acct Deduct | 0 | 0 | 0 | 114,800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0232053 - Dependent Spending Acct Deduct | 0 | 0 | 0 | 67,253 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0232067 - Dental Deductions | 0 | 0 | 0 | 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0242033 - Wages Payable - Accrual | 16,428,510 | 16,428,510 | 16,428,510 | 8,719,703 | 8,719,703 | 8,719,703 | 16,820,020 | 16,820,020 | 16,820,020 | 11,798,175 | 11,798,175 | 11,798,175 | 21,827,315 |
| 0242110 - Contract Retentions | 7,719,463 | 7,761,276 | 6,731,291 | 5,977,709 | 5,413,487 | 4,733,826 | 2,722,192 | 2,699,075 | 3,570,532 | 3,509,912 | 2,586,869 | 2,710,063 | 2,591,244 |
| 0242152 - Solar Interconnect Deposits | 7,452,973 | 7,240,808 | 7,177,520 | 7,645,718 | 10,322,108 | 8,549,801 | 8,763,431 | 10,679,619 | 11,024,925 | 10,750,649 | 11,588,683 | 8,240,624 | 7,040,884 |
| 0242153 - Performance Securities | 1,130,000 | 1,130,000 | 1,130,000 | 2,630,000 | 2,630,000 | 1,286,296 | 1,556,196 | 1,556,196 | 1,806,196 | 1,836,197 | 1,836,197 | 4,239,986 | 4,603,642 |
| 0242210 - Payroll Accrued Salaries/Wages | 0 | 0 | 0 | 0 | 0 | (20) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0242215 - Payroll Severance Reserves | 5,069,537 | 3,561,332 | 3,577,367 | 5,463,763 | 5,294,632 | 5,283,701 | 6,421,172 | 6,102,959 | 5,970,579 | 5,587,465 | 5,557,519 | 2,255,410 | 100,139,706 |
| 0242216 - Payrll ST Retention/Spcl Rsrvs | 318,278 | 318,278 | 318,278 | 348,862 | 348,862 | 348,862 | 499,469 | 499,469 | 459,469 | 607,386 | 607,386 | 607,386 | 780,864 |
| 0242221 - Current Year BPM Sharing | (1,702,977) | (1,712,556) | (1,720,358) | (1,726,806) | (1,731,912) | (1,735,271) | (1,736,520) | (1,738,976) | (1,740,651) | (1,741,298) | (1,741,000) | (1,425,171) | (1,423,569) |
| 0242310 - GREEN POWER PAYABLE | 55,010 | 55,325 | 55,377 | 56,422 | 56,273 | 56,034 | 54,379 | 53,214 | 52,128 | 54,025 | 56,077 | 55,400 | 52,548 |
| 0242320 - Transmission Open Acc - Deposits | 25,485,087 | 25,596,050 | 25,738,167 | 25,862,698 | 26,223,728 | 27,511,815 | 27,813,116 | 27,917,697 | 28,069,368 | 4,054,954 | 4,133,989 | 4,151,297 | 4,166,508 |
| 0242330 - Carbon Offset Program - NC | 8,383 | 8,419 | 8,446 | 8,536 | 8,436 | 8,519 | 8,517 | 8,566 | 8,569 | 8,554 | 8,713 | 8,689 | 8,775 |
| 0242340 - Carbon Offset Program - SC | 116 | 128 | 108 | 108 | 132 | 132 | 124 | 112 | 108 | 124 | 104 | 120 | 132 |
| 0242398 - CURR&ACCR LIAB MISC | 0 | 0 | 17,346,831 | 6,686,445 | 6,587,154 | 6,445,537 | 4,633,301 | 4,633,301 | 4,633,301 | 4,633,301 | 4,633,301 | 4,633,301 | 4,633,301 |
| 0242420 - Collect for USA Union | 3,647 | 3,647 | (20) | (20) | (20) | (20) | (20) | (20) | (20) | (20) | (20) | (20) | (20) |
| 0242460 - Prov For Incentive Ben Prog | 114,823,404 | 122,833,627 | 131,002,800 | 23,454,298 | 32,185,769 | 41,099,503 | 49,581,755 | 58,042,312 | 68,001,536 | 76,852,042 | 86,376,624 | 112,059,596 | 114,235,736 |
| 0242461 - Prior Year Incentive Accrual | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) |
| 0242470 - NC Alternative Energy Payable | 164,548 | 204,526 | 179,463 | 149,462 | 157,540 | 151,697 | 187,115 | 201,157 | 192,969 | 221,610 | 147,718 | 153,907 | 174,525 |
| 0242490 - Vacation Carryover | 113,681,154 | 113,529,984 | 113,489,848 | 113,330,632 | 113,089,852 | 112,980,327 | 112,904,176 | 112,733,909 | 112,564,187 | 112,502,301 | 112,406,714 | 112,293,942 | 108,382,205 |
| 0242510 - Escheats Officer Dpt Treas - Nc | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (952,946) | (952,946) | (952,946) |
| 0242540 - Escheatments Payable | (910) | (910) | (910) | (910) | (910) | (3,293) | (3,293) | (3,293) | (3,293) | (3,293) | (302,817) | (302,817) | (302,817) |
| 0242650 - Accrued Payable - Other | 620,817 | 624,067 | 627,317 | 627,317 | 608,337 | 626,587 | 629,587 | 632,587 | 638,385 | 657,713 | 653,284 | 628,157 | 627,719 |
| 0242690 - Executive Incentive Accrual | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) |
| 0242710 - 8.95% Grnsboro Transit Due2027 | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) | (0) |
| 0242897 - NC Pension liability - FAS 87 | 1,515,409 | 1,515,409 | 1,515,409 | 1,515,409 | 1,515,409 | 1,515,409 | 1,515,409 | 1,515,409 | 1,515,409 | 1,515,409 | 1,515,409 | 0 | 1,560,999 |
| 0242898 - OPEB current liability | 408,435 | 408,435 | 408,435 | 408,435 | 408,435 | 408,435 | 408,435 | 408,435 | 408,435 | 408,435 | 408,435 | 0 | 0 |
| 0242998 - Misc liab - FAS 106 | 3,096 | 3,096 | 3,096 | 3,096 | 3,096 | 3,096 | 3,096 | 3,096 | 3,096 | 3,096 | 3,096 | 0 | 3,528 |
| 0242999 - Misc liab - FAS 112 | 3,467,742 | 3,467,742 | 3,467,742 | 3,467,742 | 3,467,742 | 3,467,742 | 3,467,742 | 3,467,742 | 3,467,742 | 3,467,742 | 3,467,742 | 0 | 3,766,715 |
| **242 Miscellaneous Current and Accrued Liabilities** | **297,226,618** | **303,591,151** | **328,078,438** | **205,505,608** | **215,976,505** | **222,105,668** | **236,871,405** | **246,828,940** | **258,153,903** | **237,479,532** | **245,428,705** | **261,772,793** | **372,526,662** |
| | | | | | | | | | | | | | |
| 0243103 - Current Cap Lease Oblig - Tax | 4,089,199 | 4,134,022 | 4,178,844 | 4,223,666 | 4,268,488 | 4,313,311 | 4,358,133 | 4,402,955 | 4,451,240 | 3,982,702 | 4,021,993 | 4,719,817 | 4,773,972 |
| 0243350 - IC Lease - Curr Cap Lease Oblig | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 512,545 | 518,333 | 524,186 | 530,106 |
| **243 Obligations Under Capital Leases - Current** | **4,089,199** | **4,134,022** | **4,178,844** | **4,223,666** | **4,268,488** | **4,313,311** | **4,358,133** | **4,402,955** | **4,451,240** | **4,495,247** | **4,540,326** | **5,244,004** | **5,304,078** |
| | | | | | | | | | | | | | |
| 0244005 - Derivative Instr-Regulatory-ST | 24,594,139 | 24,594,139 | 0 | 0 | 0 | 0 | 994,312 | 994,312 | 994,312 | 0 | 0 | 0 | 9,410,350 |
| **244 Derivative Instr Liab** | **24,594,139** | **24,594,139** | **0** | **0** | **0** | **0** | **994,312** | **994,312** | **994,312** | **0** | **0** | **0** | **9,410,350** |
| | | | | | | | | | | | | | |
| 0245001 - 3rd Party Derivative Liability Current | 4,775,400 | 0 | 5,728,565 | 2,860,623 | 4,647,913 | 286,936 | 6,278,703 | 11,837,871 | 8,522,665 | 11,743,395 | 9,767,229 | 8,470,681 | 12,125,678 |
| Long-Term Portion of Derivative Instrument Liabilities-Hedges Calc | 3,931,968 | 3,870,904 | 6,493,116 | 5,785,339 | 8,564,421 | 5,275,485 | 9,509,426 | 11,384,811 | 9,841,533 | 14,096,049 | 11,948,281 | 11,680,637 | 9,127,400 |
| **245 Derivative Instrument Liabilities - Hedges** | **8,707,368** | **3,870,904** | **12,221,680** | **8,645,962** | **13,212,334** | **5,562,422** | **15,788,129** | **23,222,682** | **18,364,197** | **25,839,444** | **21,715,510** | **20,151,318** | **21,253,078** |
| | | | | | | | | | | | | | |
| **Total Current and Accrued Liabilities** | **1,987,881,515** | **2,586,570,415** | **2,391,173,267** | **1,589,549,286** | **1,971,948,049** | **1,951,407,004** | **2,365,933,980** | **2,344,960,431** | **2,162,778,862** | **2,570,004,685** | **2,516,922,684** | **1,987,144,019** | **2,484,799,004** |
| Less: Adjustments for Non-Current Portion | | | | | | | | | | | | | |
| 245 Derivative Instr Liab - Hedges | 3,931,968 | 3,870,904 | 6,493,116 | 5,785,339 | 8,564,421 | 5,275,485 | 9,509,426 | 11,384,811 | 9,841,533 | 14,096,049 | 11,948,281 | 11,680,637 | 9,127,400 |
| **Adjusted Current and Accrued Liabilities Total** | **1,983,949,546** | **2,582,699,511** | **2,384,680,152** | **1,583,763,948** | **1,963,383,628** | **1,946,131,519** | **2,356,424,555** | **2,333,575,620** | **2,152,937,329** | **2,555,908,636** | **2,504,974,403** | **1,975,463,383** | **2,475,671,604** |

/A



**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the Test Year Ended December 31, 2018**

**Item No. 3**
**Current Position**

| **Account & Description** | **Dec 2017** | **Jan 2018** | **Feb 2018** | **Mar 2018** | **Apr 2018** | **May 2018** | **Jun 2018** | **Jul 2018** | **Aug 2018** | **Sep 2018** | **Oct 2018** | **Nov 2018** | **Dec 2018** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Current Position** | | | | | | | | | | | | | |
| Total Current and Accrued Assets | 1,972,005,088 | 2,201,022,504 | 2,016,366,239 | 1,945,422,429 | 1,928,980,640 | 1,942,532,445 | 2,015,247,636 | 2,119,732,308 | 2,065,582,603 | 2,213,676,333 | 2,004,429,381 | 1,927,834,639 | 2,188,786,799 |
| Total Current and Accrued Liabilities | 1,983,949,546 | 2,582,699,511 | 2,384,680,152 | 1,583,763,948 | 1,963,383,628 | 1,946,131,519 | 2,356,424,555 | 2,333,575,620 | 2,152,937,329 | 2,555,908,636 | 2,504,974,403 | 1,975,463,383 | 2,475,671,604 |
| **Net Current Position** | **(11,944,458)** | **(381,677,007)** | **(368,313,913)** | **361,658,481** | **(34,402,988)** | **(3,599,074)** | **(341,176,919)** | **(213,843,312)** | **(87,354,727)** | **(342,232,303)** | **(500,545,022)** | **(47,628,744)** | **(286,884,805)** |
| **13 Month Averages** | | | | | | | | | | | | | |
| Total Current and Accrued Assets Test Year Avg. (Dec 2017 - Dec 2018) | 2,041,663,003 | | | | | | | | | | | | |
| Total Current and Accrued Liabilities Test Year Avg. (Dec 2017 - Dec 2018) | 2,215,351,064 | | | | | | | | | | | | |
| Net Current Position Test Year Avg. (Dec 2017 - Dec 2018) | (173,688,061) | | | | | | | | | | | | |
| **Reconciliation to Balance Sheet** | | | | | | | | | | | | | |
| Total Current and Accrued Assets per above | 1,972,005,088 | 2,201,022,504 | 2,016,366,239 | 1,945,422,429 | 1,928,980,640 | 1,942,532,445 | 2,015,247,636 | 2,119,732,308 | 2,065,582,603 | 2,213,676,333 | 2,004,429,381 | 1,927,834,639 | 2,188,786,799 |
| Total Current and Accrued Assets per Balance Sheet | 1,972,005,088 | 2,201,022,504 | 2,016,366,239 | 1,945,422,429 | 1,928,980,640 | 1,942,532,445 | 2,015,247,636 | 2,119,732,308 | 2,065,582,603 | 2,213,676,333 | 2,004,429,381 | 1,927,834,639 | 2,188,786,799 |
| Difference | (0) | 0 | (0) | (0) | 0 | 0 | 0 | 0 | (0) | (0) | 0 | 0 | 0 |
| Total Current and Accrued Liabilities per above | 1,983,949,546 | 2,582,699,511 | 2,384,680,152 | 1,583,763,948 | 1,963,383,628 | 1,946,131,519 | 2,356,424,555 | 2,333,575,620 | 2,152,937,329 | 2,555,908,636 | 2,504,974,403 | 1,975,463,383 | 2,475,671,604 |
| Total Current and Accrued Liabilities per Balance Sheet | 1,983,949,546 | 2,582,699,511 | 2,384,680,152 | 1,583,763,948 | 1,963,383,628 | 1,946,131,519 | 2,356,424,555 | 2,333,575,620 | 2,152,937,329 | 2,555,908,636 | 2,504,974,403 | 1,975,463,383 | 2,475,671,604 |
| Difference | 0 | (0) | (0) | (0) | 0 | (0) | (0) | 0 | 0 | 0 | 0 | (0) | 0 |

All Differences due to rounding

**DUKE ENERGY CAROLINAS, LLC** **Item No. 4**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide a schedule of common investment, reserves, and associated expense amounts, by account, allocated to system electric operations for the twelve-month test period. Show the ultimate factor(s) used to allocate total company amounts to system electric amounts. Also, provide a brief description of the basis of allocation. To be performed by companies utilizing common investment, for electric and non-electric operations. See Format 4.

**Response:**

A Common Investment approach is allowed by the FERC for utilities that provide multiple types of utility services (e.g. electric, gas, water, etc.) where a common account is charged and then allocated to the appropriate types of services. DE Carolinas, LLC only provides electric utility services and does not need or use the Common Investment Approach.

/A



**DUKE ENERGY CAROLINAS, LLC** **Item No. 5**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide the following total company electric monthly balances for the test year operations:
a. Construction work in progress, the allowance for funds used during construction, and the related contra allowance for funds used during construction (if these items are sought to be included in the applicant's rate base).
b. The unamortized balance for each plant acquisition adjustment, the amount amortized to test year operations and the account charged.
c. Materials and supplies (omit this item if the pertinent information is provided in Item 3a).
d. Balance in accounts payable applicable to materials and supplies*.
e. Provide information pertaining to nuclear fuel plant accounts as shown in Format 5e.
f. Balance in accounts payable applicable to nuclear fuel balances reflected in Item 5e.
g. Balance in accounts payable applicable to electric plant in service*.
h. Balance in accounts payable applicable to amounts included in plant under construction*.
i. Short-term borrowings and interest expense on short term borrowings.
*If the actual figure is unavailable, provide a reasonable estimate.

**Response:**

Please see the attached files.

DEC Rate Case E1 5a CWIP and AFUDC

DEC Rate Case E1 5b Acquisition Adju

DEC Rate Case E1 5d Materials and Su

DEC Rate Case E1 5f Nuclear Fuel Accour

DEC Rate Case E1 5g Plant in Service A

DEC Rate Case E1 5e Nuclear Fuel Acc

DEC Rate Case E1 5h CWIP Accounts P

E1 5i Short-Term Borrowings and Inte

**DUKE ENERGY CAROLINAS, LLC** **Item No. 5a**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

| | | **Capex by Month** *($ in thousands) | **TTD CWIP by month** *($ in thousands) |
|---|---|---|---|
| January | 2018 | 180,908 | 2,963,393 |
| February | 2018 | 154,652 | 3,006,244 |
| March | 2018 | 266,265 | 3,158,489 |
| April | 2018 | 249,884 | 2,648,740 |
| May | 2018 | 185,677 | 2,611,256 |
| June | 2018 | 300,481 | 2,186,665 |
| July | 2018 | 156,177 | 2,227,888 |
| August | 2018 | 293,645 | 2,283,072 |
| September | 2018 | 253,240 | 2,342,227 |
| October | 2018 | 235,896 | 2,168,665 |
| November | 2018 | 247,401 | 2,243,746 |
| December | 2018 | 283,334 | 1,952,586 |
| Total Period | | 2,807,560 | |

| | | **AFUDC Contra by Month** ($ in thousands) | **AFUDC by Month** ($ in thousands) *(including AFUDC Contra) |
|---|---|---|---|
| January | 2018 | (85) | 9,892 |
| February | 2018 | 17 | 10,236 |
| March | 2018 | (21) | 10,809 |
| April | 2018 | (82) | 8,631 |
| May | 2018 | (21) | 8,304 |
| June | 2018 | (4) | 8,283 |
| July | 2018 | (65) | 8,878 |
| August | 2018 | (19) | 8,806 |
| September | 2018 | (19) | 9,546 |
| October | 2018 | (19) | 8,688 |
| November | 2018 | 3 | 8,559 |
| December | 2018 | (15) | 7,583 |
| Total YTD | | (330) | 108,215 |

* Amounts include CWIP (Account 107000), Nuclear Fuel (Account 0120100) and Future Use (Account 105100)

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31,2018**

| | | Carolinas.FERC 2017 Dec Actuals Periodic YTD | Carolinas.FERC 2018 Jan Actuals Periodic YTD |
|---|---|---|---|
| **Accounts:** | **Descriptions:** | | |
| 0114000 | 0114000 - Elec Plant Acquisition Adj | 284,106.00 | 284,106.00 |
| 0115000 | 0115000 - Acc Prov Plt Acquis Adj | (259,695.14) | (260,526.76) |
| **Note 1** | **Unamortized Balance** | 24,410.86 | 23,579.24 |
| 0425000 | 0425000 - Miscellaneous Amortization | | 831.62 |

**Note 1-** **Duke Energy Carolinas' Plant acquisition adjustments currently being amortized to e**

**(1) Johnson C. Smith:**
**Duke acquired an electrical distribution system from Johnson C. Smith University in Charlotte, NC. The original acquisition adjustment amount was $194,221, amortizing over 27 years starting December 1991. The monthly amortization amount of $581.50 is being amortized to Account 425 - Miscellaneous Amortization.**

**(2) Doran Textile:**
**Duke purchased an electrical distribution system from Doran Textiles in Shelby, NC. The original acquisition adjustment amount was $64,281, amortizing over 29 years starting in October 1992. The monthly amortization amount of $179 is being amortized to Account 425 - Miscellaneous Amortization.**

**(3) Board of Public Works - Gaffney:**
**Duke purchased an electrical distribution system from the Board of Public Works in Gaffney, SC. The original acquisition adjustment amount was $25,604, amortizing over 30 years starting in April 1993. The monthly amortization amount of $71.12 is being amortized to Account 425 - Miscellaneous Amortization.**

/A

MONTHLY BALANCES FOR TEST

| Carolinas.FERC | Carolinas.FERC | Carolinas.FERC | Carolinas.FERC | Carolinas.FERC |
|---|---|---|---|---|
| 2018 | 2018 | 2018 | 2018 | 2018 |
| Feb | Mar | Apr | May | Jun |
| Actuals | Actuals | Actuals | Actuals | Actuals |
| Periodic | Periodic | Periodic | Periodic | Periodic |
| YTD | YTD | YTD | YTD | YTD |
| 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 |
| (261,358.38) | (262,190.00) | (263,021.62) | (263,853.24) | (264,684.86) |
| 22,747.62 | 21,916.00 | 21,084.38 | 20,252.76 | 19,421.14 |

AMOUNT AMORTIZED FOR THE TI

| | | | | |
|---|---|---|---|---|
| 831.62 | 831.62 | 831.62 | 831.62 | 831.62 |

lectric plant are:

/A



**' YEAR**

| | Carolinas.FERC 2018 Jul Actuals Periodic YTD | Carolinas.FERC 2018 Aug Actuals Periodic YTD | Carolinas.FERC 2018 Sep Actuals Periodic YTD | Carolinas.FERC 2018 Oct Actuals Periodic YTD | Carolinas.FERC 2018 Nov Actuals Periodic YTD |
|---|---|---|---|---|---|
| | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 |
| | (265,516.48) | (266,348.10) | (267,179.72) | (268,011.34) | (268,842.96) |
| | 18,589.52 | 17,757.90 | 16,926.28 | 16,094.66 | 15,263.04 |
| **:ST YEAR** | | | | | |
| | 831.62 | 831.62 | 831.62 | 831.62 | 831.62 |

/A

**Item No. 5b**

| |
|---|
| **Carolinas.FERC** |
| **2018** |
| **Dec** |
| **Actuals** |
| Periodic |
| YTD |
| 284,106.00 |
| (269,674.58) |
| 14,431.42 |
| 831.62 |

**Duke Energy Carolina** **Item 5D**
**Docket No. E-7, Sub 1214**
**Estimated Accounts Payable Applicable to Materials and Supplies**
**For the test year ending December 31, 2018**
**Dollars in Millions**

| | | |
|---|---|---|
| January | 2018 | $44 |
| February | 2018 | $41 |
| March | 2018 | $42 |
| April | 2018 | $50 |
| May | 2018 | $45 |
| June | 2018 | $52 |
| July | 2018 | $40 |
| August | 2018 | $51 |
| September | 2018 | $43 |
| October | 2018 | $40 |
| November | 2018 | $35 |
| December | 2018 | $36 |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 5e**

| Month (a) | Nuclear Fuel In Process Account No. 120.1 (b) | Nuclear Fuel Stock Account No. 120.2 (c) | Nuclear Fuel In Reactor Account No. 120.3 (d) | Spent Nuclear Fuel Burn Account No. 120.4 (e) | Nuclear Fuel Assemblies Account No. 120.51 (f) | Nuclear Fuel Retirements Account No. 120.512 (g) | Disposal Cost Payment Account No. 120.53 (h) | Nuclear Fuel Disposal Cost Account No. 120.54 (i) | Spent Fuel Storage Canisters 120.55* (j) | Net Nuclear Fuel In Rate Base (c thru j) (k) |
|---|---|---|---|---|---|---|---|---|---|---|
| Dec-17 | 315,193,682 | 1 | 1,158,802,565 | 652,248,802 | (2,581,573,598) | 1,296,447,545 | | | 1,534,070 | 527,459,386 |
| Jan-18 | 335,832,767 | 1 | 1,158,802,565 | 652,248,802 | (2,606,901,692) | 1,296,447,545 | | | 1,534,070 | 502,131,292 |
| Feb-18 | 317,098,451 | 1 | 1,158,802,565 | 652,248,802 | (2,629,499,737) | 1,296,447,545 | | | 1,534,070 | 479,533,247 |
| Mar-18 | 353,943,652 | 14,599,146 | 1,158,802,565 | 652,248,802 | (2,654,078,556) | 1,296,447,545 | | | 1,534,070 | 469,553,573 |
| Apr-18 | 323,574,140 | 78,943,824 | 1,155,921,050 | 578,189,167 | (2,675,919,848) | 1,387,987,841 | | | 1,534,070 | 526,656,104 |
| May-18 | 315,671,358 | 1 | 1,139,404,702 | 497,835,991 | (2,698,207,530) | 1,563,801,188 | | | 1,534,070 | 504,368,423 |
| June-18 | 374,131,356 | 1 | 1,139,404,702 | 497,835,991 | (2,721,978,333) | 1,563,801,188 | | | 4,751,840 | 483,815,389 |
| July-18 | 368,761,589 | 1 | 1,139,404,702 | 497,835,991 | (2,746,539,647) | 1,563,801,188 | | | 6,988,175 | 461,490,410 |
| Aug-18 | 330,742,970 | 88,059,790 | 1,139,404,702 | 497,835,991 | (2,771,094,897) | 1,563,801,188 | | | 8,102,550 | 526,109,325 |
| Sept-18 | 297,146,719 | 178,192,435 | 1,139,404,702 | 497,835,991 | (2,791,981,605) | 1,563,801,188 | | | 8,102,550 | 595,355,261 |
| Oct-18 | 270,095,345 | 105,611,800 | 1,154,016,448 | 554,046,290 | (2,812,457,524) | 1,581,038,933 | | | 8,102,550 | 590,358,497 |
| Nov-18 | 271,760,490 | 15,464,976 | 1,153,390,144 | 458,646,958 | (2,833,815,582) | 1,767,211,405 | | | 8,102,550 | 569,000,452 |
| Dec-18 | 276,467,667 | 1 | 1,152,233,077 | 475,269,001 | (2,856,885,424) | 1,767,211,405 | | | - | 537,828,059 |
| 13 Month Total | 4,150,420,187 | 480,871,974 | 14,947,794,492 | 7,164,326,582 | (35,380,933,974) | 19,508,245,704 | - | - | 53,354,640 | 6,773,659,417 |
| 13 Month Average | 319,263,091 | 36,990,152 | 1,149,830,346 | 551,102,045 | (2,721,610,306) | 1,500,634,285 | - | - | 4,104,203 | 521,050,724 |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 5f**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Dollars in millions**

| | | |
|---|---|---|
| Jan-18 | $ | 84 |
| Feb-18 | $ | 73 |
| Mar-18 | $ | 106 |
| Apr-18 | $ | 106 |
| May-18 | $ | 63 |
| Jun-18 | $ | 111 |
| Jul-18 | $ | 49 |
| Aug-18 | $ | 97 |
| Sep-18 | $ | 96 |
| Oct-18 | $ | 98 |
| Nov-18 | $ | 49 |
| Dec-18 | $ | 52 |
| **Total** | **$** | **983** |
| **Average** | **$** | **82** |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 5g**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Estimated Accounts Payable Applicable to Electric Plant in Service**
**Dollars in millions**

| | | | |
|---|---|---|---|
| January | 2018 | $ | (4) |
| February | 2018 | $ | (4) |
| March | 2018 | $ | (4) |
| April | 2018 | $ | (4) |
| May | 2018 | $ | (4) |
| June | 2018 | $ | (4) |
| July | 2018 | $ | (4) |
| August | 2018 | $ | (4) |
| September | 2018 | $ | (4) |
| October | 2018 | $ | (4) |
| November | 2018 | $ | (5) |
| December | 2018 | $ | (5) |
| **Total** | | **$** | **(50)** |
| **Average** | | **$** | **(4)** |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 5h**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31,2018**

**Estimated Accounts Payable Applicable to Amounts Included in Plant Under Construction**
**Dollars in millions**

| | | |
|---|---|---|
| January | 2018 | $203 |
| February | 2018 | $208 |
| March | 2018 | $223 |
| April | 2018 | $236 |
| May | 2018 | $247 |
| June | 2018 | $286 |
| July | 2018 | $220 |
| August | 2018 | $233 |
| September | 2018 | $252 |
| October | 2018 | $272 |
| November | 2018 | $234 |
| December | 2018 | $298 |
| | | |
| **Total** | | $2,912 |
| **Average** | | $243 |

**NOTE:** Amounts include accounts payable related to Plant in Service projects completed but still receiving final charges.

/A



**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the Test Year Ended December 31, 2018**

**Short-term**
**Interest Expense on Short-**

| | 2018 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | January | February | March | April | May | June | July | August | September | October | November |
| **Short-Term Borrowings ($s)** | $ 857,347,000 | $ 811,996,000 | $ 44,993,000 | $ 471,063,000 | $ 500,703,000 | $ 740,036,000 | $ 713,730,000 | $ 511,337,000 | $ 803,772,000 | $ 672,260,000 | $ 223,308,000 |
| **Interest Expense on Short-Term Borrowings ($s)** | $ 640,694 | $ 1,038,892 | $ 5,628 | $ 299,714 | $ 724,135 | $ 1,137,707 | $ 1,240,993 | $ 980,209 | $ 1,076,152 | $ 1,405,898 | $ 390,355 |

**Item No. 5i**
**ı Borrowings and**
**-term Borrowings**

| December |
| --- |
| $ 438,690,000 |
| $ 512,069 |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 6**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

[ ] **CONFIDENTIAL**

[X] **NOT CONFIDENTIAL**

**Request:**

a. Provide a schedule by bank by months showing the negotiated line of credit, the average daily usage of credit, the compensating bank balance requirement, and the monthly average daily cash balance calculated from the bank statement(s) for each bank having a compensating balance requirement as requested in Format 6a. Also, have available for review during field engagements copies of the commitment letters from each bank which has extended a line of credit outlining the terms of the negotiated line of credit.
b. If a required compensating balance is provided by a related company, provide an explanation of the arrangement.
c. Provide a summary of customer deposits as requested in Format 6c. Also, provide a description of the method and frequency of computing and recording interest on customer deposits and the method and frequency of refunding customer deposits.

**Response:**

**a-b.** Duke Energy Carolinas does not have any bank accounts with compensating balance requirements.
As of December 31, 2018, Duke Energy Carolinas had an allocated sublimit of $1.75 billion and a maximum sublimit of $1.8 billion under the $8.0 billion master credit facility for Duke Energy Corporation.
The above-referenced credit agreement is available for on-site review.

**c.** See attached summary of customer deposits "DEC Rate Case E1 6c Customer Deposits."
See attached method and frequency of computing and recording interest and refunding customer deposits "DEC Rate Case E1 6c Customer Deposits Narrative"

DEC Rate Case E1-6c Customer Deposits.xls

DEC Rate Case E1-6c Customer Deposits N.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 6C**
**Docket No. E-7, Sub 1214** **North Carolina Customer Deposits Narrative**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

## Residential Deposit Summary

Based on a prospective customer's credit history, each customer is considered to have a "good", "bad" or "new" rating. Any customer with a bad credit rating is required to pay a specified deposit amount in order to receive service. Residential customers with a new credit rating may also be required to pay a deposit. This is dependent upon an external credit score. Residential customers without security may be required to establish that after the account becomes active if the customer develops a poor payment history.

Interest on customer deposits for NC accounts begins accruing interest on the 91st day after receipt of the deposit from the customer. The interest is calculated using the simple method. The accrual of interest on individual accounts occurs on a monthly basis. Interest is calculated at 8 percent per annum.

The residential customer must maintain a good credit rating for a period of at least one year in order to receive a refund. An account will be considered in good credit until it receives more than two late payments, a returned payment, or a non-pay disconnect in a twelve-month period. Deposits are also refunded to residential customers after the deposit has been held for ten years even if the customer has not established a good credit history prior to the ten years.

As soon as a residential customer meets the criteria for a refund as specified above, the full deposit and accrued interest is refunded. Note that in August of even-numbered years, accrued interest only is refunded in the form of a credit to the customer's account for those customers with active deposits.

## Non-Residential Deposit Summary

Duke Energy Carolinas, LLC (DEC) requires non-residential applicants secure their facilities in accordance with the North Carolina Utilities Commission. The amount of deposit we collect is equal to two-twelfths of the estimated charge for the service for the ensuing twelve months per meter (account), and secures the account for the life of the account or until creditworthiness can be affirmed. The deposit requirement may be satisfied with cash or a cash alternative, such as an Irrevocable Letter of Credit from a financial institution satisfactory to DEC, or a Surety Bond from a surety company with an acceptable rating from A.M. Best Co. Cash deposits earn interest at 8% per annum after the initial 90 days.

DEC requires publicly traded companies maintain a satisfactory credit rating for deposit waiver consideration. This threshold is S&P BB or Moody's Ba2.

DEC reserves the right to assess new or additional deposits on an existing customer based on the customer's overall financial condition or creditworthiness, which may include the DEC's payment history. If an additional deposit was waived due to a satisfactory credit rating and the rating fall below the thresholds, deposit is assessed and due within 30 days from notification.

Certain 'triggering' events could result in the requirement of an aggregate deposit or additional deposit (when insufficient) for all accounts associated with the account holder. These 'triggering' events include, but are not limited to: returned items, delinquent payments, unpaid final bills requiring collection intervention on any associated account, information received from credit reporting agencies (Experian, D&B), derogatory public information (tax lien, judgment filings, derogatory UCC filings, bankruptcy). Additionally, acquisitions or newly acquired properties may not necessarily inherit the existing deposit waiver status. While we may honor a deposit waiver status for an existing account(s), the decision to assess a deposit on newly acquired properties will be based on the aggregate deposit and overall solvency of the account holder.

Deposits for non-residential accounts are not automatically refunded based on how payment is made to one trade line, DEC. A review of the aggregate exposure for the customer combined with overall credit worthiness determines eligibility for refund and deposit waiver status.

As stated, DEC pays interest on deposits held more than 90 days at the rate of 8% per annum. Interest accrues annually, and at customer request, is credited to customer account. If customer account(s) reflect a current status and the customer prefers an interest check, a check for the interest is issued in lieu of credit toward future billings.

/A

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the Test Year Ended December 31, 2018**

**Item No. 6c**
**North Carolina Customer Deposits**

| Line No. | Month (a) | Receipts (b) | Refunds ( c) | Balance (d) |
|---|---|---|---|---|
| 1 | Balance beginning of test year | | | 91,077,849.14 |
| 2 | January | 3,046,782.33 | (2,606,900.50) | 91,517,730.98 |
| 3 | February | 3,686,316.84 | (3,220,931.46) | 91,983,116.36 |
| 4 | March | 3,922,916.63 | (3,670,151.92) | 92,235,881.07 |
| 5 | April | 4,077,601.95 | (3,357,464.25) | 92,956,018.77 |
| 6 | May | 3,130,517.14 | (3,289,789.65) | 92,796,746.25 |
| 7 | June | 4,176,734.13 | (4,722,552.83) | 92,250,927.55 |
| 8 | July | 4,795,345.53 | (3,216,265.79) | 93,830,007.29 |
| 9 | August | 3,968,966.34 | (3,496,998.13) | 94,301,975.51 |
| 10 | September | 3,523,318.59 | (3,656,110.47) | 94,169,183.63 |
| 11 | October | 3,311,001.87 | (2,663,090.86) | 94,817,094.63 |
| 12 | November | 4,979,675.55 | (3,490,170.82) | 96,306,599.37 |
| 13 | December | 3,219,997.26 | (2,919,016.63) | 96,607,580.00 |
| 14 | Total (Lines 1 through 13) | 45,839,174.16 | (40,309,443.30) | 1,214,850,710.55 |
| 15 | Average balance (Line 14 \ 13 (months)) | | | 93,450,054.66 |
| 16 | Amount of deposits received during test period | 45,839,174.16 | | |
| 17 | Amount of deposits refunded during test period | (40,309,443.30) | | |
| 18 | Number of deposits on hand end of test year | 381,599 | | |
| 19 | Average amount of deposits (Line 15, column (d) \ Line 18, column (b)) | 244.89 | | |
| 20 | Interest paid during test period | 10,269,449.31 | | |
| 21 | Interest accrued during test period | 7,129,673.20 | | |
| 22 | Interest rate | 8.0% | | |

/A



**DUKE ENERGY CAROLINAS, LLC** **Item No. 7**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide the following information for each item of electric property held for future use at the end of the test year:
a. A description of property,
b. Its location,
c. Date purchased,
d. Cost,
e. Estimated date to be placed in service, and
f. A brief description of intended use.

**Response:**

Please see the attached file.

E1-7 - Land Held for Future Use.xlsx

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**E1-7 - Land Held For Future Use**
**For the test year ended December 31, 2018**

| DESCRIPTION | LOCATION COUNTY-STATE | DATE PURCHASED OR BOOK VINTAGE YR | COST | ESTIMATED DATE TO BE USED | DESCRIPTION OF INTENDED USE |
|---|---|---|---|---|---|
| **ACCOUNT 105.10** | | | | | |
| **DISTRIBUTION** | | | | | |
| MORAVIAN FALLS LAND ACQUISITION | WILKES NC | 2017 | 35,582.63 | 2019 | DISTRIBUTION SUBSTATION |
| PATIMBY RETAIL | MECKLENBURG NC | 2017 | 27,598.03 | 2019 | DISTRIBUTION SUBSTATION |
| CANTERBURRY RETAIL | GREENVILLE SC | 2016 | 356,740.27 | 2020 | DISTRIBUTION SUBSTATION |
| HARRISSON BRIDGE RETAIL | GREENVILLE SC | 2015 | 48,744.08 | 2020 | DISTRIBUTION SUBSTATION |
| PATTERSON SPRINGS RETAIL | CLEVELAND NC | 2017 | 808,426.63 | 2020 | DISTRIBUTION SUBSTATION |
| BRYANT ST RETAIL | ROCKINGHAM NC | 2018 | 179,777.94 | 2019 | DISTRIBUTION SUBSTATION |
| EAST HICKORY RETAIL | CATAWBA NC | 2017 | 68,087.67 | 2019 | DISTRIBUTION SUBSTATION |
| LAYCOCK RETAIL | HENDERSON NC | 2016 | 34,608.05 | 2020 | DISTRIBUTION SUBSTATION |
| PATTERSON AVE RETAIL TRANSMISSION LINE | FORSYTH NC | 2017 | 30,712.02 | 2018 | DISTRIBUTION SUBSTATION |
| SUGAR HILL RETAIL | MCDOWELL NC | 2017 | 580.11 | 2020 | DISTRIBUTION SUBSTATION |
| WRENN RETAIL | ANDERSON SC | 2017 | 117,423.92 | 2020 | DISTRIBUTION SUBSTATION |
| INDIAN LAND RETAIL | LANCASTER SC | 2018 | 93,802.22 | 2020 | DISTRIBUTION SUBSTATION |
| SUMMEY ST SOUTH RETAIL | PICKENS NC | 2017 | 255.58 | 2018 | DISTRIBUTION SUBSTATION |
| **TOTAL DISTRIBUTION** | | | 1,802,339.15 | | |
| **TRANSMISSION** | | | | | |
| NC 100KV TRANSMISSION LINES | NORTH CAROLINA | 2016-2017 | 514,989.33 | 2018-2021 | TRANSMISSION LINES |
| SC 100KV TRANSMISSION LINES | SOUTH CAROLINA | 2016-2017 | 202,896.39 | 2018-2020 | TRANSMISSION LINES |
| NC 44KV TRANSMISSION LINES | NORTH CAROLINA | 2018 | 15.40 | 2018 | TRANSMISSION LINES |
| SC 44KV TRANSMISSION LINES | SOUTH CAROLINA | 2017 | 126.97 | 2019 | TRANSMISSION LINES |
| **TOTAL TRANSMISSION** | | | 718,028.09 | | |
| **OTHER** | | | | | |
| LEE NUCLEAR PLANT COMMON | CHEROKEE SC | 2018 | 40,939,833.00 | 2020 | NUCLEAR PLANT LAND |
| MISCELLANEOUS CHARGES | | 2017 | (1.73) | VARIOUS | RECLASSED POST TEST PERIOD |
| | | | 40,939,831.27 | | |
| **TOTAL 105.10** | | | 43,460,198.51 | | |
| **ACCOUNT 105.20** | | | | | |
| **DISTRIBUTION** | | | | | |
| STAMP CREEK RETAIL | OCONEE SC | 1980 | 39,396.29 | 2022 | DISTRIBUTION SUBSTATION |
| SOCK HILL RETAIL | SPARTANBURG SC | 2017 | 577,906.19 | 2019 | DISTRIBUTION SUBSTATION |
| PARIS MOUNTAIN | GREENVILLE SC | 1980 | 24,582.00 | 2020 | DISTRIBUTION SUBSTATION |
| OWINGS RETAIL | LAURENS SC | 2012 | 238,545.54 | 2018 | DISTRIBUTION SUBSTATION |
| MATRIX RETAIL | MECKLENBURG NC | 2016 | 356,823.94 | 2018 | DISTRIBUTION SUBSTATION |
| HIGHWAY 24 RETAIL | ANDERSON SC | 2008 | 384,197.96 | 2018 | DISTRIBUTION SUBSTATION |
| DUTCHMAN CREEK | FAIRFIELD SC | 1981 | 1,356.00 | 2023 | DISTRIBUTION SUBSTATION |
| YOUNGS ROAD RETAIL | GREENSBORO NC | 1980 | 10,951.00 | 2022 | DISTRIBUTION SUBSTATION |
| STEAM PLANT ROAD RETAIL | CATAWBA NC | 2011 | 138,086.22 | 2025 | DISTRIBUTION SUBSTATION |
| SNOW CAMP RETAIL | ALAMANCE NC | 2010 | 176,414.67 | 2021 | DISTRIBUTION SUBSTATION |
| SKYLAND RETAIL | WINSTON SALEM NC | 1990 | 303,819.00 | 2025 | DISTRIBUTION SUBSTATION |
| SHOFFNER RETAIL | GUILFORD NC | 2009 | 512,692.68 | 2019 | DISTRIBUTION SUBSTATION |
| SANDY RIVER RETAIL | CHESTER SC | 1996 | 51,311.00 | 2022 | DISTRIBUTION SUBSTATION |
| REVOLUTION MILL RETAIL | GUILFORD NC | 2011 | 400,257.34 | 2019 | DISTRIBUTION SUBSTATION |
| RABBIT CROSSING RETAIL | CATAWBA NC | 2014 | 48,330.35 | 2020 | DISTRIBUTION SUBSTATION |
| N ALEXANDER STREET RETAIL | MECKLENBURG NC | 2012 | 959,966.94 | 2020 | DISTRIBUTION SUBSTATION |
| MCADENVILLE RETAIL | SANDYMUSH NC | 1996 | 78,792.00 | 2025 | DISTRIBUTION SUBSTATION |
| LYMAN RETAIL | DUNCAN SC | 1980 | 10,396.00 | 2022 | DISTRIBUTION SUBSTATION |
| KERWIN CIRCLE RETAIL | FORSYTH NC | 2009 | 512,463.07 | 2022 | DISTRIBUTION SUBSTATION |
| KANOY RETAIL | DAVIDSON NC | 2013 | 169,925.86 | 2021 | DISTRIBUTION SUBSTATION |
| HERMAN ROAD RETAIL | CATAWBA NC | 2016 | 351,579.15 | 2025 | DISTRIBUTION SUBSTATION |
| HARRISBURG RETAIL | MECKLENBURG NC | 2012 | 112,617.06 | 2019 | DISTRIBUTION SUBSTATION |
| HARRIS RETAIL | SANDYMUSH NC | 1980 | 4,374.00 | 2025 | DISTRIBUTION SUBSTATION |
| FURR ROAD RETAIL | MECKLENBURG NC | 2011 | 1,227,200.11 | 2022 | DISTRIBUTION SUBSTATION |
| EDGEFIELD RETAIL | GUILFORD NC | 2012 | 370,486.20 | 2020 | DISTRIBUTION SUBSTATION |
| DUNNS MOUNTAIN RETAIL | SALISBURY NC | 1981 | 14,473.00 | 2020 | DISTRIBUTION SUBSTATION |
| DORMAN ROAD RETAIL | MECKLENBURG NC | 2012 | 459,799.60 | 2020 | DISTRIBUTION SUBSTATION |
| CAMPBELL RETAIL | ANDERSON SC | 1980 | 8,116.00 | 2022 | DISTRIBUTION SUBSTATION |
| CALICO ROAD RETAIL | CALDWELL NC | 2012 | 427,770.74 | 2020 | DISTRIBUTION SUBSTATION |
| BURKES RETAIL | HILLSBOROUGH NC | 1981 | 39,317.00 | 2019 | DISTRIBUTION SUBSTATION |
| BRANSON MILL ROAD RETAIL | RANDOLPH NC | 2013 | 572,418.20 | 2022 | DISTRIBUTION SUBSTATION |
| BOTANICAL RETAIL | GASTON NC | 2011 | 141,397.34 | 2018 | DISTRIBUTION SUBSTATION |
| BELMEADE RETAIL | MECKLENBURG NC | 2012 | 804,674.45 | 2020 | DISTRIBUTION SUBSTATION |
| ROEBUCK RETAIL | SPARTANBURG SC | 2012 | 364,453.29 | 2024 | DISTRIBUTION SUBSTATION |
| LITTLE MOUNTAIN ROAD RETAIL | GASTON NC | 2008 | 282,811.17 | 2022 | DISTRIBUTION SUBSTATION |
| LONG ISLAND ROAD RETAIL | CATAWBA NC | 2009 | 308,737.73 | 2022 | DISTRIBUTION SUBSTATION |
| **TOTAL DISTRIBUTION** | | | 10,486,439.09 | | |
| **TRANSMISSION** | | | | | |
| NC 100KV TRANSMISSION LINES | NORTH CAROLINA | 2010 | 516,373.85 | 2020 | TRANSMISSION LINE |
| SC 100KV TRANSMISSION LINES | SOUTH CAROLINA | 2017 | 109,225.44 | 2018 | TRANSMISSION LINE |
| NC 44KV TRANSMISSION LINES | NORTH CAROLINA | 2009 | 60,943.72 | 2021 | TRANSMISSION LINE |
| BELAIR SWITCHING STATION | FORSYTH NC | 1991 | 210,046.00 | 2019 | TRANSMISSION SWITCHING STATION |
| LAKE NORMAN 525 KV RIGHT OF WAY | MECKLENBURG NC | 1980-2017 | 937,983.00 | 2024 | TRANSMISSION LINE |
| GALENOR THREE BREAKER STATION | CALDWELL NC | 2014 | 911,519.81 | 2034 | TRANSMISSION SUBSTATION |
| **TOTAL TRANSMISSION** | | | 2,746,091.82 | | |
| **OTHER** | | | | | |
| KEOWEE PLANT | PICKENS SC | 2016 | 284,914.70 | 2030 | HYDRO |
| BUZZARD ROOST COMBUSTION TURBINES | GREENWOOD SC | 2004 | 72,958.00 | N/A | CT |
| **TOTAL OTHER** | | | 357,872.70 | | |
| **TOTAL 105.20** | | | 13,590,403.61 | | |
| **ACCOUNT 105.30** | | | | | |
| **DISTRIBUTION** | | | | | |
| FERNCLIFF RETAIL | BUNCOMBE NC | 2017 | 3,100,712.21 | 2020 | DISTRIBUTION SUBSTATION |
| STOCKESDALE RETAIL | GUILFORD NC | 2016 | 536,572.43 | 2020 | DISTRIBUTION SUBSTATION |
| LAKE LATHAM RETAIL | ALAMANCE NC | 2015 | 168,848.99 | 2018 | DISTRIBUTION SUBSTATION |
| PLATO LEE RETAIL | CLEVELAND NC | 2015 | 63,888.11 | 2020 | DISTRIBUTION SUBSTATION |
| HWY 87 LAND ACQUISITION | ALAMANCE NC | 2017 | 39,966.19 | 2019 | DISTRIBUTION SUBSTATION |
| CANTERBURRY RETAIL | GREENVILLE SC | 2016 | 12,847.26 | 2020 | DISTRIBUTION SUBSTATION |
| FISHTRAP LAND ACQUISITION | GREENVILLE SC | 2017 | 138,345.61 | 2019 | DISTRIBUTION SUBSTATION |
| MAYO RETAIL | SPARTANBURG SC | 2016 | 71,906.36 | 2020 | DISTRIBUTION SUBSTATION |
| LAYCOCK RETAIL | HENDERSON NC | 2016 | 488,625.41 | 2020 | DISTRIBUTION SUBSTATION |
| CRAMERTON RETAIL | GASTON NC | 2017 | 4,414,819.03 | 2020 | DISTRIBUTION SUBSTATION |
| VOSS RETAIL | STOKES NC | 2017 | 27,612.43 | 2020 | DISTRIBUTION SUBSTATION |
| RICHBURG RETAIL | CHESTER SC | 2017 | 1,464,830.51 | 2019 | DISTRIBUTION SUBSTATION |
| APPLE TIE | CATAWBA NC | 2017 | 6,752,141.90 | 2021 | DISTRIBUTION SUBSTATION |
| | | | 17,281,116.44 | | |
| **TRANSMISSION** | | | | | |
| NC 100KV TRANSMISSION LINES | NORTH CAROLINA | 2016-2017 | 74,852.49 | 2019-2022 | TRANSMISSION LINES |
| SC 100KV TRANSMISSION LINES | SOUTH CAROLINA | 2016 | (37,398.05) | 2020 | TRANSMISSION LINES |
| | | | 37,454.44 | | |
| **TOTAL 105.30** | | | 17,318,570.88 | | |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 8**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

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**Request:**

a. Provide schedules in comparative form showing by months for the test year the total company balance in each electric plant and reserve account, or subaccount included in the applicant's chart of accounts as shown in Format 8a.
b. Provide a statement of electric plant in service per company books for the test year. See Format 8b.

**Response:**

Please see the attached file.

DEC Rate Case E1
8a and 8b Plant In S

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31,2018**

**Item No. 8a**

| Month: | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Account Title and Account Number** | | | | | | | | | | | | |
| 0101000 - Property Plant and Equipment | 34,651,998,976.43 | 34,651,124,818.36 | 34,671,745,387.32 | 34,661,450,396.45 | 34,677,499,635.06 | 34,558,305,221.08 | 34,529,889,551.34 | 34,604,779,061.13 | 34,540,485,069.02 | 34,551,421,792.27 | 34,567,698,217.82 | 34,476,433,821.68 |
| 0101315 - ARO Asset - Coal Ash | 798,883,745.89 | 798,883,745.89 | 798,883,745.89 | 798,883,745.89 | 798,883,745.89 | 901,883,745.89 | 901,883,745.89 | 901,883,745.89 | 873,874,417.14 | 873,874,417.14 | 873,874,417.14 | 873,874,417.14 |
| 0101350 - IC Lease - PP&E | - | - | - | - | - | - | - | - | 41,450,840.97 | 41,450,840.97 | 41,450,840.97 | 41,450,840.97 |
| 0101499 - Asset Retirement Obligations | (600,856,919.24) | (600,856,919.24) | (600,856,919.24) | (600,856,919.24) | (600,856,919.24) | (580,678,407.96) | (580,678,407.96) | (580,678,407.96) | (580,678,407.96) | (580,678,407.96) | (580,678,407.96) | (306,156,175.08) |
| 0105100 - Plt Held For Future Use - Wo Sys | 1,778,025.63 | 2,151,125.64 | 2,193,654.09 | 2,470,908.64 | 2,446,338.52 | 43,582,295.99 | 43,540,178.29 | 43,385,823.13 | 44,680,505.64 | 43,275,283.77 | 43,339,703.27 | 43,460,198.52 |
| 0105200 - Plt Held For Future Use - Prs | 12,050,099.12 | 12,628,005.31 | 12,628,005.31 | 13,590,403.61 | 13,590,403.61 | 13,590,403.61 | 13,590,403.61 | 13,590,403.61 | 13,590,403.61 | 13,590,403.61 | 13,590,403.61 | 13,590,403.61 |
| 0105300 - Comp Future Use Unclassified | 980,382.34 | 1,080,546.13 | 1,080,929.44 | 672,331.85 | 756,986.81 | 754,266.96 | 784,873.89 | 987,177.51 | 987,267.37 | 2,576,514.79 | 2,592,175.60 | 17,318,570.88 |
| 0106000 - Comp Const Unclassified | 3,534,640,292.98 | 3,626,138,760.15 | 3,699,002,466.50 | 4,352,282,573.19 | 4,518,747,877.98 | 4,719,625,275.76 | 4,818,159,850.72 | 4,907,801,888.79 | 4,999,141,368.91 | 5,340,689,633.14 | 5,474,479,491.71 | 6,001,606,839.05 |
| 0107000 - SCHM Cwip | 2,625,780,820.09 | 2,686,993,645.61 | 2,802,350,665.56 | 2,322,694,055.07 | 2,293,137,112.27 | 1,768,950,245.55 | 1,815,585,014.51 | 1,908,941,733.79 | 2,000,398,222.22 | 1,855,293,025.43 | 1,926,412,649.49 | 1,626,337,984.73 |
| 0107004 - SCHM CWIP (SOFTWARE) | - | - | - | - | - | - | - | - | - | - | 2,231,844.69 | 6,319,378.41 |
| 0107950- Allocated - Common CWIP | 889.29 | 889.29 | 1,097.40 | 1,097.40 | 1,097.40 | 1,097.40 | 1,097.40 | 1,097.40 | 1,097.40 | 1,097.40 | 1,097.40 | 1,097.40 |
| 0108000 - Accumulated DDandA - Ppande | (13,059,781,690.64) | (13,113,111,108.95) | (13,242,394,576.39) | (13,280,144,338.26) | (13,315,483,262.68) | (13,267,603,754.84) | (13,299,497,656.22) | (13,389,295,902.97) | (13,457,457,066.81) | (13,494,685,498.97) | (13,554,623,221.49) | (13,515,292,330.63) |
| 0108301 - Accum Depreciation COR | (1,860,929,228.71) | (1,869,851,710.05) | (1,879,066,277.84) | (1,887,981,195.56) | (1,896,123,947.16) | (1,905,201,012.11) | (1,912,329,619.52) | (1,917,497,004.39) | (1,924,617,612.40) | (1,931,605,374.39) | (1,938,566,373.04) | (1,946,255,560.30) |
| 0108315 - ARO Accum Depr - Coal Ash | (172,451,583.83) | (175,065,229.02) | (177,678,874.50) | (180,292,519.86) | (182,906,164.22) | (185,519,809.03) | (188,133,455.33) | (190,747,102.31) | (193,360,748.88) | (196,334,508.93) | (199,308,270.29) | (202,284,461.48) |
| 0108350 - IC Lease - Acc Depr & Amort | - | - | - | - | - | - | - | - | (525,288.50) | (437,364.37) | (712,508.14) | (806,117.96) |
| 0108499 - Aro Asset Accum Depreciation | 67,804,580.26 | 70,071,723.52 | 72,338,865.50 | 74,606,008.19 | 76,873,151.01 | 79,140,293.73 | 81,332,975.53 | 83,525,658.45 | 85,718,340.41 | 87,911,023.24 | 90,103,706.12 | 92,296,387.88 |
| 0108600 - SCHM Retirement Wip | (121,577,349.51) | (122,892,903.22) | (124,630,792.71) | (126,721,359.00) | (128,119,952.42) | (129,271,091.64) | (130,074,137.29) | (137,732,746.96) | (141,069,927.40) | (150,111,662.77) | (150,980,814.84) | (152,984,653.87) |
| 0108620 - RWIP - Reg Liab | 258,227,885.55 | 269,604,839.97 | 275,959,477.03 | 287,080,062.85 | 302,667,131.38 | 308,928,298.54 | 320,671,151.01 | 328,192,184.27 | 348,276,930.98 | 370,907,881.58 | 384,002,934.38 | 400,799,517.27 |
| 0108640 - ARO Liability - Ash Mgmt | 207.64 | 840.69 | 30,209.60 | 220,769.98 | 890,835.16 | 982,052.68 | 29,184.31 | 29,491.86 | 4,602,673.04 | 484,201.85 | 1,729,960.74 | 2,912,960.24 |
| 0111100 - Acc Prov - Amor Plt in Ser | (555,457,127.66) | (560,923,487.13) | (566,279,801.69) | (571,511,669.73) | (576,824,127.05) | (582,161,045.02) | (587,465,105.72) | (593,219,336.18) | (598,731,437.87) | (604,178,559.45) | (609,942,419.53) | (615,947,489.02) |
| 0114000 - Elec Plant Acquisition Adj | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 | 284,106.00 |
| 0115000 - Acc Prov Plt Acquis Adj | (260,526.76) | (261,358.38) | (262,190.00) | (263,021.62) | (263,853.24) | (264,684.86) | (265,516.48) | (266,348.10) | (267,179.72) | (268,011.34) | (268,842.96) | (269,674.58) |
| 0120100 - Nuclear Fuel in Process | 335,832,766.78 | 317,098,450.95 | 353,943,652.31 | 323,574,139.79 | 315,671,358.31 | 374,131,356.37 | 368,761,589.32 | 330,742,970.27 | 297,146,719.16 | 270,095,344.80 | 271,760,490.20 | 276,467,667.13 |
| 0120200 - Nuclear Fuel Material and Assemb | 0.57 | 0.57 | 14,599,146.01 | 78,943,823.91 | 0.57 | 0.57 | 0.57 | 88,059,790.21 | 178,192,434.56 | 105,611,799.50 | 15,464,975.71 | 0.53 |
| 0120300 - Nuc Fuel Assemblies in Reactor | 1,158,802,565.23 | 1,158,802,565.23 | 1,158,802,565.23 | 1,155,921,050.40 | 1,139,404,702.29 | 1,139,404,702.29 | 1,139,404,702.29 | 1,139,404,702.29 | 1,139,404,702.29 | 1,154,016,448.29 | 1,153,390,144.29 | 1,152,233,076.77 |
| 0120400 - Spent Nuclear Fuel Assemblies | 652,248,802.41 | 652,248,802.41 | 652,248,802.41 | 578,189,166.68 | 497,835,991.13 | 497,835,991.13 | 497,835,991.13 | 497,835,991.13 | 497,835,991.13 | 554,046,290.37 | 458,646,958.37 | 475,269,001.07 |
| 0120510 - Acc Amor - Nuc Fuel Assemblies | (2,606,901,691.98) | (2,629,499,736.75) | (2,654,078,556.20) | (2,675,919,848.45) | (2,698,207,529.77) | (2,721,978,333.31) | (2,746,539,647.13) | (2,771,094,897.24) | (2,791,981,605.20) | (2,812,457,524.14) | (2,833,815,581.89) | (2,856,885,424.16) |
| 0120512 - Nuclear Fuel Retirements | 1,296,447,545.08 | 1,296,447,545.08 | 1,296,447,545.08 | 1,387,987,841.08 | 1,563,801,188.08 | 1,563,801,188.08 | 1,563,801,188.08 | 1,563,801,188.08 | 1,563,801,188.08 | 1,581,038,932.84 | 1,767,211,404.84 | 1,767,211,404.84 |
| 0120550 - Acc amort-Canister-Oconee Rob | 5,696,760.63 | 5,696,760.63 | 5,696,760.63 | 5,696,760.63 | 5,696,760.63 | 7,700,760.63 | 8,815,135.63 | 9,929,510.63 | 9,929,510.63 | 9,929,510.63 | 9,929,510.63 | - |
| 0120551 - Acc Amor-Canister McGuire Brun | (752,970.72) | (752,970.72) | (752,970.72) | (752,970.72) | (752,970.72) | 460,799.28 | 1,582,759.28 | 1,582,759.28 | 1,582,759.28 | 1,582,759.28 | 1,582,759.28 | - |
| 0120552 - Schm Acc Amor - Canister - Catawba | (3,409,719.53) | (3,409,719.53) | (3,409,719.53) | (3,409,719.53) | (3,409,719.53) | (3,409,719.53) | (3,409,719.53) | (3,409,719.53) | (3,409,719.53) | (3,409,719.53) | (3,409,719.53) | - |
| | **26,419,079,643.33** | **26,472,632,028.43** | **26,568,826,402.48** | **26,716,695,679.62** | **26,805,239,976.06** | **26,603,274,243.23** | **26,657,560,233.61** | **26,840,817,818.07** | **26,949,285,553.55** | **27,083,914,675.04** | **27,227,471,632.58** | **27,670,985,787.02** |

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**Duke Energy Carolinas**
**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31,2018**

**Item No. 8b**

| Account No. | | Account Title | Beginning Balance 12/31/2017 | Additions | Retirements | Adjustments | Transfers In (Out) | Ending Balance 12/31/2018 |
|---|---|---|---|---|---|---|---|---|
| | | **INTANGIBLE PLANT** | | | | | | |
| 0301000 | 301 | Organization | - | - | - | - | - | - |
| 0302000 | 302 | Franchises and Consents | 10,634,028 | - | - | - | - | 10,634,028 |
| 0303000 | 303 | Misc. Intangible Plant | 594,203,449 | 1,260,697 | (71,826) | - | - | 595,392,320 |
| 0106000 | 106 | Complted constr-not classifed | 338,653,501 | 42,071,021 | - | - | - | 380,724,522 |
| | | **Total Intangible Plant** | 943,490,978 | 43,331,718 | (71,826) | - | - | 986,750,870 |
| | | **FOSSIL** | | | | | | |
| 0310000 | 310 | Land & Rights | 28,852,316 | 157,821 | (97,748) | - | - | 28,912,389 |
| 0311000 | 311 | Structures & Improvements | 695,527,325 | 3,483,777 | (35,258,895) | - | - | 663,752,207 |
| 0312000 | 312 | Boiler Plant Equipment | 5,060,527,925 | 20,646,583 | (107,326,017) | - | - | 4,973,848,491 |
| 0314000 | 314 | Turbogenerator Units | 782,455,457 | 30,640,511 | (13,221,676) | - | - | 799,874,292 |
| 0315000 | 315 | Accessory Electric Equipment | 384,978,871 | 993,717 | (546,785) | - | - | 385,425,803 |
| 0316000 | 316 | Misc Equipment-Power Plant | 325,015,350 | 9,390,062 | (716,041) | - | (5,441) | 333,683,930 |
| 0317000 | 317 | Asset Retirement Obligation - Fossil | 799,989,687 | 158,796,530 | (71,832,116) | - | - | 886,954,101 |
| 0106000 | 106 | Complted constr-not classifed | 467,201,970 | 672,675,318 | - | - | (17,944) | 1,139,859,344 |
| | | **Total Fossil** | 8,544,548,901 | 896,784,319 | (228,999,278) | - | (23,385) | 9,212,310,557 |
| | | **NUCLEAR** | | | | | | |
| 0320000 | 320 | Land & Rights | 2,882,535 | 158,908 | - | - | - | 3,041,443 |
| 0321000 | 321 | Structures & Improvements | 1,822,154,101 | 2,236,714 | (11,821,518) | - | - | 1,812,569,297 |
| 0322000 | 322 | Reactor Plant Equipment | 3,638,050,013 | 17,138,002 | (43,894,316) | - | - | 3,611,293,699 |
| 0323000 | 323 | Turbogenerator Units | 955,243,400 | 978,912 | (1,766,903) | - | - | 954,455,409 |
| 0324000 | 324 | Accessory Electric Equipment | 1,040,083,755 | 49,986,158 | (11,734,236) | - | - | 1,078,335,677 |
| 0325000 | 325 | Misc Equip-Power Plant | 446,637,801 | 75,084,772 | (1,134,925) | - | - | 520,587,648 |
| 0326000 | 326 | Asset Retirement Costs - Nuclear | (607,602,839) | 274,522,234 | - | - | - | (333,080,605) |
| 0106000 | 106 | Complted constr-not classified | 435,784,842 | 105,467,792 | - | - | - | 541,252,634 |
| | | **Total Nuclear** | 7,733,233,608 | 525,573,492 | (70,351,898) | - | - | 8,188,455,202 |
| | | **HYDRO** | | | | | | |
| 0330000 | 330 | Land & Rights | 52,135,387 | - | 12,544 | - | - | 52,147,931 |
| 0331000 | 331 | Structures & Improvements | 383,107,052 | 1,242,067 | (2,142,781) | - | - | 382,206,338 |
| 0332000 | 332 | Reservoirs, Dams, & Waterways | 804,461,264 | 13,310,519 | (3,562,347) | - | - | 814,209,436 |
| 0333000 | 333 | Water Wheels, Turbines & Gen | 591,267,455 | 6,337,276 | (4,432,815) | - | - | 593,171,916 |
| 0334000 | 334 | Accessory Electric Equipment | 134,166,627 | 1,125,403 | (6,774,987) | - | - | 128,517,043 |
| 0335000 | 335 | Misc Equipment-Power Plant | 43,728,689 | 501,614 | (82,603) | - | - | 44,147,700 |
| 0336000 | 336 | Roads, Railroads & Bridges | 21,796,265 | - | - | - | - | 21,796,265 |
| 0337000 | 337 | Asset Retirement Costs - Dillsboro | - | - | - | - | - | - |
| 0106000 | 106 | Complted constr-not classified | 113,205,234 | 37,134,169 | - | - | - | 150,339,403 |
| | | **Total Hydro** | 2,143,867,973 | 59,651,048 | (16,982,989) | - | - | 2,186,536,032 |
| | | **OTHER PROD.** | | | | | | |
| 0340000 | 340 | Land & Land Rights | 9,171,919 | - | - | - | - | 9,171,919 |
| 0341000 | 341 | Structures & Improvements | 337,549,788 | 726,405 | (482,112) | - | - | 337,794,081 |
| 0342000 | 342 | Fuel Holders, Producers/Access. | 118,542,380 | 38,823 | (1,073,616) | - | - | 117,507,587 |
| 0343000 | 343 | Prime Movers | 880,829,264 | 2,324,966 | (8,491,790) | - | - | 874,662,440 |
| 0344000 | 344 | Generators | 791,044,469 | 821,092 | (15,594,054) | - | - | 776,271,507 |
| 0345000 | 345 | Accessory Electric Equipment | 140,195,246 | 427,478 | (1,096,403) | - | - | 139,526,321 |
| 0346000 | 346 | Misc Power Plant Equipment | 25,733,247 | 1,143,015 | (99,152) | - | 5,440 | 26,782,550 |
| 0347000 | 347 | ARO - Solar Panels | 6,571,313 | 8,204,768 | - | - | - | 14,776,081 |
| 0106000 | 106 | Complted constr-not classified | 237,718,703 | 628,341,111 | - | - | - | 866,059,814 |
| | | **Total Other Prod.** | 2,547,356,329 | 642,027,658 | (26,837,127) | - | 5,440 | 3,162,552,300 |
| | | **TRANSMISSION** | | | | | | |
| 0350000 | 350 | Land & Land Rights | 190,644,171 | 48,041 | (119,451) | - | - | 190,572,761 |
| 0352000 | 352 | Structures & Improvements | 84,657,355 | 429,021 | (3,466,219) | - | (3,461) | 81,616,696 |
| 0353000 | 353 | Station Equipment | 1,470,017,730 | 50,022,945 | (64,203,319) | - | (291,816) | 1,455,545,540 |
| 0354000 | 354 | Towers & Fixtures | 534,285,852 | 1,224,481 | (1,732,072) | - | - | 533,778,261 |
| 0355000 | 355 | Poles & Fixtures | 439,312,542 | 1,200,600 | (4,714,233) | - | - | 435,798,909 |
| 0356000 | 356 | Overhead Conductors & Devices | 652,924,893 | 705,291 | (2,961,529) | - | - | 650,668,655 |
| 0357000 | 357 | Underground Conduit | 124,111 | - | - | - | - | 124,111 |
| 0358000 | 358 | Undergr Conductors & Devices | 6,180,320 | (271) | - | - | - | 6,180,049 |
| 0359000 | 359 | Roads and Trails | 42,238 | - | - | - | - | 42,238 |
| 0106000 | 106 | Complted constr-not classified | 496,561,626 | 206,987,552 | - | - | (5,129,079) | 698,420,099 |
| | | **Total Transmission** | 3,874,750,838 | 260,617,660 | (77,196,823) | - | (5,424,356) | 4,052,747,319 |
| | | **DISTRIBUTION** | | | | | | |
| 0360000 | 360 | Land & Land Rights | 63,141,893 | 217,343 | (2,331) | - | - | 63,356,905 |
| 0361000 | 361 | Structures and Improvements | 90,104,398 | 9,218 | (2,996,889) | - | 128,034 | 87,244,761 |
| 0362000 | 362 | Station Equipment | 1,176,500,414 | 9,345,650 | (28,627,040) | - | - | 1,157,219,024 |
| 0364000 | 364 | Poles, Towers, and Fixtures | 1,404,839,309 | 1,382,069 | (10,907,548) | - | - | 1,395,313,830 |
| 0365000 | 365 | Overhead Conductors & Devices | 1,971,018,455 | 2,057,769 | (25,452,074) | - | - | 1,947,624,150 |
| 0366000 | 366 | Underground Conduit | 187,365,323 | 1,103,115 | (353,425) | - | - | 188,115,013 |
| 0367000 | 367 | Undergrd. Conductors & Devices | 1,778,598,043 | 4,536,980 | (6,828,272) | - | - | 1,776,306,751 |
| 0368000 | 368 | Line Transformers | 1,325,766,635 | 2,336,768 | (2,196,885) | - | - | 1,325,906,518 |
| 0369000 | 369 | Services | 987,848,382 | 1,588,874 | (2,194,397) | - | - | 987,242,859 |
| 0370000 | 370 | Meters | 417,399,366 | (9,039,646) | (41,206,993) | - | - | 367,152,727 |
| 0371000 | 371 | Cust Premises/Load Cntrl Devices | 776,888,611 | 1,920,998 | (3,442,747) | - | - | 775,366,862 |
| 0373000 | 373 | St. Lighting & Signal System | 212,797,512 | 1,198,674 | (1,403,736) | - | - | 212,592,450 |
| 0106000 | 106 | Complted constr-not classified | 953,461,296 | 845,271,141 | - | - | 3,629,290 | 1,802,361,727 |
| | | **Total Distribution** | 11,345,729,637 | 861,928,953 | (125,612,337) | - | 3,757,324 | 12,085,803,577 |
| | | **GENERAL PLANT** | | | | | | |
| 0389000 | 389 | Office Land & ROW | 34,397,991 | 28,478,607 | - | - | - | 62,876,598 |
| 0390000 | 390 | Office Struct & Improvements | 466,979,205 | 17,245,712 | (12,299,715) | - | - | 471,925,202 |
| 0391000 | 391 | Office Furniture & Equipment | 88,018,312 | 5,963,231 | (16,597,819) | - | - | 77,383,724 |
| 0392000 | 392 | Transportation Equipment | 9,072,307 | 4,119,940 | (920,062) | - | 196,004 | 12,468,189 |
| 0393000 | 393 | Stores Equipment | 8,687,031 | 4,785,333 | (70,871) | - | 660,711 | 14,062,204 |
| 0394000 | 394 | Tools, Shop & Garage Equip | 43,595,402 | 9,885 | (42,888) | - | - | 43,562,399 |
| 0395000 | 395 | Laboratory Equipment | 5,389,162 | - | (391,102) | - | - | 4,998,060 |
| 0396000 | 396 | Power Operated Equipment | 6,986,725 | 5,062,157 | (79,545) | - | (856,714) | 11,112,623 |
| 0397000 | 397 | Communication Equipment | 99,649,906 | 863,661 | (14,724,511) | - | 295,277 | 86,084,333 |
| 0398000 | 398 | Miscellaneous Equipment | 5,630,190 | 867,305 | (574,902) | - | - | 5,922,593 |
| 0399199 | 399 | ARO - General Asbestos | (931,335) | - | - | - | - | (931,335) |
| 0106000 | 106 | Complted constr-not classified | 354,054,090 | 67,017,470 | - | - | 1,517,736 | 422,589,296 |
| | | **Total General Plant** | 1,121,528,986 | 134,413,301 | (45,701,415) | - | 1,813,014 | 1,212,053,886 |
| | | **TOTAL ELECTRIC PLANT IN SERVICE** | 38,254,507,250 | 3,424,328,149 | (591,753,693) | - | 128,037 | 41,087,209,743 |
| 0102000 | 102 | Electric Plant Purchased | - | - | - | - | - | - |
| | | **TIES TO FERC (+/- for rounding)** | 38,254,507,250 | 3,424,328,149 | (591,753,693) | - | 128,037 | 41,087,209,743 |

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**DUKE ENERGY CAROLINAS, LLC** **Item No. 9**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**<u>Request:</u>**

a. Provide the journal entries relating to the purchase of utility plant acquired as an operating unit or system by purchase, merger, consolidation, liquidation, or otherwise since the end of the test period in the last rate case. Also, provide a schedule showing the calculation of the acquisition adjustment at the date of purchase of each item of electric plant, the amortization period, and the unamortized balance at the end of the test year.
b. Provide a brief explanation of plant acquisition adjustments currently being amortized to electric operations.

**<u>Response:</u>**

See attached file. No new acquisition adjustments since last rate case.

DEC Rate Case E1
9a & 9b Acquisition

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

9a. Since the test period in the last rate case (2016), Duke Energy Carolinas, LLC has acquired the below operating unit or system:

**There have been no acquisitions since the end of the test period in the last rate case.**

9b. There are currently no new acquisitions; therefore, we do not have any new acquisition adjustments to amortize.

**Amortization for existing acquisition adjustments, Johnson C. Smith, Doran Textile and the Board of Public Works in Gaffney, can be found under Item No. 5b.**

Page 1 of 226 pages previously filed in
the docket system on 9/30/2019. ktm

**DUKE ENERGY CAROLINAS, LLC** **Item No. 10**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide the detailed workpapers showing calculations supporting all accounting, pro forma, end-of-period, and proposed rate adjustments in the rate application to revenue, expense, investment, and reserve accounts for the test year and a complete detailed narrative explanation of each adjustment, including the reason why each adjustment is required. Explain all components used in each calculation. Index each calculation to the accounting, pro forma, end-of-period, and proposed rate adjustment which it supports.

**Response:**

Please see the attached files.

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**DUKE ENERGY CAROLINAS, LLC** **Item No. 11**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide a schedule showing a comparison of the total company balance in other electric revenue accounts for each month's activity for the test year and the twelve months preceding the test year for each account and subaccount in the applicant's chart of accounts that requires allocation to North Carolina retail operations. See Format 12a.

**Response:**

See attached file for response to request E1-11.

DEC Rate Case
E1-11 Revenue Com

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 11**
**Revenue Compariso**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**OTHER ELECTRIC REVENUES**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR-TO-DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 045619 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Increase/(Decrease) | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **43,162** | **8,135** | **12,529** | **27,734** | **91,560** |
| 0456560 - 0456560 - NC EE Deferred Revenue | 045656 | 2018 | (4,052,366) | (3,776,132) | (160,919) | (3,894,796) | (352,112) | (3,294,122) | (2,499,138) | (5,405,787) | (8,928,792) | (4,292,568) | 1,260,373 | (4,623,735) | (40,020,094) |
| | 045656 | 2017 | 3,145,515 | 6,692,093 | 8,243,631 | 18,696,028 | 8,274,204 | 4,286,981 | 3,518,988 | 2,574,443 | 3,206,809 | 5,118,857 | 3,678,171 | 1,631,975 | 69,067,695 |
| | | Increase/(Decrease) | **(7,197,881)** | **(10,468,225)** | **(8,404,550)** | **(22,590,824)** | **(8,626,316)** | **(7,581,103)** | **(6,018,126)** | **(7,980,230)** | **(12,135,601)** | **(9,411,425)** | **(2,417,798)** | **(6,255,710)** | **(109,087,789)** |
| 0456570 - 0456570 - SC EE Deferred Revenue | 045657 | 2018 | (1,182,874) | (1,527,706) | (280,604) | (1,231,890) | (306,451) | (1,648,020) | (1,242,791) | (886,929) | (3,196,738) | 988,967 | 2,828,940 | (579,800) | (8,265,896) |
| | 045657 | 2017 | 397,683 | 1,273,935 | 2,333,636 | 5,956,552 | 1,812,817 | 330,854 | (204,247) | (666,956) | (286,465) | 558,073 | 433,451 | 922,731 | 12,862,064 |
| | | Increase/(Decrease) | **(1,580,557)** | **(2,801,641)** | **(2,614,240)** | **(7,188,442)** | **(2,119,268)** | **(1,978,874)** | **(1,038,544)** | **(219,973)** | **(2,910,273)** | **430,894** | **2,395,489** | **(1,502,531)** | **(21,127,9[illegible])** |
| **Total Other Electric Revenue** | | 2018 | **30,841,501** | **11,704,885** | **20,787,515** | **14,241,334** | **19,318,273** | **21,976,092** | **18,062,885** | **18,466,735** | **11,207,829** | **19,874,620** | **27,321,573** | **11,949,085** | **225,752,3[illegible]** |
| **Total Other Electric Revenue** | | 2017 | **47,563,828** | **29,766,470** | **55,808,632** | **38,460,972** | **62,883,888** | **43,989,764** | **73,318,996** | **52,229,336** | **28,515,432** | **42,140,026** | **39,931,352** | **28,515,212** | **543,123,908** |
| | | Increase/(Decrease) | **(16,722,327)** | **(18,061,584)** | **(35,021,117)** | **(24,219,638)** | **(43,565,616)** | **(22,013,672)** | **(55,256,111)** | **(33,762,601)** | **(17,307,603)** | **(22,265,406)** | **(12,609,780)** | **(16,566,127)** | **(317,371,58[illegible])** |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 11**
**Revenue Comparis**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**OTHER ELECTRIC REVENUES**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR-TO-DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 04561( | 2017 | 5,590 | 5,590 | 5,590 | 5,590 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 67,163 |
| | | Increase/(Decrease) | **11** | **11** | **11** | **11** | - | - | - | - | - | - | - | - | **44** |
| 0456104 - 0456104 - Transmission Charge Network | 04561( | 2018 | 4,335,348 | 4,341,153 | 3,417,084 | 4,313,553 | 2,164,156 | 4,519,630 | 4,735,551 | 5,708,571 | 8,514,778 | 4,748,485 | 4,720,630 | 2,508,667 | 54,027,606 |
| | 04561( | 2017 | 4,685,438 | 5,427,985 | 4,984,684 | 5,005,316 | 4,994,665 | 4,921,884 | 4,932,758 | 4,950,812 | 4,951,043 | 4,988,065 | 4,989,175 | 1,643,187 | 56,475,012 |
| | | Increase/(Decrease) | **(350,089)** | **(1,086,832)** | **(1,567,600)** | **(691,763)** | **(2,830,509)** | **(402,254)** | **(197,207)** | **757,759** | **3,563,734** | **(239,580)** | **(268,546)** | **865,481** | **(2,447,406)** |
| 0456105 - 0456105 - Sched, Sys Cntl, disp-network | 04561( | 2018 | 100,071 | 100,624 | 100,449 | 100,073 | 100,509 | 514,870 | 515,392 | 490,493 | 539,282 | 517,117 | 516,970 | 518,146 | 4,113,997 |
| | 04561( | 2017 | 145,900 | 132,261 | 139,498 | 140,042 | 139,778 | 98,289 | 98,506 | 98,867 | 98,871 | 99,383 | 99,688 | 99,796 | 1,390,880 |
| | | Increase/(Decrease) | **(45,828)** | **(31,637)** | **(39,050)** | **(39,969)** | **(39,269)** | **416,581** | **416,886** | **391,627** | **440,411** | **417,733** | **417,283** | **418,350** | **2,723,1[illegible]** |
| 0456106 - 0456106 - Reactive Pur/Volt Cntl Svc | 04561( | 2018 | 375,833 | 380,843 | 383,328 | 403,301 | 415,689 | 418,811 | 419,769 | 389,050 | 399,351 | 366,094 | 363,513 | 353,916 | 4,669,4[illegible] |
| | 04561( | 2017 | 398,881 | 352,147 | 341,816 | 372,285 | 354,120 | 360,008 | 359,410 | 360,273 | 362,217 | 372,952 | 396,721 | 368,210 | 4,399,04[illegible] |
| | | Increase/(Decrease) | **(23,048)** | **28,695** | **41,512** | **31,017** | **61,569** | **58,803** | **60,360** | **28,777** | **37,134** | **(6,858)** | **(33,208)** | **(14,294)** | **270,45[illegible]** |
| 0456107 - 0456107 - Regulation/Frequency Response | 04561( | 2018 | 46,329 | 46,791 | 46,819 | 47,333 | 47,904 | 48,227 | 48,613 | 48,836 | 49,076 | 49,619 | 49,936 | 50,278 | 579,76[illegible] |
| | 04561( | 2017 | 46,884 | 36,466 | 42,263 | 42,597 | 42,856 | 43,149 | 43,463 | 43,827 | 44,203 | 44,680 | 45,095 | 45,483 | 520,96[illegible] |
| | | Increase/(Decrease) | **(555)** | **10,325** | **4,556** | **4,735** | **5,049** | **5,078** | **5,150** | **5,009** | **4,874** | **4,939** | **4,841** | **4,795** | **58,796** |
| 0456108 - 0456108 - Op Res - Spinning Reserve | 04561( | 2018 | 119,709 | 120,662 | 120,843 | 122,054 | 123,197 | 123,724 | 124,543 | 125,048 | 125,454 | 126,578 | 127,096 | 127,787 | 1,486,695 |
| | 04561( | 2017 | 121,538 | 99,415 | 111,568 | 112,294 | 112,796 | 113,541 | 114,331 | 115,151 | 116,058 | 116,901 | 117,752 | 118,629 | 1,369,973 |
| | | Increase/(Decrease) | **(1,828)** | **21,247** | **9,275** | **9,760** | **10,400** | **10,184** | **10,212** | **9,897** | **9,396** | **9,677** | **9,344** | **9,159** | **116,72[illegible]** |
| 0456109 - 0456109 - Op Res - Supplemental Reserve | 04561( | 2018 | 119,709 | 120,662 | 120,843 | 122,054 | 123,197 | 123,724 | 124,543 | 125,048 | 125,454 | 126,578 | 127,096 | 127,787 | 1,486,695 |
| | 04561( | 2017 | 121,538 | 99,415 | 111,568 | 112,294 | 112,796 | 113,541 | 114,331 | 115,151 | 116,058 | 116,901 | 117,752 | 118,629 | 1,369,973 |
| | | Increase/(Decrease) | **(1,828)** | **21,247** | **9,275** | **9,760** | **10,400** | **10,184** | **10,212** | **9,897** | **9,396** | **9,677** | **9,344** | **9,159** | **116,723** |
| 0456110 - 0456110 - Transmission Charge Ptp | 04561: | 2018 | 2,610,414 | 2,177,181 | 1,219,942 | 1,005,839 | 2,576,694 | 2,367,952 | 2,472,870 | 2,426,727 | 3,048,924 | 3,222,015 | 2,777,473 | 2,162,266 | 28,068,296 |
| | 04561: | 2017 | 2,330,501 | 1,925,897 | 2,236,015 | 1,895,540 | 1,677,478 | 1,843,557 | 2,000,215 | 2,008,997 | 1,944,753 | 1,596,217 | 1,123,173 | (83,474) | 20,498,870 |
| | | Increase/(Decrease) | **279,912** | **251,284** | **(1,016,073)** | **(889,701)** | **899,216** | **524,395** | **472,654** | **417,729** | **1,104,172** | **1,625,798** | **1,654,301** | **2,245,739** | **7,569,427** |
| 0456111 - 0456111 - Other Transmission Revenues | 04561: | 2018 | 176,599 | 170,249 | 170,249 | 170,249 | 163,899 | 157,549 | 163,899 | 151,199 | 144,849 | 144,849 | 151,199 | 151,199 | 1,915,987 |
| | 04561: | 2017 | 150,047 | 150,047 | 150,047 | 195,649 | 195,649 | 189,299 | 182,949 | 182,949 | 176,599 | 176,599 | 170,249 | 170,249 | 2,090,331 |
| | | Increase/(Decrease) | **26,552** | **20,202** | **20,202** | **(25,400)** | **(31,750)** | **(31,750)** | **(19,050)** | **(31,750)** | **(31,750)** | **(31,750)** | **(19,050)** | **(19,050)** | **(174,344)** |
| 0456300 - 0456300 - Comp For Serv To Other(Joint Owner) | 04563( | 2018 | 1,453,230 | 1,472,889 | 1,947,684 | 1,817,234 | 1,414,836 | 737,313 | 1,460,173 | 1,651,545 | 1,451,910 | 1,257,305 | 1,441,297 | 1,883,580 | 17,988,996 |
| | 04563( | 2017 | 1,482,146 | 1,392,875 | 1,575,817 | 1,539,042 | 1,937,437 | 1,406,805 | 1,402,192 | 1,405,221 | 1,604,142 | 1,502,367 | 1,375,376 | 1,603,164 | 18,226,583 |
| | | Increase/(Decrease) | **(28,916)** | **80,014** | **371,868** | **278,192** | **(522,602)** | **(669,492)** | **57,982** | **246,323** | **(152,232)** | **(245,062)** | **65,921** | **280,417** | **(237,587)** |
| 0456500 - 0456500 - NC Unbilled Fuel Clause Rev | 04565( | 2018 | 1,059,538 | - | - | - | - | - | - | - | - | - | - | - | 1,059,538 |
| | 04565( | 2017 | 9,812,685 | (1,991,004) | 10,537,716 | (10,253,138) | 15,557,901 | 6,477,279 | 26,316,788 | 17,298,671 | (884,750) | 7,584,665 | 9,092,626 | 11,718,784 | 101,268,223 |
| | | Increase/(Decrease) | **(8,753,147)** | **1,991,004** | **(10,537,716)** | **10,253,138** | **(15,557,901)** | **(6,477,279)** | **(26,316,788)** | **(17,298,671)** | **884,750** | **(7,584,665)** | **(9,092,626)** | **(11,718,784)** | **(100,208,685)** |
| 0456510 - 0456510 - NC Unbilled Fuel Emf | 04565: | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 04565: | 2017 | 3,909,339 | 2,505,829 | 3,489,995 | 4,100,089 | 3,201,941 | 4,066,339 | 4,361,980 | 4,448,426 | 3,375,252 | 5,803,999 | 3,579,441 | 3,726,292 | 46,568,922 |
| | | Increase/(Decrease) | **(3,909,339)** | **(2,505,829)** | **(3,489,995)** | **(4,100,089)** | **(3,201,941)** | **(4,066,339)** | **(4,361,980)** | **(4,448,426)** | **(3,375,252)** | **(5,803,999)** | **(3,579,441)** | **(3,726,292)** | **(46,568,922)** |
| 0456530 - 0456530 - SC Unbilled Fuel Clause Rev | 04565: | 2018 | 1,339,787 | - | - | - | - | - | - | - | - | - | - | - | 1,339,787 |
| | 04565: | 2017 | 6,297,293 | 1,477,273 | 7,203,530 | (1,440,687) | 9,589,622 | 4,901,984 | 12,963,163 | 8,104,001 | 2,096,270 | 1,861,117 | 2,453,308 | 2,482,025 | 57,988,899 |
| | | Increase/(Decrease) | **(4,957,506)** | **(1,477,273)** | **(7,203,530)** | **1,440,687** | **(9,589,622)** | **(4,901,984)** | **(12,963,163)** | **(8,104,001)** | **(2,096,270)** | **(1,861,117)** | **(2,453,308)** | **(2,482,025)** | **(56,649,112)** |
| 0456540 - 0456540 - Wholesale Unbilled Fuel Clause | 04565‹ | 2018 | 11,849,982 | (4,135,009) | 1,084,011 | (1,149,807) | 1,477,181 | 2,221,473 | (1,266,773) | (830,859) | (3,884,134) | (61,947) | (359,335) | (4,944,783) | - |
| | 04565‹ | 2017 | 2,161,588 | (1,332,431) | 1,554,387 | (1,333,128) | 3,097,255 | 933,989 | 4,737,005 | (1,929,059) | (1,377,319) | (468,501) | (24,925) | (6,018,861) | - |
| | | Increase/(Decrease) | **9,688,394** | **(2,802,578)** | **(470,376)** | **183,321** | **(1,620,074)** | **1,287,484** | **(6,003,778)** | **1,098,200** | **(2,506,815)** | **406,554** | **(334,410)** | **1,074,078** | - |
| 0456610 - 0456610 - Other | 04566: | 2018 | 244,239 | 174,545 | 116,932 | 256,979 | 179,817 | 1,035,269 | 506,034 | 1,221,605 | 419,094 | 287,272 | 441,695 | 490,861 | 5,374,341 |
| | 04566: | 2017 | (72,788) | 83,226 | 167,803 | 114,566 | 117,545 | 146,095 | 115,575 | 102,170 | 314,591 | 160,631 | 172,739 | 179,833 | 1,601,984 |
| | | Increase/(Decrease) | **317,028** | **91,319** | **(50,871)** | **142,413** | **62,272** | **889,174** | **390,459** | **1,119,434** | **104,503** | **126,641** | **268,956** | **311,029** | **3,772,357** |
| 0456630 - 0456630 - Gross Up - Contr in Aid of Const | 04566: | 2018 | 31,392 | 141,289 | 105,018 | 50,078 | 41,658 | 410,051 | 140,559 | 119,046 | 70,937 | 90,735 | 127,694 | 85,079 | 1,413,537 |
| | 04566: | 2017 | 75,096 | 129,925 | 255,517 | 86,275 | 298,441 | 85,467 | 117,291 | 43,022 | 36,317 | 224,684 | 122,377 | 66,239 | 1,540,650 |
| | | Increase/(Decrease) | **(43,704)** | **11,364** | **(150,499)** | **(36,196)** | **(256,782)** | **324,584** | **23,268** | **76,025** | **34,619** | **(133,949)** | **5,317** | **18,840** | **(127,113)** |
| 0456640 - 0456640 - Deferred Dsm Costs - Nc | 04566‹ | 2018 | (119,352) | (139,592) | 26,477 | 1,767 | 2,861 | 30,300 | (25,194) | 24,648 | (159,543) | 52,517 | (11,009) | (61,354) | (377,472) |
| | 04566‹ | 2017 | (174,354) | 28,423 | 606 | (39,037) | 70,781 | 29,557 | 9,356 | 48,218 | 88,053 | 48,421 | 54,984 | 5,139 | 170,147 |
| | | Increase/(Decrease) | **55,002** | **(168,015)** | **25,871** | **40,804** | **(67,920)** | **743** | **(34,550)** | **(23,569)** | **(247,595)** | **4,097** | **(65,993)** | **(66,493)** | **(547,618)** |
| 0456949 - 0456949 - Other Revenue Affiliate | 04569‹ | 2018 | 1,141,940 | 1,141,940 | 1,141,940 | 1,141,940 | 1,141,940 | 1,141,940 | 1,141,940 | 1,141,940 | 1,141,940 | 1,141,940 | 735,431 | 735,431 | 12,890,259 |
| | 04569‹ | 2017 | 1,118,792 | 1,118,792 | 1,118,792 | 1,118,792 | 1,118,792 | 1,118,792 | 1,118,792 | 1,118,792 | 1,118,792 | 1,118,792 | 1,257,742 | 1,257,742 | 13,703,408 |
| | | Increase/(Decrease) | **23,147** | **23,147** | **23,147** | **23,147** | **23,147** | **23,147** | **23,147** | **23,147** | **23,147** | **23,147** | **(522,311)** | **(522,311)** | **(813,149)** |
| 0456191 - 0456191 - NC Unbilled Coal Inv Rev | 04561! | 2018 | - | - | - | - | - | - | - | - | 43,162 | 8,135 | 12,529 | 27,734 | 91,560 |

/A



**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 11**
**Revenue Comparis[illegible]**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**OTHER ELECTRIC REVENUES**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR-TO-DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0450100 - 0450100 - Late Payment Charge - 1% | 04501( | 2018 | 1,615,316 | 1,765,123 | 1,717,386 | 1,368,018 | 1,487,842 | 1,094,931 | 1,403,289 | 1,809,431 | 1,503,452 | 1,783,191 | 1,776,608 | 1,316,881 | 18,641,467 |
| | 04501( | 2017 | 1,465,387 | 1,537,631 | 1,598,544 | 1,160,261 | 1,150,684 | 1,242,360 | 1,227,612 | 1,719,740 | 1,526,040 | 1,478,499 | 1,466,798 | 1,193,976 | 16,767,532 |
| | | Increase/(Decrease) | **149,929** | **227,491** | **118,841** | **207,758** | **337,158** | **(147,429)** | **175,677** | **89,692** | **(22,589)** | **304,692** | **309,810** | **122,905** | **1,873,935** |
| 0450200 - 0450200 - Charge on Returned Checks | 04502( | 2018 | 147,189 | 136,704 | 126,282 | 142,590 | 139,920 | 148,908 | 150,042 | 74,342 | 67,768 | 76,341 | 76,257 | 72,385 | 1,358,726 |
| | 04502( | 2017 | 127,341 | 112,871 | 115,356 | 103,080 | 120,045 | 145,923 | 137,669 | 152,977 | 151,261 | 152,641 | 138,080 | 143,812 | 1,601,053 |
| | | Increase/(Decrease) | **19,849** | **23,833** | **10,926** | **39,511** | **19,875** | **2,985** | **12,373** | **(78,635)** | **(83,493)** | **(76,300)** | **(61,823)** | **(71,427)** | **(242,327)** |
| 0451100 - 0451100 - Miscellaneous Items | 04511( | 2018 | 1,008,787 | 1,091,065 | 220,460 | 1,273,606 | 1,384,190 | 146,980 | 1,486,666 | 1,847,255 | 585,553 | 1,442,647 | 1,550,287 | 471,602 | 12,509,098 |
| | 04511( | 2017 | 958,084 | 1,017,914 | 1,232,388 | 1,097,846 | 1,238,553 | 1,357,625 | 1,293,789 | 1,422,781 | 1,096,895 | 1,197,197 | 991,651 | (2,104,312) | 10,800,4[illegible] |
| | | Increase/(Decrease) | **50,703** | **73,151** | **(1,011,928)** | **175,760** | **145,637** | **(1,210,646)** | **192,878** | **424,474** | **(511,342)** | **245,450** | **558,636** | **2,575,914** | **1,708,6[illegible]** |
| 0451200 - 0451200 - Generation Application Fee | 04512( | 2018 | 57 | 174 | 8 | (136) | 1,745 | (565) | 112 | (596) | (374) | (304) | (189) | (813) | (8[illegible] |
| | 04512( | 2017 | 4,068 | 1,702 | 1,512 | (258) | 187 | 541 | (2,463) | (2,640) | (917) | (354) | (235) | 168 | 1,3[illegible] |
| | | Increase/(Decrease) | **(4,012)** | **(1,528)** | **(1,504)** | **122** | **1,558** | **(1,106)** | **2,576** | **2,044** | **543** | **50** | **45** | **(981)** | **(2,192)** |
| 0454004 - 0454004 - Rent-Joint Use | 04540( | 2018 | - | - | 1,650 | 6,300 | 22,200 | 150 | (12,900) | - | 6,150 | 65,006 | 167,048 | (151,082) | 104,5[illegible] |
| | 04540( | 2017 | - | - | - | - | - | - | - | 121,155 | 9,450 | 1,200 | 1,500 | - | 133,305 |
| | | Increase/(Decrease) | **-** | **-** | **1,650** | **6,300** | **22,200** | **150** | **(12,900)** | **(121,155)** | **(3,300)** | **63,806** | **165,548** | **(151,082)** | **(28,78[illegible]** |
| 0454100 - 0454100 - Extra - Facilities | 04541( | 2018 | 2,407,170 | 2,466,299 | 2,725,812 | 2,518,144 | 2,603,162 | 2,505,608 | 2,515,865 | 2,494,064 | 3,485,323 | 1,624,710 | 2,522,703 | 2,813,949 | 30,682,810 |
| | 04541( | 2017 | 2,528,908 | 2,534,642 | 2,555,766 | 3,354,757 | 1,812,717 | 2,674,395 | 2,574,421 | 2,570,211 | 2,744,622 | 2,588,416 | 2,558,396 | 2,648,625 | 31,145,8[illegible] |
| | | Increase/(Decrease) | **(121,738)** | **(68,343)** | **170,046** | **(836,613)** | **790,445** | **(168,787)** | **(58,555)** | **(76,146)** | **740,702** | **(963,706)** | **(35,693)** | **165,324** | **(463,063)** |
| 0454110 - 0454110 - Inter - Connection - Cogeneration | 04541: | 2018 | 177,698 | 179,324 | 177,675 | 177,674 | 189,582 | 190,467 | 197,784 | 188,178 | 171,955 | 171,556 | 171,424 | 170,624 | 2,163,940 |
| | 04541: | 2017 | 157,942 | 166,720 | 132,818 | 178,849 | 188,729 | 174,612 | 177,732 | 176,744 | 176,715 | 178,367 | 177,874 | 177,711 | 2,064,812 |
| | | Increase/(Decrease) | **19,756** | **12,604** | **44,857** | **(1,175)** | **852** | **15,856** | **20,052** | **11,434** | **(4,760)** | **(6,811)** | **(6,450)** | **(7,086)** | **99,128** |
| 0454200 - 0454200 - Pole and Line Attachments | 04542( | 2018 | 2,763,211 | 2,675,815 | 2,747,943 | 2,707,900 | 2,780,290 | 2,706,908 | 2,719,151 | 3,138,565 | 2,524,675 | 2,724,160 | 2,717,150 | 4,946,924 | 35,152,691 |
| | 04542( | 2017 | 2,705,448 | 2,774,904 | 2,902,240 | 2,677,068 | 2,693,467 | 2,678,404 | 2,726,635 | 2,718,544 | 2,702,674 | 2,729,441 | 2,702,674 | 3,109,196 | 33,120,695 |
| | | Increase/(Decrease) | **57,764** | **(99,090)** | **(154,297)** | **30,832** | **86,823** | **28,505** | **(7,484)** | **420,021** | **(178,000)** | **(5,281)** | **14,476** | **1,837,728** | **2,031,996** |
| 0454300 - 0454300 - Tower Lease Revenues | 04543( | 2018 | 1,137,368 | 801,280 | 1,555,930 | 951,556 | 1,238,444 | 1,016,637 | 1,060,629 | 1,196,663 | 692,432 | 734,024 | 606,870 | 707,104 | 11,698,937 |
| | 04543( | 2017 | 1,005,874 | 1,007,401 | 712,337 | 1,504,540 | 1,128,207 | 1,618,647 | 1,010,713 | 894,454 | 1,008,308 | 914,691 | 980,618 | 1,256,971 | 13,042,761 |
| | | Increase/(Decrease) | **131,494** | **(206,121)** | **843,593** | **(552,984)** | **110,238** | **(602,010)** | **49,916** | **302,209** | **(315,876)** | **(180,668)** | **(373,748)** | **(549,867)** | **(1,343,824)** |
| 0454400 - 0454400 - Other Electric Rents | 04544( | 2018 | 325,585 | 304,309 | 403,537 | 294,069 | 288,893 | 375,649 | 292,908 | 291,433 | 780,083 | 313,862 | 287,144 | 409,250 | 4,366,722 |
| | 04544( | 2017 | 262,783 | 182,695 | 414,443 | 416,146 | 252,344 | 432,212 | 318,476 | 395,680 | 387,362 | 307,984 | 362,639 | 447,721 | 4,180,486 |
| | | Increase/(Decrease) | **62,802** | **121,614** | **(10,906)** | **(122,077)** | **36,549** | **(56,563)** | **(25,568)** | **(104,247)** | **392,721** | **5,877** | **(75,494)** | **(38,471)** | **186,236** |
| 0454500 - 0454500 - Leased Facilities Fee - Catawba | 04545( | 2018 | 59,925 | 57,607 | 57,607 | 57,607 | 57,262 | 56,726 | 56,726 | 51,694 | 51,755 | 51,585 | 51,585 | 51,585 | 661,663 |
| | 04545( | 2017 | 56,100 | 56,164 | 56,164 | 56,164 | 56,164 | 56,164 | 56,164 | 56,164 | 56,164 | 56,164 | 57,607 | 57,607 | 676,786 |
| | | Increase/(Decrease) | **3,825** | **1,443** | **1,443** | **1,443** | **1,098** | **562** | **562** | **(4,470)** | **(4,409)** | **(4,578)** | **(6,022)** | **(6,022)** | **(15,123)** |
| 0454510 - 0454510 - Return and Dep - Catawba Gen Plt | 04545: | 2018 | 1,125,324 | 1,065,296 | 1,065,296 | 1,065,296 | 1,065,296 | 2,922,352 | 1,065,296 | 1,065,296 | 1,065,296 | 1,709,646 | 1,709,646 | 1,709,646 | 16,633,684 |
| | 04545: | 2017 | 1,012,842 | 1,125,324 | 1,125,324 | 1,125,324 | 1,125,324 | 1,754,771 | 1,125,324 | 1,125,324 | 1,125,324 | 1,125,324 | 1,125,324 | 1,125,324 | 14,020,857 |
| | | Increase/(Decrease) | **112,483** | **(60,029)** | **(60,029)** | **(60,029)** | **(60,029)** | **1,167,581** | **(60,029)** | **(60,029)** | **(60,029)** | **584,321** | **584,321** | **584,321** | **2,612,827** |
| 0454601 - 04545601 - Other Miscellaneous Revenue | 04546( | 2018 | - | (384) | - | (1,252) | - | - | (2,405) | - | - | - | - | - | (4,041) |
| | 04546( | 2017 | - | 6,082 | - | 1,012 | 1,660 | - | 19,467 | 7,093 | (2,695) | - | - | - | 32,619 |
| | | Increase/(Decrease) | **-** | **(6,465)** | **-** | **(2,264)** | **(1,660)** | **-** | **(21,872)** | **(7,093)** | **2,695** | **-** | **-** | **-** | **(36,660)** |
| 0456001 - 0456001 - Other variable Revenue | 04560( | 2018 | 29,260 | 39,646 | 58,265 | 51,964 | 48,050 | 44,662 | 69,259 | 31,363 | 24,398 | 61,381 | 30,243 | 77,662 | 566,153 |
| | 04560( | 2017 | 24,747 | 28,687 | 14,206 | 4,500 | 56,033 | 40,329 | 6,630 | 84,356 | 34,391 | 43,519 | (242,626) | 58,994 | 153,765 |
| | | Increase/(Decrease) | **4,513** | **10,959** | **44,059** | **47,464** | **(7,982)** | **4,333** | **62,629** | **(52,993)** | **(9,993)** | **17,862** | **272,870** | **18,668** | **412,389** |
| 0456016 - 0456016 - I/C Joint Disp Trans NW Rev | 04560: | 2018 | 41,999 | (11,616) | (72) | (144) | (53,501) | (90,290) | (116,084) | (98) | (2,260) | 5,197 | (371) | (983) | (228,224) |
| | 04560: | 2017 | 10,445 | (11,904) | 4,115 | 7,271 | (154) | (116) | (2,508) | (511) | 51,854 | (124) | (472) | (2,822) | 55,075 |
| | | Increase/(Decrease) | **31,554** | **288** | **(4,187)** | **(7,414)** | **(53,347)** | **(90,174)** | **(113,577)** | **413** | **(54,114)** | **5,320** | **101** | **1,839** | **(283,299)** |
| 0456050 - 0456050 - Transmission Study Revenue | 04560! | 2018 | - | - | - | - | - | - | - | - | - | - | - | 1,738 | 1,738 |
| | 04560! | 2017 | - | - | - | - | - | - | - | - | - | - | 11,401 | - | 11,401 |
| | | Increase/(Decrease) | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(11,401)** | **1,738** | **(9,663)** |
| 0456100 - 0456100 - Profit Or Loss on Sale of M&S | 04561( | 2018 | - | - | - | - | - | - | - | (1,720) | - | - | - | (18) | (1,738) |
| | 04561( | 2017 | - | (6,467) | (8,513) | - | - | - | - | 17,759 | - | - | - | - | 2,779 |
| | | Increase/(Decrease) | **-** | **6,467** | **8,513** | **-** | **-** | **-** | **-** | **(19,479)** | **-** | **-** | **-** | **(18)** | **(4,516)** |
| 0456102 - 0456102 - Distribution Charge - Network | 04561( | 2018 | 347,481 | 318,259 | 364,042 | 346,580 | (1,255,677) | 1,942,677 | 350,956 | (224,915) | 341,020 | 332,327 | 338,038 | 333,970 | 3,534,759 |
| | 04561( | 2017 | 1,084,547 | (376,053) | 347,454 | 347,454 | 347,454 | 340,889 | 340,889 | 340,930 | 340,889 | 336,656 | 339,629 | 340,869 | 4,131,604 |
| | | Increase/(Decrease) | **(737,065)** | **694,312** | **16,589** | **(874)** | **(1,603,130)** | **1,601,788** | **10,068** | **(565,845)** | **131** | **(4,329)** | **(1,591)** | **(6,900)** | **(596,845)** |
| 0456103 - 0456103 - Metering - Network | 04561( | 2018 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 | 67,207 |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 12**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

a. Provide a schedule showing a comparison of the balance in the total company electric operating expense accounts for each month's activity for the test year to the same month of the preceding year for each account and subaccount included in the applicant's chart of accounts.
See Format 12a.
b. Provide a schedule in comparative form showing the total company operating expense account balances for the test year and each of the five years preceding the test year for each account included in the applicant's annual report (FERC Form 1.. Pages 320 - 326). If the test year is a noncalendar year, monthly data for the preceding year should match each month of the test year for comparison purposes. Show the percentage of increase of each year over the prior year.
c. Provide a schedule of total company salaries and wages for the test year and each of the preceding five calendar years. Also, provide the total number of electric employees by month for the test year. See Format 12c.

**Response:**

See attached files for response to request E1-12.

DEC Rate Case E1-12a Operating Ex

DEC Rate Case E1-12b Operating Ex

DEC Rate Case E1-12c Salaries and '

/A



**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0501110 - 0501110 - Coal Consumed - Fossil Steam | 0501110 | 2018 | 96,437,955 | 27,994,141 | 55,006,481 | 35,585,147 | 62,287,231 | 78,834,998 | 61,646,305 | 66,728,441 | 66,201,664 | 37,045,449 | 42,172,526 | 46,847,568 | 676,787,906 |
| | 0501110 | 2017 | 72,667,448 | 38,929,171 | 65,915,098 | 62,709,345 | 64,137,159 | 74,053,883 | 99,733,960 | 84,113,594 | 49,922,190 | 45,698,574 | 37,735,545 | 51,749,830 | 747,365,798 |
| | Increase/(Decrease) | | 23,770,507 | (10,935,030) | (10,908,617) | (27,124,198) | (1,849,928) | 4,781,115 | (38,087,655) | (17,385,153) | 16,279,474 | (8,653,125) | 4,436,981 | (4,902,262) | (70,577,892) |
| 0501310 - 0501310 - Oil Consumed - Fossil Steam | 0501310 | 2018 | 764,856 | 518,665 | 664,382 | 412,721 | 894,145 | 675,789 | 663,874 | 1,004,479 | 710,258 | 355,239 | 698,403 | 1,223,578 | 8,586,389 |
| | 0501310 | 2017 | 390,551 | 450,102 | 462,240 | 287,624 | 574,944 | 439,611 | 225,274 | 411,369 | 530,545 | 593,127 | 511,207 | 894,932 | 5,771,526 |
| | Increase/(Decrease) | | **374,304** | **68,563** | **202,143** | **125,097** | **319,201** | **236,178** | **438,600** | **593,110** | **179,713** | **(237,888)** | **187,195** | **328,646** | **2,814,863** |
| 0501330 - 0501330 - Oil Light - Off - Fossil Steam | 0501330 | 2018 | 1,047,390 | 394,175 | 725,009 | 310,838 | 1,287,881 | 375,318 | 545,133 | 675,775 | 431,774 | 386,887 | 514,002 | 593,669 | 7,287,851 |
| | 0501330 | 2017 | 858,695 | 361,800 | 526,441 | 522,485 | 791,988 | 318,166 | 436,068 | 174,646 | 463,917 | 454,604 | 1,251,808 | 1,382,016 | 7,542,632 |
| | Increase/(Decrease) | | **188,695** | **32,376** | **198,568** | **(211,648)** | **495,893** | **57,152** | **109,065** | **501,129** | **(32,143)** | **(67,717)** | **(737,805)** | **(788,347)** | **(254,781)** |
| 0509000 - 0509000 - Emission Allowances | 0509000 | 2018 | 384 | 583 | 143 | 330 | 202 | 365 | 484 | 367 | 432 | 413 | 195 | 305 | 4,202 |
| | 0509000 | 2017 | 518 | 354 | 190 | 503 | 437 | 437 | 529 | 748 | 723 | 333 | 350 | 328 | 5,450 |
| | Increase/(Decrease) | | **(134)** | **229** | **(48)** | **(173)** | **(234)** | **(72)** | **(45)** | **(382)** | **(292)** | **80** | **(156)** | **(22)** | **(1,248)** |
| 0509210 - 0509210 - NOx Emission Expense | 0509210 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0509210 | 2017 | (30) | - | - | - | - | - | - | - | - | - | - | - | (30) |
| | Increase/(Decrease) | | **30** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **30** |
| 0557450 - 0557450 - Commissions/Brokerage Expense | 0557450 | 2018 | 1,800 | 1,950 | 1,875 | 1,875 | (625) | 625 | 625 | 625 | 625 | 625 | 625 | 625 | 11,250 |
| | 0557450 | 2017 | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 | 21,600 |
| | Increase/(Decrease) | | **-** | **150** | **75** | **75** | **(2,425)** | **(1,175)** | **(1,175)** | **(1,175)** | **(1,175)** | **(1,175)** | **(1,175)** | **(1,175)** | **(10,350)** |
| 0557451 - 0557451 - EA & Coal Broker Fees | 0557451 | 2018 | - | - | 4,050 | - | 833 | - | - | - | - | - | - | - | 4,883 |
| | 0557451 | 2017 | - | 1,625 | - | - | - | 2,500 | - | - | - | - | - | 500 | 4,625 |
| | Increase/(Decrease) | | **-** | **(1,625)** | **4,050** | **-** | **833** | **(2,500)** | **-** | **-** | **-** | **-** | **-** | **(500)** | **258** |
| 0509213 - 0509213 - RECS Consumption Expense | 0509213 | 2018 | - | - | 17,165,794 | - | - | - | - | - | - | - | - | - | 17,165,794 |
| | 0509213 | 2017 | - | - | 13,635,107 | - | - | - | - | - | - | - | - | - | 13,635,107 |
| | Increase/(Decrease) | | **-** | **-** | **3,530,687** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **3,530,687** |
| 0547100 - 0547100 - Natural Gas | 0547100 | 2018 | 1,156,933 | 1,719,252 | 11,773,458 | 12,567,481 | 4,172,102 | 10,122,950 | 15,560,860 | 6,433,321 | 14,988,572 | 6,693,509 | 5,843,484 | 7,325,013 | 98,356,933 |
| | 0547100 | 2017 | 817,791 | 694,684 | 1,458,718 | 1,988,241 | 1,955,973 | 426,259 | 3,782,200 | 1,599,309 | 1,723,506 | 5,195,809 | 4,115,687 | 63,423 | 23,821,600 |
| | Increase/(Decrease) | | **339,141** | **1,024,568** | **10,314,740** | **10,579,240** | **2,216,128** | **9,696,691** | **11,778,659** | **4,834,012** | **13,265,066** | **1,497,700** | **1,727,798** | **7,261,590** | **74,535,334** |
| 0547101 - 0547101 - Natural Gas CC | 0547101 | 2018 | 63,908,038 | 23,412,825 | 21,514,686 | 20,296,526 | 26,920,770 | 29,009,274 | 31,913,139 | 32,496,900 | 28,101,245 | 25,692,509 | 38,007,801 | 31,773,516 | 373,047,230 |
| | 0547101 | 2017 | 25,611,679 | 20,988,865 | 22,933,979 | 13,236,634 | 21,364,903 | 21,322,350 | 21,917,641 | 22,071,260 | 20,479,799 | 19,201,762 | 23,187,759 | 27,563,623 | 259,880,254 |
| | Increase/(Decrease) | | **38,296,359** | **2,423,960** | **(1,419,292)** | **7,059,892** | **5,555,867** | **7,686,924** | **9,995,498** | **10,425,640** | **7,621,446** | **6,490,747** | **14,820,042** | **4,209,893** | **113,166,976** |
| 0547200 - 0547200 - Oil | 0547200 | 2018 | 24,935,596 | 86,328 | 34,726 | 48,966 | 9,198 | 57,193 | 4,540 | 3,666 | 15,990 | 86,174 | 491,098 | 57,020 | 25,830,495 |
| | 0547200 | 2017 | 171,559 | 2,306,452 | 8,295 | 12,656 | 54,069 | 17,748 | 34,051 | 666,119 | 3,168 | 23,017 | 154,592 | 260,174 | 3,711,900 |
| | Increase/(Decrease) | | **24,764,037** | **(2,220,124)** | **26,431** | **36,310** | **(44,870)** | **39,445** | **(29,510)** | **(662,453)** | **12,822** | **63,157** | **336,506** | **(203,154)** | **22,118,595** |
| 0518100 - 0518100 - Burnup of Owned Fuel | 0518100 | 2018 | 25,328,094 | 22,598,045 | 24,578,819 | 21,841,292 | 22,287,681 | 23,770,804 | 24,561,314 | 24,555,250 | 20,886,708 | 20,475,919 | 21,358,058 | 23,069,842 | 275,311,826 |
| | 0518100 | 2017 | 29,942,141 | 24,802,206 | 28,164,486 | 23,003,957 | 26,827,372 | 26,745,146 | 27,446,315 | 27,638,720 | 24,556,576 | 21,980,499 | 21,349,394 | 25,331,093 | 307,787,905 |
| | Increase/(Decrease) | | **(4,614,047)** | **(2,204,162)** | **(3,585,667)** | **(1,162,665)** | **(4,539,691)** | **(2,974,343)** | **(2,885,001)** | **(3,083,470)** | **(3,669,868)** | **(1,504,580)** | **8,663** | **(2,261,251)** | **(32,476,079)** |
| 0518620 - 0518620 - Canister Design Expense | 0518620 | 2018 | 10,429 | 15,349 | 114,546 | 93,939 | 27,994 | 159,015 | 56,370 | 51,268 | 102,461 | 47,853 | 43,990 | 90,588 | 813,802 |
| | 0518620 | 2017 | 25,733 | 23,876 | 26,091 | 13,329 | 6,226 | 22,333 | 29,053 | 24,546 | 28,800 | 16,060 | 90,168 | 32,408 | 338,622 |
| | Increase/(Decrease) | | **(15,304)** | **(8,527)** | **88,455** | **80,610** | **21,768** | **136,681** | **27,317** | **26,723** | **73,662** | **31,793** | **(46,177)** | **58,180** | **475,180** |
| 0555130 - 0555130 - Purchased Power - Co Generation | 0555130 | 2018 | 2,249,445 | 2,482,445 | 2,523,302 | 3,020,762 | 3,193,336 | 3,676,226 | 4,714,559 | 4,215,270 | 4,344,371 | 3,438,484 | 2,794,402 | 2,412,086 | 39,064,689 |
| | 0555130 | 2017 | 1,516,180 | 1,718,950 | 3,182,653 | 3,066,601 | 2,956,156 | 3,394,179 | 4,156,867 | 4,405,405 | 3,715,243 | 3,626,211 | 3,184,288 | 2,385,015 | 37,307,748 |
| | Increase/(Decrease) | | **733,265** | **763,495** | **(659,350)** | **(45,838)** | **237,180** | **282,046** | **557,692** | **(190,135)** | **629,129** | **(187,727)** | **(389,886)** | **27,071** | **1,756,941** |
| 0555150 - 0555150 - Purchased Power - Sepa | 0555150 | 2018 | 6,683 | - | 6,670 | 13,456 | 6,718 | 8,837 | 8,832 | 8,845 | 8,797 | 8,780 | 8,709 | 8,690 | 95,017 |
| | 0555150 | 2017 | 9,656 | 9,756 | 9,627 | 9,631 | 9,607 | 9,350 | 9,401 | 9,419 | 9,464 | 9,384 | 9,366 | 9,386 | 114,047 |
| | Increase/(Decrease) | | **(2,973)** | **(9,756)** | **(2,957)** | **3,825** | **(2,889)** | **(513)** | **(569)** | **(575)** | **(667)** | **(604)** | **(657)** | **(696)** | **(19,030)** |
| 0555180 - 0555180 - Interchange | 0555180 | 2018 | 104,795 | 200,093 | (1,362,782) | (461,473) | 60,070 | 75,050 | 131,815 | 131,936 | 1,304,765 | 1,115,895 | (1,041,894) | (726,288) | (468,016) |
| | 0555180 | 2017 | 180,351 | 549,973 | 1,004,125 | 1,528,655 | (1,572,194) | 137,457 | 134,776 | 141,890 | 756,890 | 1,307,207 | 105,278 | 96,826 | 4,371,235 |
| | Increase/(Decrease) | | **(75,555)** | **(349,880)** | **(2,366,907)** | **(1,990,128)** | **1,632,264** | **(62,406)** | **(2,962)** | **(9,953)** | **547,875** | **(191,313)** | **(1,147,172)** | **(823,114)** | **(4,839,252)** |
| 0555181 - 0555181 - Interchange Contra | 0555181 | 2018 | (104,795) | (200,093) | 1,362,782 | 461,473 | (60,070) | (75,050) | (131,815) | (131,936) | (1,304,765) | (1,115,895) | 1,041,894 | 726,288 | 468,016 |
| | 0555181 | 2017 | (180,351) | (549,973) | (1,004,125) | (1,528,655) | 1,572,194 | (137,457) | (134,776) | (141,890) | (756,890) | (1,307,207) | (105,278) | (96,826) | (4,371,235) |
| | Increase/(Decrease) | | **75,555** | **349,880** | **2,366,907** | **1,990,128** | **(1,632,264)** | **62,406** | **2,962** | **9,953** | **(547,875)** | **191,313** | **1,147,172** | **823,114** | **4,839,252** |
| 0555200 - 0555200 - Interchange Power | 0555200 | 2018 | 45,915,579 | 9,369,722 | 8,803,113 | 5,506,190 | 8,165,800 | 13,015,495 | 10,976,034 | 12,939,413 | 21,887,990 | 17,671,293 | 14,700,277 | 28,522,773 | 197,473,680 |
| | 0555200 | 2017 | 9,312,360 | 7,615,921 | 6,685,886 | 5,824,609 | 5,604,615 | 7,592,769 | 10,619,342 | 11,553,312 | 7,504,872 | 7,393,875 | 8,936,051 | 12,535,046 | 101,178,657 |
| | Increase/(Decrease) | | **36,603,218** | **1,753,801** | **2,117,227** | **(318,419)** | **2,561,185** | **5,422,726** | **356,693** | **1,386,101** | **14,383,118** | **10,277,418** | **5,764,227** | **15,987,727** | **96,295,024** |
| 0555220 - 0555220 - Interchange Power - Joint Owners | 0555220 | 2018 | 139,885 | 309,641 | (2,345,190) | (1,429,005) | (496,428) | (381,452) | 139,679 | 24,442 | 1,895,155 | 2,078,537 | (2,253,044) | (1,351,350) | (3,669,129) |
| | 0555220 | 2017 | 282,364 | 900,652 | 1,768,955 | 2,656,341 | (2,983,206) | 244,999 | 161,175 | 210,478 | 1,300,811 | 2,283,461 | 156,803 | 125,157 | 7,107,991 |
| | Increase/(Decrease) | | **(142,479)** | **(591,012)** | **(4,114,146)** | **(4,085,347)** | **2,486,778** | **(626,451)** | **(21,496)** | **(186,036)** | **594,344** | **(204,924)** | **(2,409,847)** | **(1,476,506)** | **(10,777,120)** |
| 0555230 - 0555230 - Credit - Joint Owners Negative Generation | 0555230 | 2018 | - | - | (34,076) | (94,860) | - | - | - | - | - | - | (35,267) | (66,943) | (231,146) |
| | 0555230 | 2017 | - | - | - | (9,981) | (102,769) | - | - | - | - | - | - | - | (112,750) |
| | Increase/(Decrease) | | **-** | **-** | **(34,076)** | **(84,879)** | **102,769** | **-** | **-** | **-** | **-** | **-** | **(35,267)** | **(66,943)** | **(118,397)** |
| 0555550 - 0555550 - Purchases Energy Imbalance | 0555550 | 2018 | (593,832) | 868,990 | 59,183 | (1,524,580) | (2,019,695) | 3,728,502 | 37,423 | (90,875) | (100,615) | 244,948 | 372,056 | (547,133) | 434,371 |
| | 0555550 | 2017 | 262,256 | 73,300 | 95,604 | 148,930 | 77,180 | 64,359 | 96,041 | 107,828 | 87,828 | 143,843 | 166,302 | 144,635 | 1,468,106 |
| | Increase/(Decrease) | | **(856,087)** | **795,690** | **(36,421)** | **(1,673,510)** | **(2,096,875)** | **3,664,143** | **(58,618)** | **(198,703)** | **(188,443)** | **101,105** | **205,754** | **(691,769)** | **(1,033,735)** |
| 0555750 - 0555750 - Purchases - Generation Imbalance | 0555750 | 2018 | 783,278 | 88,050 | 158,895 | 194,692 | 433,323 | 87,001 | 58,163 | 57,285 | 856,201 | (387,447) | 374,920 | 1,078,303 | 3,782,663 |
| | 0555750 | 2017 | 101,594 | 58,904 | 128,897 | 134,677 | 106,997 | 102,115 | 195,069 | 137,408 | 172,441 | 164,556 | 78,727 | 178,709 | 1,560,093 |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Increase/(Decrease) | | 681,684 | 29,146 | 29,998 | 60,016 | 326,326 | (15,114) | (136,906) | (80,123) | 683,760 | (552,003) | 296,193 | 899,594 | 2,222,570 |
| 0555125 - 0555125 - Purchased Power- Renewable | 0555125 | 2018 | 3,364,360 | 3,704,612 | 3,147,625 | 4,412,440 | 4,650,660 | 4,655,332 | 6,511,204 | 6,627,769 | 6,757,845 | 4,899,551 | 4,614,817 | 3,929,291 | 57,275,506 |
| | 0555125 | 2017 | 2,845,647 | 2,962,963 | 3,764,148 | 4,577,315 | 4,260,058 | 4,823,888 | 6,385,495 | 6,367,479 | 5,798,919 | 5,489,579 | 4,175,252 | 3,545,847 | 54,996,590 |
| | Increase/(Decrease) | | 518,713 | 741,649 | (616,523) | (164,875) | 390,602 | (168,556) | 125,710 | 260,289 | 958,926 | (590,027) | 439,565 | 383,444 | 2,278,916 |
| 0555135 - 0555135 - SC DERS Purchased Power | 0555135 | 2018 | 1,879 | 487 | 23,920 | 17,223 | 643 | 285 | 309 | 519 | 286 | 389 | 176 | 149 | 46,266 |
| | 0555135 | 2017 | 76 | 75 | 190 | 166 | 25,909 | 9,654 | 4,609 | (12,571) | 395 | 325 | 245 | 169 | 29,243 |
| | Increase/(Decrease) | | 1,803 | 412 | 23,730 | 17,057 | (25,266) | (9,369) | (4,299) | 13,090 | (109) | 64 | (69) | (20) | 17,022 |
| 0555016 - 0555016 - I/C Joint Disp - Pur Pwr | 0555016 | 2018 | 30,779,747 | 15,510,423 | 7,389,087 | 7,562,713 | 5,857,229 | 6,373,909 | 23,561,327 | 21,648,653 | 15,397,838 | 23,440,611 | 20,603,323 | 28,944,761 | 207,069,622 |
| | 0555016 | 2017 | 10,086,135 | 13,741,213 | 7,380,627 | 6,118,267 | 7,839,770 | 7,022,467 | 9,322,147 | 11,764,449 | 17,247,194 | 15,542,371 | 18,715,491 | 20,337,631 | 145,117,761 |
| | Increase/(Decrease) | | 20,693,612 | 1,769,210 | 8,460 | 1,444,446 | (1,982,541) | (648,557) | 14,239,180 | 9,884,204 | (1,849,356) | 7,898,240 | 1,887,833 | 8,607,130 | 61,951,860 |
| 0920000 - 0920000 - A and G Salaries | 0920000 | 2018 | 7,872,316 | 7,793,824 | 4,365,879 | 11,696,479 | 8,839,282 | 14,218,897 | 8,764,977 | 9,275,995 | 8,161,528 | 9,816,312 | 26,566,493 | 123,671,015 | 241,042,999 |
| | 0920000 | 2017 | 7,356,254 | 7,662,703 | 3,736,347 | 8,511,932 | 8,783,360 | 17,865,084 | 8,509,135 | 7,865,516 | 4,907,069 | 8,809,786 | 21,904,846 | 17,105,385 | 123,017,417 |
| | Increase/(Decrease) | | 516,062 | 131,121 | 629,533 | 3,184,547 | 55,922 | (3,646,187) | 255,843 | 1,410,479 | 3,254,459 | 1,006,526 | 4,661,647 | 106,565,630 | 118,025,582 |
| 0921100 - 0921100 - Employee Expenses | 0921100 | 2018 | 1,638,676 | 2,147,556 | 927,606 | 489,045 | 526,991 | 155,036 | 372,336 | 1,173,223 | 2,023,815 | 1,030,385 | (693,652) | (493,183) | 9,297,835 |
| | 0921100 | 2017 | 1,674,917 | 1,042,346 | 396,459 | 905,999 | 497,402 | 470,202 | 851,797 | 1,054,431 | 2,045,389 | (925,926) | 426,014 | 133,022 | 8,572,052 |
| | Increase/(Decrease) | | (36,240) | 1,105,210 | 531,147 | (416,954) | 29,588 | (315,166) | (479,461) | 118,792 | (21,574) | 1,956,311 | (1,119,666) | (626,205) | 725,783 |
| 0921200 - 0921200 - Office Expenses | 0921200 | 2018 | 642,017 | 1,185,859 | 812,280 | 1,799,906 | 1,271,608 | 1,167,872 | 622,485 | 3,543,310 | 1,828,986 | 870,180 | 967,052 | 1,934,848 | 16,646,404 |
| | 0921200 | 2017 | 1,493,077 | 937,579 | 2,010,161 | 1,159,081 | 1,593,073 | 2,247,440 | 1,537,843 | 3,239,779 | (3,271,222) | 1,041,971 | 1,062,450 | 2,366,255 | 15,417,486 |
| | Increase/(Decrease) | | (851,060) | 248,279 | (1,197,880) | 640,826 | (321,465) | (1,079,568) | (915,358) | 303,531 | 5,100,208 | (171,790) | (95,399) | (431,407) | 1,228,917 |
| 0921300 - 0921300 - Telephone and Telegraph Exp | 0921300 | 2018 | 74 | 99 | 83 | 111 | 227 | 210 | 92 | 1,475 | 99 | 3,376 | 128 | 367 | 6,341 |
| | 0921300 | 2017 | 8 | 121 | 191 | 173 | 85 | 395 | 100 | 134 | 37 | (60) | 53 | 476 | 1,713 |
| | Increase/(Decrease) | | 66 | (22) | (108) | (62) | 142 | (184) | (8) | 1,341 | 61 | 3,436 | 75 | (109) | 4,627 |
| 0921400 - 0921400 - Computer Services Expenses | 0921400 | 2018 | 320,431 | 292,518 | 532,775 | 12,935 | 499,943 | 246,359 | 395,612 | 44,763 | 198,332 | 338,758 | 346,745 | (412,152) | 2,817,018 |
| | 0921400 | 2017 | 609,295 | 547,201 | 842,032 | 322,175 | 130,119 | 538,253 | (2,463,643) | 3,147,246 | 460,681 | 2,087,792 | 643,938 | 357,909 | 7,222,999 |
| | Increase/(Decrease) | | (288,864) | (254,683) | (309,258) | (309,240) | 369,825 | (291,894) | 2,859,255 | (3,102,483) | (262,349) | (1,749,035) | (297,194) | (770,061) | (4,405,981) |
| 0921540 - 0921540 - Computer Rent (Go Only) | 0921540 | 2018 | 1,234,277 | 316,138 | (825,714) | 242,512 | 268,840 | 275,339 | 264,974 | 274,886 | 270,977 | 258,998 | 292,123 | 289,032 | 3,162,383 |
| | 0921540 | 2017 | 179,139 | 195,774 | 186,139 | 158,834 | 225,141 | 247,720 | 236,297 | 246,035 | 231,772 | 241,487 | 327,554 | 402,513 | 2,878,406 |
| | Increase/(Decrease) | | 1,055,138 | 120,365 | (1,011,853) | 83,678 | 43,699 | 27,619 | 28,677 | 28,852 | 39,204 | 17,511 | (35,431) | (113,481) | 283,977 |
| 0921600 - 0921600 - Other | 0921600 | 2018 | 515,543 | 274,113 | 572,978 | 332,325 | 359,767 | 457,283 | 173,783 | 439,828 | 236,399 | 338,334 | 499,319 | 143,245 | 4,342,915 |
| | 0921600 | 2017 | 408,173 | 324,367 | 86,372 | 373,827 | 485,951 | 2,166 | 831 | 2,710 | 898 | 1,261 | 2,650 | 4,766 | 1,693,972 |
| | Increase/(Decrease) | | 107,370 | (50,253) | 486,605 | (41,502) | (126,184) | 455,118 | 172,952 | 437,117 | 235,500 | 337,073 | 496,668 | 138,479 | 2,648,943 |
| 0921980 - 0921980 - Office Supplies and Expenses | 0921980 | 2018 | 3,082,880 | 3,461,284 | 3,940,964 | 3,352,822 | 5,156,849 | 3,413,407 | 3,502,055 | 5,972,413 | 4,237,686 | 4,233,567 | 4,351,709 | 5,404,750 | 50,110,386 |
| | 0921980 | 2017 | 2,734,762 | 2,783,570 | 3,040,776 | 2,789,514 | 2,770,931 | 2,882,843 | 2,671,743 | 3,876,258 | 2,648,991 | 8,878,824 | 5,067,638 | 3,806,480 | 43,952,330 |
| | Increase/(Decrease) | | 348,118 | 677,714 | 900,188 | 563,308 | 2,385,918 | 530,564 | 830,313 | 2,096,155 | 1,588,694 | (4,645,257) | (715,928) | 1,598,270 | 6,158,056 |
| 0922000 - 0922000 - Admin Exp Transfer | 0922000 | 2018 | 191 | 191 | 191 | 191 | 191 | 191 | 270 | 460 | 522 | 579 | 428 | 436 | 3,841 |
| | 0922000 | 2017 | (23,072) | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 1,916 | (19,245) |
| | Increase/(Decrease) | | 23,263 | (0) | (0) | (0) | (0) | (0) | 79 | 269 | 331 | 388 | 237 | (1,480) | 23,086 |
| 0922100 - 0922100 - Admin Exp Transfer - Construction | 0922100 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0922100 | 2017 | (916) | - | - | - | - | - | - | - | - | - | - | - | (916) |
| | Increase/(Decrease) | | 916 | - | - | - | - | - | - | - | - | - | - | - | 916 |
| 0922700 - 0922700 - Admin Exp Transf - Catawba | 0922700 | 2018 | (3,765,413) | (3,728,972) | (2,976,256) | (3,727,913) | (3,727,430) | 4,684,313 | (3,728,736) | (3,719,194) | (3,715,561) | (1,716,553) | 2,460,950 | (16,106,942) | (39,767,705) |
| | 0922700 | 2017 | (4,098,336) | (3,788,223) | (3,786,944) | (3,788,141) | (3,788,669) | 319,394 | (3,788,075) | (3,719,034) | (3,762,326) | (3,762,895) | (3,759,093) | (2,324,051) | (40,046,394) |
| | Increase/(Decrease) | | 332,923 | 59,252 | 810,689 | 60,228 | 61,240 | 4,364,919 | 59,338 | (159) | 46,765 | 2,046,342 | 6,220,043 | (13,782,890) | 278,689 |
| 0923000 - 0923000 - Outside Services Employed | 0923000 | 2018 | 3,774,280 | 5,465,981 | 3,922,066 | 4,943,730 | 6,045,084 | 6,806,890 | 2,420,866 | 6,137,312 | 5,247,496 | 5,920,060 | 6,925,901 | 9,879,357 | 67,489,022 |
| | 0923000 | 2017 | 2,299,167 | 5,524,551 | 6,785,079 | 4,958,841 | 5,353,025 | 6,096,262 | 7,073,845 | 2,561,578 | 11,386,312 | 4,968,134 | 7,341,292 | 7,766,475 | 72,114,561 |
| | Increase/(Decrease) | | 1,475,113 | (58,570) | (2,863,013) | (15,112) | 692,059 | 710,628 | (4,652,979) | 3,575,734 | (6,138,817) | 951,926 | (415,391) | 2,112,882 | (4,625,539) |
| 0923980 - 0923980 - Outside Services Employee | 0923980 | 2018 | 265,595 | 269,018 | 547,235 | 165,583 | 397,625 | 430,679 | 249,226 | 149,622 | 295,522 | 271,869 | 465,035 | 242,463 | 3,749,472 |
| | 0923980 | 2017 | 210,944 | 218,028 | 220,943 | 227,514 | 203,179 | 365,975 | 235,223 | 214,084 | 194,024 | 201,326 | 233,002 | 455,363 | 2,979,605 |
| | Increase/(Decrease) | | 54,651 | 50,990 | 326,293 | (61,932) | 194,446 | 64,704 | 14,003 | (64,462) | 101,498 | 70,543 | 232,033 | (212,900) | 769,866 |
| 0924000 - 0924000 - Property Insurance | 0924000 | 2018 | 1,947 | 8,073 | (7,861) | 4,824 | 54 | (16,371) | 71,397 | 8,073 | (13,445) | 8,073 | 8,073 | (14,058) | 58,780 |
| | 0924000 | 2017 | 13,743 | 12,317 | (2,057) | 13,743 | (7,909) | (8,201) | 79,167 | 17,605 | (8,201) | 10,883 | 13,743 | (8,201) | 126,630 |
| | Increase/(Decrease) | | (11,795) | (4,244) | (5,804) | (8,919) | 7,963 | (8,170) | (7,771) | (9,531) | (5,244) | (2,809) | (5,669) | (5,857) | (67,850) |
| 0924050 - 0924050 - Intercompany Property Insurance Exp | 0924050 | 2018 | 312,758 | 312,758 | 312,758 | 312,758 | 312,758 | 312,758 | 312,758 | 312,758 | 312,758 | 312,758 | 312,758 | 312,758 | 3,753,100 |
| | 0924050 | 2017 | 411,992 | 411,992 | 411,992 | 411,992 | 411,992 | 411,992 | 411,992 | 411,992 | 411,992 | 411,992 | 411,992 | 411,992 | 4,943,900 |
| | Increase/(Decrease) | | (99,233) | (99,233) | (99,233) | (99,233) | (99,233) | (99,233) | (99,233) | (99,233) | (99,233) | (99,233) | (99,233) | (99,233) | (1,190,800) |
| 0924100 - 0924100 - Admin - EH&S Expense | 0924100 | 2018 | - | 14 | - | - | - | - | - | - | - | 94 | - | - | 108 |
| | 0924100 | 2017 | - | 249 | - | - | - | - | - | - | - | - | - | 234 | 483 |
| | Increase/(Decrease) | | - | (235) | - | - | - | - | - | - | - | 94 | - | (234) | (375) |
| 0924980 - 0924980 - Property Insurance For Corp. | 0924980 | 2018 | 1,749,043 | 1,751,406 | (5,016,896) | 1,724,754 | 1,748,453 | 1,810,330 | (287,491) | 1,675,702 | 1,676,096 | 1,700,948 | 1,671,236 | (11,615,978) | (1,412,398) |
| | 0924980 | 2017 | 1,794,027 | 1,784,580 | 1,829,700 | 1,608,119 | 1,670,804 | 1,607,754 | (204,653) | 1,630,993 | 1,755,036 | 1,864,972 | 1,754,691 | (11,304,282) | 5,791,742 |
| | Increase/(Decrease) | | (44,985) | (33,173) | (6,846,596) | 116,635 | 77,648 | 202,575 | (82,838) | 44,709 | (78,940) | (164,024) | (83,455) | (311,696) | (7,204,140) |
| 0925200 - 0925200 - Injuries and Damages - Other | 0925200 | 2018 | 20,431 | 23,227 | 19,798 | 23,435 | 23,950 | 20,721 | 22,111 | 23,333 | 24,449 | 22,136 | 20,820 | 21,805 | 266,216 |
| | 0925200 | 2017 | 20,077 | 20,362 | 26,489 | 22,714 | 23,422 | 21,906 | 22,194 | 23,200 | 22,207 | 24,582 | 19,623 | 18,353 | 265,128 |
| | Increase/(Decrease) | | 354 | 2,865 | (6,691) | 721 | 528 | (1,185) | (83) | 133 | 2,242 | (2,446) | 1,197 | 3,452 | 1,088 |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0925300 - 0925300 - Environmental Inj and Damages | 0925300 | 2018 | 2,200 | (24,257) | 1,822,361 | 719 | 6,365 | 88,506 | 1,077 | - | (642,029) | 719 | - | 818,444 | 2,074,106 |
| | 0925300 | 2017 | - | 25,958 | 1,005,773 | 19,312 | 17,133 | (3,693) | 149 | 2,160 | 2,248,587 | 3,203 | 1,276 | 4,226,959 | 7,546,818 |
| | Increase/(Decrease) | | **2,200** | **(50,215)** | **816,589** | **(18,593)** | **(10,768)** | **92,199** | **928** | **(2,160)** | **(2,890,616)** | **(2,484)** | **(1,276)** | **(3,408,515)** | **(5,472,712)** |
| 0925980 - 0925980 - Injuries and Damages For Corp. | 0925980 | 2018 | 645,762 | 659,123 | 645,762 | 653,412 | 649,362 | 655,762 | 646,112 | 645,962 | 646,356 | 645,762 | 645,862 | 648,512 | 7,787,752 |
| | 0925980 | 2017 | 623,829 | 618,118 | 647,794 | 614,268 | 619,968 | 609,628 | 610,468 | 610,968 | 610,468 | 610,874 | 610,668 | 613,468 | 7,400,514 |
| | Increase/(Decrease) | | **21,933** | **41,006** | **(2,032)** | **39,145** | **29,395** | **46,135** | **35,645** | **34,995** | **35,889** | **34,889** | **35,195** | **35,045** | **387,237** |
| 0926000 - 0926000 - Empl Pensions and Benefits | 0926000 | 2018 | 22,442,886 | 19,408,354 | 21,765,867 | 20,948,621 | 20,515,566 | 24,506,268 | 20,399,303 | 21,709,851 | 19,548,235 | 13,504,112 | 21,400,152 | 19,127,421 | 245,276,637 |
| | 0926000 | 2017 | 17,695,506 | 17,517,392 | 28,526,413 | 2,026,012 | 14,875,892 | 43,101,651 | (13,136,023) | 18,519,427 | 56,737,115 | (26,563,646) | 10,517,684 | 77,460,338 | 247,277,762 |
| | Increase/(Decrease) | | **4,747,380** | **1,890,962** | **(6,760,546)** | **18,922,609** | **5,639,675** | **(18,595,383)** | **33,535,326** | **3,190,424** | **(37,188,879)** | **40,067,757** | **10,882,468** | **(58,332,917)** | **(2,001,125)** |
| 0926420 - 0926420 - Employees' Tuition Refund | 0926420 | 2018 | - | - | 125 | 179 | - | - | - | 775 | 140 | 159 | 69 | 505 | 1,952 |
| | 0926420 | 2017 | - | - | - | - | - | - | 1,098 | 85 | - | - | - | - | 1,183 |
| | Increase/(Decrease) | | **-** | **-** | **125** | **179** | **-** | **-** | **(1,098)** | **690** | **140** | **159** | **69** | **505** | **769** |
| 0926430 - 0926430 - Employees'Recreation Expense | 0926430 | 2018 | 1,811 | 1,735 | 20,120 | 5,212 | 13,532 | 6,088 | 4,473 | 18,565 | 3,288 | 2,371 | (1,732) | 4,406 | 79,872 |
| | 0926430 | 2017 | 1,429 | 2,933 | 3,773 | 10,249 | 4,428 | 4,306 | 3,925 | 8,320 | 4,025 | 4,106 | 2,388 | 5,916 | 55,800 |
| | Increase/(Decrease) | | **382** | **(1,198)** | **16,347** | **(5,037)** | **9,104** | **1,782** | **548** | **10,245** | **(737)** | **(1,734)** | **(4,120)** | **(1,510)** | **24,072** |
| 0926600 - 0926600 - Employee Benefits - Transferred | 0926600 | 2018 | (5,930,235) | (5,871,290) | (8,322,922) | (7,371,363) | (6,639,039) | (5,441,918) | (6,479,314) | (8,523,480) | (6,807,227) | (8,369,733) | (6,622,466) | (6,621,976) | (83,000,962) |
| | 0926600 | 2017 | (3,726,194) | (4,016,337) | (6,168,765) | (4,389,753) | (5,559,287) | (5,025,233) | (3,988,106) | (3,510,352) | (5,317,089) | (7,281,451) | (6,671,171) | (1,438,562) | (57,092,300) |
| | Increase/(Decrease) | | **(2,204,041)** | **(1,854,954)** | **(2,154,157)** | **(2,981,610)** | **(1,079,751)** | **(416,685)** | **(2,491,208)** | **(5,013,129)** | **(1,490,137)** | **(1,088,282)** | **48,706** | **(5,183,414)** | **(25,908,662)** |
| 0927001 - 0927001 - General and Administration | 0927001 | 2018 | - | 47 | - | - | - | - | - | - | - | - | - | - | 47 |
| | 0927001 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **47** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **47** |
| 0928000 - 0928000 - Regulatory Expenses | 0928000 | 2018 | 1,138,807 | 1,088,678 | 745,020 | 980,996 | 1,002,336 | 769,009 | 1,161,320 | 1,256,162 | 1,065,963 | 704,235 | 1,089,681 | 1,119,025 | 12,121,234 |
| | 0928000 | 2017 | 1,026,622 | 957,278 | 831,214 | 1,009,656 | 900,731 | 760,231 | 1,104,092 | 1,147,030 | 993,591 | 996,569 | 925,401 | 723,062 | 11,375,477 |
| | Increase/(Decrease) | | **112,185** | **131,400** | **(86,194)** | **(28,660)** | **101,605** | **8,778** | **57,227** | **109,133** | **72,373** | **(292,333)** | **164,280** | **395,963** | **745,757** |
| 0929000 - 0929000 - Duplicate Chrgs - Enrgy To Exp | 0929000 | 2018 | (1,171,863) | (1,091,433) | (986,802) | (950,516) | (911,485) | (1,009,549) | (1,061,105) | (1,234,087) | (1,186,166) | (1,034,669) | (1,060,993) | (1,123,630) | (12,822,299) |
| | 0929000 | 2017 | (1,004,298) | (913,737) | (929,891) | (873,906) | (798,290) | (965,205) | (1,030,179) | (1,051,737) | (996,070) | (902,680) | (896,567) | (985,405) | (11,347,965) |
| | Increase/(Decrease) | | **(167,565)** | **(177,696)** | **(56,911)** | **(76,611)** | **(113,195)** | **(44,344)** | **(30,926)** | **(182,350)** | **(190,096)** | **(131,990)** | **(164,426)** | **(138,225)** | **(1,474,334)** |
| 0930200 - 0930200 - Misc General Expenses | 0930200 | 2018 | (2,692,673) | (2,739,370) | (3,162,027) | (2,881,386) | (2,795,402) | (2,883,272) | (2,689,024) | (3,213,418) | (2,888,870) | (3,086,311) | (2,712,687) | (2,311,751) | (34,056,191) |
| | 0930200 | 2017 | (2,909,667) | (3,204,571) | (3,557,257) | (3,060,304) | (3,133,200) | (3,140,199) | (2,946,420) | (3,333,099) | (3,673,492) | (3,391,386) | (3,011,337) | (2,086,899) | (37,447,830) |
| | Increase/(Decrease) | | **216,993** | **465,201** | **395,230** | **178,917** | **337,798** | **256,927** | **257,395** | **119,682** | **784,622** | **305,075** | **298,650** | **(224,852)** | **3,391,639** |
| 0930210 - 0930210 - Industry Association Dues | 0930210 | 2018 | 1,037,568 | - | - | - | - | - | - | - | - | - | - | - | 1,037,568 |
| | 0930210 | 2017 | 1,360,451 | - | (206,492) | - | - | - | - | 536 | - | - | - | (536) | 1,153,958 |
| | Increase/(Decrease) | | **(322,882)** | **-** | **206,492** | **-** | **-** | **-** | **-** | **(536)** | **-** | **-** | **-** | **536** | **(116,390)** |
| 0930220 - 0930220 - Exp of Servicing Securities | 0930220 | 2018 | (918) | (2,025) | (615) | 10,263 | 108,625 | (1,535) | (843) | (1,827) | (1,809) | (221) | (1,555) | - | 107,541 |
| | 0930220 | 2017 | - | - | 1,347 | 13,008 | 80,106 | (11,604) | 95 | - | (5,012) | (1,863) | 1,601 | (2,283) | 75,395 |
| | Increase/(Decrease) | | **(918)** | **(2,025)** | **(1,962)** | **(2,745)** | **28,519** | **10,069** | **(938)** | **(1,827)** | **3,203** | **1,642** | **(3,156)** | **2,283** | **32,146** |
| 0930230 - 0930230 - Dues To Various Organizations | 0930230 | 2018 | 54,000 | 32,255 | 38,225 | 32,398 | 41,405 | 6,957 | 71,311 | 17,240 | 4,234 | 66,241 | 40,131 | 28,619 | 433,016 |
| | 0930230 | 2017 | 66,073 | 18,709 | 72,073 | 11,484 | 7,519 | 61,872 | 2,075 | 6,603 | 17,380 | 5,900 | 123,532 | 25,159 | 418,380 |
| | Increase/(Decrease) | | **(12,073)** | **13,546** | **(33,848)** | **20,914** | **33,887** | **(54,915)** | **69,236** | **10,638** | **(13,147)** | **60,341** | **(83,401)** | **3,460** | **14,637** |
| 0930240 - 0930240 - Director's Expenses | 0930240 | 2018 | 208,407 | 8,156 | 20,543 | 163,661 | 772,097 | 1,098 | 161,632 | 30,842 | 2,397 | 179,961 | 20,326 | 245,562 | 1,814,682 |
| | 0930240 | 2017 | 244,313 | 445 | 16,632 | 176,381 | 771,916 | 3,245 | 135,852 | 62,326 | 36,766 | 161,948 | 12,840 | 197,141 | 1,819,803 |
| | Increase/(Decrease) | | **(35,905)** | **7,710** | **3,912** | **(12,720)** | **181** | **(2,147)** | **25,780** | **(31,484)** | **(34,369)** | **18,013** | **7,486** | **48,421** | **(5,122)** |
| 0930250 - 0930250 - Buy\Sell Transf Employee Homes | 0930250 | 2018 | 62,665 | 189,943 | 505,899 | 122,713 | (99,490) | 88,668 | 42,828 | 101,047 | 105,104 | 90,005 | 145,282 | 140,919 | 1,495,583 |
| | 0930250 | 2017 | 163,500 | 35,364 | 147,212 | 110,789 | 141,120 | 238,011 | 313,256 | 182,468 | 145,780 | 154,516 | 122,403 | 115,703 | 1,870,121 |
| | Increase/(Decrease) | | **(100,835)** | **154,579** | **358,686** | **11,924** | **(240,610)** | **(149,342)** | **(270,427)** | **(81,421)** | **(40,676)** | **(64,511)** | **22,879** | **25,217** | **(374,538)** |
| 0930600 - 0930600 - Leased Circuit Charges - Other | 0930600 | 2018 | 2,295 | 55 | 316 | 170 | 331 | 65 | 460 | 196 | 119 | 544 | 204 | 31 | 4,787 |
| | 0930600 | 2017 | 239 | 741 | 3,903 | 100 | 542 | 50 | - | 117 | - | 95 | 201 | 65 | 6,054 |
| | Increase/(Decrease) | | **2,056** | **(685)** | **(3,587)** | **70** | **(210)** | **15** | **460** | **79** | **119** | **449** | **3** | **(34)** | **(1,267)** |
| 0930700 - 0930700 - Research and Development | 0930700 | 2018 | 174,524 | (11,874) | 3,831 | 540 | 23,478 | 74,969 | 1,783 | (7,322) | 8,383 | 55,447 | 146,623 | 286,615 | 756,998 |
| | 0930700 | 2017 | 3,112 | 4,789 | 2,438 | 87,657 | 251,008 | 3,995 | (48,829) | 29,853 | 10,691 | 58,309 | 77,947 | 74,243 | 555,213 |
| | Increase/(Decrease) | | **171,412** | **(16,663)** | **1,393** | **(87,117)** | **(227,530)** | **70,974** | **50,612** | **(37,175)** | **(2,308)** | **(2,862)** | **68,676** | **212,373** | **201,784** |
| 0930800 - 0930800 - R and D - Alternative Energy | 0930800 | 2018 | 204,525 | 179,462 | 149,461 | 157,539 | 151,696 | 187,114 | 201,156 | 192,968 | 221,609 | 147,717 | 153,906 | 174,524 | 2,121,677 |
| | 0930800 | 2017 | 177,450 | 157,287 | 148,449 | 168,097 | 135,722 | 173,302 | 192,374 | 193,840 | 181,297 | 155,997 | 149,595 | 164,547 | 1,997,959 |
| | Increase/(Decrease) | | **27,075** | **22,175** | **1,012** | **(10,559)** | **15,974** | **13,811** | **8,782** | **(872)** | **40,312** | **(8,280)** | **4,311** | **9,977** | **123,718** |
| 0930940 - 0930940 - General Expenses | 0930940 | 2018 | 17,909 | 15,334 | 26,719 | 13,915 | 45,188 | 14,282 | 15,388 | 18,181 | 10,855 | 11,230 | 10,526 | 24,850 | 224,376 |
| | 0930940 | 2017 | 10,160 | 24,940 | 12,457 | 16,247 | 14,907 | 19,227 | 19,407 | 18,345 | 19,036 | 10,041 | 35,083 | 22,847 | 222,698 |
| | Increase/(Decrease) | | **7,748** | **(9,606)** | **14,263** | **(2,332)** | **30,280** | **(4,945)** | **(4,020)** | **(164)** | **(8,181)** | **1,189** | **(24,558)** | **2,003** | **1,678** |
| 0931001 - 0931001 - Rents - AandG | 0931001 | 2018 | 2,184,289 | 2,104,091 | 2,246,599 | 2,268,181 | 2,218,274 | 2,228,881 | 2,223,662 | 2,158,356 | 2,638,277 | 2,250,286 | 2,032,392 | 2,199,072 | 26,752,360 |
| | 0931001 | 2017 | 2,619,985 | 2,599,982 | 2,621,174 | 2,665,972 | 2,304,734 | 2,559,263 | 2,465,828 | 2,607,838 | 2,609,725 | 2,583,492 | 2,720,754 | 2,700,847 | 31,059,595 |
| | Increase/(Decrease) | | **(435,696)** | **(495,891)** | **(374,575)** | **(397,791)** | **(86,460)** | **(330,382)** | **(242,166)** | **(449,483)** | **28,552** | **(333,206)** | **(688,362)** | **(501,775)** | **(4,307,235)** |
| 0931008 - 0931008 - A and G Rents IC | 0931008 | 2018 | 1,708,010 | 1,189,395 | 1,474,839 | 1,534,006 | 1,499,404 | 1,518,915 | 1,632,235 | 1,620,588 | 1,610,783 | 1,658,011 | 1,674,989 | 1,733,614 | 18,854,789 |
| | 0931008 | 2017 | 1,486,479 | 1,473,237 | 1,546,762 | 1,529,963 | 1,202,669 | 1,188,949 | 1,235,773 | 1,217,386 | 1,320,877 | 1,193,019 | 1,385,604 | 1,375,045 | 16,155,763 |
| | Increase/(Decrease) | | **221,530** | **(283,842)** | **(71,923)** | **4,043** | **296,735** | **329,966** | **396,462** | **403,202** | **289,906** | **464,992** | **289,385** | **358,569** | **2,699,025** |
| 0107888 - 0107888 - CWIP - BU Bal Sht - Svc Co Exp | 0107888 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0107888 | 2017 | - | 30 | - | - | 312 | - | - | - | - | 577 | - | - | 920 |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Increase/(Decrease) | | **-** | **(30)** | **-** | **-** | **(312)** | **-** | **-** | **-** | **-** | **(577)** | **-** | **-** | **(920)** |
| 0921110 - 0921110 - Relocation Expenses | 0921110 | 2018 | - | - | 108 | - | 18 | - | - | 12 | - | - | - | 73 | 211 |
| | 0921110 | 2017 | - | 155 | - | - | 1 | 0 | - | 38 | 1 | - | - | 26 | 222 |
| | Increase/(Decrease) | | **-** | **(155)** | **108** | **-** | **17** | **(0)** | **-** | **(25)** | **(1)** | **-** | **-** | **46** | **(11)** |
| 0921900 - 0921900 - Office Supply and Expense - Partner | 0921900 | 2018 | - | - | - | - | - | - | - | - | - | - | - | 4,547 | 4,547 |
| | 0921900 | 2017 | - | - | - | 557 | - | - | - | - | - | - | - | - | 557 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **(557)** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **4,547** | **3,991** |
| 0920300 - 0920300 - Project Development Labor | 0920300 | 2018 | 18,750 | 17,747 | 29,706 | 22,272 | 21,989 | 20,756 | 22,420 | 34,347 | 30,443 | 13,365 | - | - | 231,794 |
| | 0920300 | 2017 | 4,258 | 9,920 | 18,168 | 17,488 | 20,207 | 30,361 | 19,896 | 19,079 | 23,092 | 17,098 | (27,471) | 14,489 | 166,584 |
| | Increase/(Decrease) | | **14,492** | **7,826** | **11,538** | **4,783** | **1,782** | **(9,605)** | **2,525** | **15,268** | **7,351** | **(3,734)** | **27,471** | **(14,489)** | **65,210** |
| 0925000 - 0925000 - Injuries and Damages | 0925000 | 2018 | 23,211 | 152,057 | (161,233) | 48,724 | 33,514 | 32,080 | 26,121 | 51,701 | 71 | 30,445 | 43,871 | 12,528 | 293,089 |
| | 0925000 | 2017 | 17,124 | 61,356 | 36,759 | 92,139 | 112,893 | 102,256 | 70,358 | 88,758 | 107,207 | 125,387 | 240,667 | 452,818 | 1,507,723 |
| | Increase/(Decrease) | | **6,087** | **90,701** | **(197,992)** | **(43,415)** | **(79,379)** | **(70,177)** | **(44,237)** | **(37,057)** | **(107,137)** | **(94,942)** | **(196,797)** | **(440,290)** | **(1,214,634)** |
| 0925051 - 0925051 - Intercompany Gen Liab Expense | 0925051 | 2018 | 951,200 | 951,200 | 951,200 | 951,200 | 951,200 | 951,200 | 951,200 | 951,200 | 951,200 | 951,200 | 951,200 | 951,200 | 11,414,400 |
| | 0925051 | 2017 | 939,167 | 939,167 | 939,167 | 939,167 | 939,167 | 939,167 | 939,167 | 939,167 | 939,167 | 939,167 | 939,167 | 939,167 | 11,270,000 |
| | Increase/(Decrease) | | 12,033 | 12,033 | 12,033 | 12,033 | 12,033 | 12,033 | 12,033 | 12,033 | 12,033 | 12,033 | 12,033 | 12,033 | 144,400 |
| 0930150 - 0930150 - Miscellaneous Advertising Exp | 0930150 | 2018 | 508,725 | 201,314 | 196,752 | 446,047 | 324,302 | 337,777 | 144,348 | 1,083,843 | 209,075 | 538,990 | 506,043 | 849,238 | 5,346,453 |
| | 0930150 | 2017 | 67,534 | 202,834 | 397,680 | (56,389) | 421,079 | 224,909 | 1,219,879 | 418,914 | 1,206,850 | 83,810 | 205,501 | 1,047,243 | 5,439,844 |
| | Increase/(Decrease) | | **441,191** | **(1,520)** | **(200,928)** | **502,435** | **(96,777)** | **112,868** | **(1,075,531)** | **664,928** | **(997,775)** | **455,181** | **300,542** | **(198,006)** | **(93,392)** |
| 0929500 - 0929500 - Admin Exp Transf | 0929500 | 2018 | (1,606,662) | (1,583,389) | (1,831,178) | (1,840,563) | (1,845,105) | (1,966,198) | (1,667,502) | (1,912,233) | (1,748,496) | (2,046,958) | (1,907,913) | (1,814,331) | (21,770,528) |
| | 0929500 | 2017 | (1,357,592) | (1,437,872) | (1,669,643) | (1,428,167) | (1,423,396) | (1,597,611) | (1,448,785) | (1,395,702) | (3,164,332) | (1,961,686) | (1,423,752) | (1,483,535) | (19,792,073) |
| | Increase/(Decrease) | | **(249,070)** | **(145,518)** | **(161,535)** | **(412,396)** | **(421,709)** | **(368,587)** | **(218,717)** | **(516,531)** | **1,415,836** | **(85,272)** | **(484,161)** | **(330,797)** | **(1,978,455)** |
| 0920100 - 0920100 - Salaries & Wages - Proj Supt - NCRC Rec | 0920100 | 2018 | - | 1,475 | 402 | 1,054 | 592 | 781 | 2,063 | 857 | - | 588 | 25 | 32,908 | 40,746 |
| | 0920100 | 2017 | - | - | 165 | - | - | 268 | 173 | 428 | 2,017 | 322 | 1,138 | 1,874 | 6,385 |
| | Increase/(Decrease) | | **-** | **1,475** | **238** | **1,054** | **592** | **514** | **1,889** | **430** | **(2,017)** | **265** | **(1,113)** | **31,035** | **34,361** |
| 0921101 - 0921101 - Employee Exp - NC | 0921101 | 2018 | 1,224 | 1,750 | 986 | 3,091 | (4,197) | 1,368 | 1,338 | 2,572 | 1,031 | (1,384) | (190) | 1,107 | 8,698 |
| | 0921101 | 2017 | 528 | 591 | 505 | 1,019 | (1,251) | 980 | 1,045 | 1,035 | 1,685 | (1,844) | (4,196) | 2,796 | 2,895 |
| | Increase/(Decrease) | | **695** | **1,158** | **481** | **2,072** | **(2,946)** | **388** | **293** | **1,537** | **(654)** | **461** | **4,006** | **(1,689)** | **5,803** |
| 0921102 - 0921102 - Employee Exp - SC | 0921102 | 2018 | 78,075 | 78,054 | 77,793 | 77,829 | 75,829 | 285 | 335 | 335 | 335 | (737) | (699) | (388,549) | (1,113) |
| | 0921102 | 2017 | 77,930 | 77,930 | 77,901 | 77,633 | 77,127 | 77,755 | 77,973 | 77,973 | 77,802 | 76,966 | 76,176 | 77,990 | 931,157 |
| | Increase/(Decrease) | | **145** | **124** | **(108)** | **196** | **(1,298)** | **(77,471)** | **(77,638)** | **(77,638)** | **(77,467)** | **(77,703)** | **(76,875)** | **(466,540)** | **(932,270)** |
| 0546000 - 0546000 - Suprvsn and Enginring - Ct Oper | 0546000 | 2018 | 436,440 | 545,424 | 547,040 | 486,325 | 643,801 | 712,543 | 772,800 | 1,006,443 | 1,007,655 | 918,329 | 805,066 | 754,500 | 8,636,365 |
| | 0546000 | 2017 | 397,005 | 358,277 | 403,197 | 312,661 | 398,782 | 354,387 | 383,845 | 446,639 | 375,446 | 439,250 | 421,222 | 349,047 | 4,639,760 |
| | Increase/(Decrease) | | **39,435** | **187,147** | **143,842** | **173,664** | **245,018** | **358,155** | **388,955** | **559,804** | **632,208** | **479,079** | **383,843** | **405,453** | **3,996,605** |
| 0547150 - 0547150 - Natural Gas Handling - Ct | 0547150 | 2018 | 34,809 | 32,208 | 31,009 | 39,068 | 32,124 | 40,112 | 33,133 | 34,230 | 33,484 | 35,124 | 33,882 | 35,574 | 414,758 |
| | 0547150 | 2017 | 34,219 | 33,009 | 36,943 | 36,080 | 42,883 | 35,219 | 34,998 | 35,488 | 31,517 | 33,688 | 34,277 | 50,000 | 438,321 |
| | Increase/(Decrease) | | **590** | **(801)** | **(5,934)** | **2,988** | **(10,759)** | **4,893** | **(1,865)** | **(1,257)** | **1,967** | **1,436** | **(395)** | **(14,427)** | **(23,563)** |
| 0547300 - 0547300 - Fuel Handling and Testing - Ct | 0547300 | 2018 | 348 | 350 | 358 | 471 | 278 | 358 | 353 | 259 | 329 | 336 | 499 | 207 | 4,146 |
| | 0547300 | 2017 | 344 | 354 | 352 | 345 | 354 | 346 | 350 | 351 | 342 | 361 | 352 | 351 | 4,201 |
| | Increase/(Decrease) | | **4** | **(4)** | **5** | **127** | **(76)** | **12** | **3** | **(92)** | **(12)** | **(25)** | **147** | **(144)** | **(55)** |
| 0548100 - 0548100 - Generation Expenses - Other Ct | 0548100 | 2018 | 52,874 | 40,086 | 75,233 | 64,133 | 67,490 | 72,936 | 75,904 | 70,867 | 47,635 | 54,282 | 57,027 | 111,908 | 790,375 |
| | 0548100 | 2017 | 50,428 | 47,922 | 62,466 | 56,254 | 75,978 | 75,205 | 43,187 | 83,571 | 72,176 | 59,330 | 40,319 | 68,700 | 735,537 |
| | Increase/(Decrease) | | **2,446** | **(7,837)** | **12,767** | **7,879** | **(8,488)** | **(2,269)** | **32,717** | **(12,704)** | **(24,541)** | **(5,048)** | **16,708** | **43,208** | **54,838** |
| 0548020 - 0548020 - Ammonia - Qualifying | 0548020 | 2018 | 22,645 | 26,404 | 22,827 | 27,470 | 34,330 | 46,940 | 54,078 | 46,681 | 41,670 | 39,552 | 43,944 | 32,472 | 439,013 |
| | 0548020 | 2017 | 12,598 | 9,876 | 17,735 | 14,678 | 30,285 | 25,409 | 30,828 | 29,658 | 25,657 | 23,120 | 27,108 | 25,039 | 271,991 |
| | Increase/(Decrease) | | **10,047** | **16,528** | **5,093** | **12,792** | **4,045** | **21,531** | **23,250** | **17,023** | **16,013** | **16,432** | **16,836** | **7,433** | **167,021** |
| 0548200 - 0548200 - Prime Movers - Generators - Ct | 0548200 | 2018 | 138,578 | 74,939 | 97,657 | 79,687 | 65,680 | 59,686 | 70,405 | 82,667 | 54,752 | 102,259 | 30,857 | 89,913 | 947,080 |
| | 0548200 | 2017 | 47,770 | 40,931 | 74,321 | 32,724 | 37,153 | 48,349 | 54,537 | 68,317 | 78,351 | 78,534 | 31,948 | 53,080 | 646,015 |
| | Increase/(Decrease) | | **90,808** | **34,009** | **23,336** | **46,963** | **28,527** | **11,336** | **15,869** | **14,351** | **(23,599)** | **23,725** | **(1,090)** | **36,832** | **301,066** |
| 0549000 - 0549000 - Misc - Power Generation Expenses | 0549000 | 2018 | 750,550 | 561,059 | 806,344 | 922,253 | 834,274 | 608,273 | 802,851 | 723,346 | 648,941 | 1,658,262 | 593,481 | 1,012,696 | 9,922,331 |
| | 0549000 | 2017 | 576,183 | 595,323 | 939,257 | 739,836 | 810,288 | 1,084,768 | 816,060 | 704,310 | 813,882 | 868,962 | 1,257,985 | 1,444,330 | 10,651,185 |
| | Increase/(Decrease) | | **174,368** | **(34,264)** | **(132,913)** | **182,416** | **23,986** | **(476,495)** | **(13,209)** | **19,036** | **(164,941)** | **789,300** | **(664,504)** | **(431,634)** | **(728,854)** |
| 0550001 - 0550001 - Other Power Gen Op Rents | 0550001 | 2018 | 46,639 | 11,713 | 6,980 | 8,381 | - | (77,600) | 23,200 | (29,741) | (1,813) | (7,345) | (9,957) | (32,139) | (61,682) |
| | 0550001 | 2017 | 24,236 | (14,612) | 3 | 14,583 | (8,061) | (30,750) | 66,332 | (1,946) | (20,711) | (33,353) | 31,900 | (61,531) | (33,910) |
| | Increase/(Decrease) | | **22,403** | **26,325** | **6,977** | **(6,202)** | **8,061** | **(46,850)** | **(43,132)** | **(27,795)** | **18,898** | **26,008** | **(41,857)** | **29,392** | **(27,772)** |
| 0546002 - 0546002 - Supvs and Engineer CT Opt - SC | 0546002 | 2018 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 48,384 |
| | 0546002 | 2017 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 4,032 | 48,384 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0546003 - 0546003 - Supvs and Engineer CT Opt - WH | 0546003 | 2018 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 49,380 |
| | 0546003 | 2017 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 4,115 | 49,380 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0546001 - 0546001 - Supvs and Engineer CT Opt - NC | 0546001 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0546001 | 2017 | 50,362 | 50,362 | 50,362 | 50,362 | 50,362 | 50,362 | 50,362 | 50,362 | 50,362 | 50,362 | 50,362 | 50,362 | 604,344 |
| | Increase/(Decrease) | | **(50,362)** | **(50,362)** | **(50,362)** | **(50,362)** | **(50,362)** | **(50,362)** | **(50,362)** | **(50,362)** | **(50,362)** | **(50,362)** | **(50,362)** | **(50,362)** | **(604,344)** |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0901000 - 0901000 - Supervision - Cust Accts | 0901000 | 2018 | 6,985 | 6,367 | 9,374 | 14,676 | 5,886 | (4,431) | 7,009 | 5,895 | 5,722 | 21,482 | 7,014 | 6,761 | 92,741 |
| | 0901000 | 2017 | 6,609 | 249,879 | 14,950 | 27,107 | 19,574 | 11,489 | 13,023 | 11,055 | 11,409 | 10,971 | 10,758 | 9,525 | 396,348 |
| | Increase/(Decrease) | | **376** | **(243,512)** | **(5,576)** | **(12,431)** | **(13,687)** | **(15,920)** | **(6,014)** | **(5,160)** | **(5,687)** | **10,510** | **(3,745)** | **(2,763)** | **(303,607)** |
| 0902000 - 0902000 - Meter Reading Expense | 0902000 | 2018 | 184,127 | 272,830 | 180,408 | 172,012 | 243,039 | 150,455 | 116,910 | 358,175 | 215,827 | 146,568 | 345,443 | 69,294 | 2,455,088 |
| | 0902000 | 2017 | 272,548 | 40,511 | 781,843 | 218,211 | 326,468 | 247,340 | 262,200 | 329,585 | 197,395 | 212,581 | 485,707 | 276,273 | 3,650,664 |
| | Increase/(Decrease) | | **(88,421)** | **232,320** | **(601,435)** | **(46,199)** | **(83,430)** | **(96,885)** | **(145,289)** | **28,590** | **18,431** | **(66,013)** | **(140,265)** | **(206,979)** | **(1,195,576)** |
| 0903000 - 0903000 - Cust Records and Collection Exp | 0903000 | 2018 | 6,165,805 | (959,662) | 3,623,027 | 3,928,485 | 2,932,748 | (3,919,670) | 3,327,513 | (242,433) | 2,781,528 | 3,463,625 | 1,840,131 | 574,898 | 23,515,995 |
| | 0903000 | 2017 | 1,403,279 | 2,127,872 | 1,531,823 | 1,414,468 | 2,414,375 | 1,819,402 | 1,273,166 | 3,001,138 | 1,509,310 | 3,752,102 | 132,459 | 1,533,008 | 21,912,401 |
| | Increase/(Decrease) | | **4,762,526** | **(3,087,534)** | **2,091,204** | **2,514,017** | **518,374** | **(5,739,072)** | **2,054,347** | **(3,243,571)** | **1,272,218** | **(288,477)** | **1,707,672** | **(958,109)** | **1,603,595** |
| 0903100 - 0903100 - Cust Contracts and Orders - Local | 0903100 | 2018 | 544,687 | 872,834 | 718,600 | 744,154 | 818,647 | 459,925 | 579,122 | 946,089 | 470,183 | 794,742 | 686,084 | 473,061 | 8,108,129 |
| | 0903100 | 2017 | 669,211 | 744,581 | 919,770 | 653,809 | 712,810 | 628,340 | 1,950,322 | (552,918) | 723,697 | 655,375 | 813,488 | (61,758) | 7,856,727 |
| | Increase/(Decrease) | | **(124,524)** | **128,253** | **(201,170)** | **90,345** | **105,838** | **(168,415)** | **(1,371,200)** | **1,499,007** | **(253,514)** | **139,367** | **(127,404)** | **534,819** | **251,402** |
| 0903200 - 0903200 - Cust Billing and Acct | 0903200 | 2018 | 2,293,948 | 2,172,658 | 2,247,557 | 1,835,039 | 2,640,956 | 1,303,748 | 1,988,330 | 2,246,217 | 1,607,306 | 2,146,297 | 2,013,494 | 1,634,925 | 24,130,474 |
| | 0903200 | 2017 | 1,938,604 | 2,263,792 | 2,170,856 | 2,008,881 | 2,259,630 | 1,783,343 | 3,377,540 | 940,240 | 2,179,475 | 2,019,472 | 2,244,870 | 1,812,641 | 24,999,345 |
| | Increase/(Decrease) | | **355,344** | **(91,133)** | **76,700** | **(173,841)** | **381,326** | **(479,595)** | **(1,389,211)** | **1,305,976** | **(572,169)** | **126,825** | **(231,376)** | **(177,716)** | **(868,871)** |
| 0903300 - 0903300 - Cust Collecting - Local | 0903300 | 2018 | 699,235 | 1,091,919 | 1,135,243 | 883,611 | 1,245,380 | 686,788 | 827,717 | 1,063,279 | 419,264 | 874,922 | 634,954 | 762,699 | 10,325,012 |
| | 0903300 | 2017 | 894,510 | 1,045,273 | 944,288 | 1,276,503 | 1,169,163 | 881,113 | 2,141,291 | 156,471 | 806,872 | 877,462 | 1,299,557 | 811,407 | 12,303,910 |
| | Increase/(Decrease) | | **(195,275)** | **46,646** | **190,955** | **(392,892)** | **76,217** | **(194,324)** | **(1,313,574)** | **906,808** | **(387,608)** | **(2,540)** | **(664,603)** | **(48,708)** | **(1,978,898)** |
| 0903400 - 0903400 - Cust Receiv and Collect Exp - Edp | 0903400 | 2018 | 65,885 | 60,597 | 68,491 | 76,299 | 67,458 | 30,090 | 125,452 | 33,959 | 219,215 | 91,898 | 62,762 | 95,903 | 998,010 |
| | 0903400 | 2017 | 49,677 | 70,053 | 63,425 | 74,392 | 64,422 | 81,155 | 70,000 | 81,142 | 71,048 | 220,823 | 68,040 | 73,059 | 987,235 |
| | Increase/(Decrease) | | **16,209** | **(9,456)** | **5,066** | **1,906** | **3,036** | **(51,066)** | **55,452** | **(47,183)** | **148,167** | **(128,925)** | **(5,278)** | **22,845** | **10,775** |
| 0903600 - 0903600 - Computer Serv Exps - Cust Accts | 0903600 | 2018 | - | - | - | 9 | 9 | - | - | - | 6,000 | - | - | - | 6,017 |
| | 0903600 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **9** | **9** | **-** | **-** | **-** | **6,000** | **-** | **-** | **-** | **6,017** |
| 0903750 - 0903750 - Common - Operating - Cust Accts | 0903750 | 2018 | 1,673 | 10 | 1,237 | 0 | (9,344) | (1,437) | 0 | 2,479 | 118 | 0 | 0 | 0 | (5,262) |
| | 0903750 | 2017 | 434 | (530) | 1,372 | 9 | 773 | 790 | (1,341) | 2,161 | (170) | 73 | (251) | (477) | 2,843 |
| | Increase/(Decrease) | | **1,240** | **540** | **(134)** | **(9)** | **(10,117)** | **(2,227)** | **1,341** | **318** | **288** | **(73)** | **251** | **477** | **(8,105)** |
| 0904000 - 0904000 - Uncollectible Accounts | 0904000 | 2018 | 1,523,733 | - | 819,114 | 1,055,513 | 2,611,069 | 1,537,769 | 2,097,412 | 1,175,070 | 1,401,438 | 1,203,954 | 1,820,275 | 1,349,560 | 16,594,908 |
| | 0904000 | 2017 | 1,179,559 | 458,219 | 327,718 | 861,868 | 1,417,928 | 1,027,071 | 1,085,782 | 886,037 | 703,688 | 775,621 | 3,146,980 | 955,887 | 12,826,359 |
| | Increase/(Decrease) | | **344,174** | **(458,219)** | **491,395** | **193,645** | **1,193,142** | **510,698** | **1,011,630** | **289,033** | **697,750** | **428,334** | **(1,326,705)** | **393,673** | **3,768,548** |
| 0905000 - 0905000 - Misc Customer Accts Expenses | 0905000 | 2018 | 21,836 | 17,610 | 26,334 | 18,790 | 18,100 | 26,101 | 25,107 | 35,829 | 19,788 | 19,055 | 16,370 | 19,790 | 264,709 |
| | 0905000 | 2017 | 26,528 | 31,863 | 51,500 | 33,466 | 28,736 | 30,243 | 28,382 | 31,059 | 39,580 | 22,864 | 19,209 | 23,907 | 367,337 |
| | Increase/(Decrease) | | **(4,692)** | **(14,253)** | **(25,166)** | **(14,676)** | **(10,635)** | **(4,143)** | **(3,275)** | **4,770** | **(19,792)** | **(3,809)** | **(2,839)** | **(4,117)** | **(102,628)** |
| 0904001 - 0904001 - Bad Debt Expense | 0904001 | 2018 | 11,647 | - | (9,538) | 6,587 | 30,736 | (16,875) | 7,697 | 28,419 | (7,697) | - | - | (8,197) | 42,779 |
| | 0904001 | 2017 | 9,952 | (10,437) | (698) | (559) | (428) | (428) | - | - | 10,942 | 36,881 | - | (1,112,659) | (1,067,435) |
| | Increase/(Decrease) | | **1,695** | **10,437** | **(8,840)** | **7,146** | **31,164** | **(16,447)** | **7,697** | **28,419** | **(18,638)** | **(36,881)** | **-** | **1,104,463** | **1,110,214** |
| 0908150 - 0908150 - Commer/Indust Assistance Exp | 0908150 | 2018 | 925 | (9) | 61 | - | - | - | - | - | - | - | 187 | - | 1,164 |
| | 0908150 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **925** | **(9)** | **61** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **187** | **-** | **1,164** |
| 0909650 - 0909650 - Misc Advertising Expenses | 0909650 | 2018 | 18,429 | 2,279 | 6,359 | 22,025 | 522 | 531 | - | 11,561 | 6,935 | 20,691 | 21,316 | 38,852 | 149,499 |
| | 0909650 | 2017 | 19,279 | - | 2,544 | 30,621 | 10,164 | 11 | 128 | 11,479 | 6,996 | - | 17,907 | 6,050 | 105,180 |
| | Increase/(Decrease) | | **(850)** | **2,279** | **3,815** | **(8,596)** | **(9,642)** | **519** | **(128)** | **82** | **(62)** | **20,691** | **3,409** | **32,802** | **44,318** |
| 0910000 - 0910000 - Misc Cust Serv/Inform Exp | 0910000 | 2018 | 1,012,959 | 1,134,668 | 1,212,219 | 1,204,592 | 1,204,997 | 1,191,874 | 1,127,386 | 1,262,498 | 1,335,330 | 1,058,740 | 1,289,705 | 1,548,813 | 14,583,781 |
| | 0910000 | 2017 | 1,239,205 | 1,674,825 | 1,241,480 | 924,341 | 1,360,031 | 715,341 | 1,618,345 | 648,110 | 1,129,450 | 1,095,661 | 1,289,230 | 1,328,049 | 14,264,067 |
| | Increase/(Decrease) | | **(226,246)** | **(540,157)** | **(29,261)** | **280,251** | **(155,034)** | **476,532** | **(490,959)** | **614,388** | **205,880** | **(36,920)** | **475** | **220,765** | **319,714** |
| 0910100 - 0910100 - Exp - Rs Reg Prod/Svces - Cstaccts | 0910100 | 2018 | 329,187 | 390,569 | 390,961 | 320,379 | 351,428 | 432,150 | 286,734 | 297,062 | 498,784 | 393,758 | 316,048 | 560,571 | 4,567,631 |
| | 0910100 | 2017 | 503,363 | 498,361 | 263,589 | 670,487 | 603,156 | 571,658 | 456,592 | 456,914 | 1,158,316 | 515,215 | (24,857) | 678,137 | 6,350,931 |
| | Increase/(Decrease) | | (174,176) | (107,792) | 127,373 | (350,108) | (251,728) | (139,508) | (169,859) | (159,853) | (659,532) | (121,457) | 340,906 | (117,566) | (1,783,300) |
| 0908000 - 0908000 - Cust Asst Exp-Conservation Programs - Rec | 0908000 | 2018 | 84 | - | 22 | 2 | 114 | 461 | 279 | 444 | 406 | 225 | 421 | 584 | 3,041 |
| | 0908000 | 2017 | - | 33 | 1 | - | 48 | 9 | 2 | 89 | - | - | 35 | 103 | 320 |
| | Increase/(Decrease) | | **84** | **(33)** | **21** | **2** | **66** | **452** | **277** | **355** | **406** | **225** | **386** | **481** | **2,722** |
| 0580000 - 0580000 - Supervsn and Engring - Dist Oper | 0580000 | 2018 | 64,976 | 114,830 | 105,047 | 113,031 | 91,799 | 127,926 | 108,531 | 92,820 | 117,209 | 91,919 | 85,290 | 94,052 | 1,207,429 |
| | 0580000 | 2017 | 39,809 | 36,008 | 126,794 | 39,201 | 38,971 | 51,443 | 56,013 | 50,293 | 46,683 | 62,630 | 62,618 | 57,484 | 667,947 |
| | Increase/(Decrease) | | **25,167** | **78,822** | **(21,748)** | **73,830** | **52,828** | **76,483** | **52,518** | **42,527** | **70,526** | **29,289** | **22,672** | **36,568** | **539,482** |
| 0582100 - 0582100 - Station Expenses - Other - Dist | 0582100 | 2018 | 75,869 | 44,255 | 56,799 | 50,177 | 106,340 | 252,670 | 79,274 | 111,354 | 46,586 | 189,517 | 85,616 | 183,430 | 1,281,887 |
| | 0582100 | 2017 | 195,789 | 173,820 | 271,188 | 137,041 | 129,993 | 149,868 | 203,100 | 119,380 | 96,607 | 68,802 | 59,948 | 104,798 | 1,710,333 |
| | Increase/(Decrease) | | **(119,920)** | **(129,565)** | **(214,389)** | **(86,864)** | **(23,652)** | **102,802** | **(123,826)** | **(8,026)** | **(50,021)** | **120,715** | **25,668** | **78,632** | **(428,447)** |
| 0582200 - 0582200 - Relays and Meters - Dist | 0582200 | 2018 | - | - | - | - | - | - | - | - | - | - | 219 | - | 219 |
| | 0582200 | 2017 | - | 892 | - | - | - | - | - | - | - | - | - | - | 892 |
| | Increase/(Decrease) | | **-** | **(892)** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **219** | **-** | **(674)** |
| 0583100 - 0583100 - Overhead Line Exps - Other Dist | 0583100 | 2018 | 14,072 | 16,953 | 76,567 | 167,676 | 184,816 | 151,826 | 108,341 | 195,539 | 166,746 | 111,624 | 112,167 | 123,535 | 1,429,862 |
| | 0583100 | 2017 | 171,548 | 389,942 | 353,423 | 367,696 | 306,765 | 308,223 | 331,152 | 257,818 | 101,265 | 24,959 | 17,645 | 11,599 | 2,642,035 |
| | Increase/(Decrease) | | **(157,476)** | **(372,989)** | **(276,856)** | **(200,020)** | **(121,949)** | **(156,397)** | **(222,811)** | **(62,279)** | **65,481** | **86,665** | **94,522** | **111,936** | **(1,212,173)** |
| 0583200 - 0583200 - Transf Set Rem Reset Test - Dist | 0583200 | 2018 | 15,780 | 149,781 | 48,439 | 41,300 | 171,679 | 233,318 | 43,817 | 55,033 | 155,983 | 210,445 | 73,589 | 351,881 | 1,551,043 |
| | 0583200 | 2017 | 21,587 | 110,954 | 37,760 | 32,209 | 34,023 | 134,802 | 17,491 | 34,512 | 132,184 | 127,747 | (82,037) | 26,671 | 627,905 |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Increase/(Decrease) | | (5,808) | 38,827 | 10,678 | 9,091 | 137,656 | 98,516 | 26,326 | 20,521 | 23,799 | 82,697 | 155,626 | 325,210 | 923,138 |
| 0584000 - 0584000 - Underground Line Expenses - Dist | 0584000 | 2018 | 683,529 | 405,281 | 1,311,473 | 1,223,549 | 1,093,676 | 888,449 | 835,684 | 1,044,111 | 986,510 | 1,152,146 | 852,935 | 998,651 | 11,475,994 |
| | 0584000 | 2017 | 1,290,040 | (1,460) | 1,793,639 | 989,512 | 925,727 | 898,090 | 1,019,244 | (92,136) | 1,477,249 | 552,955 | 1,228,360 | 1,038,638 | 11,119,860 |
| | Increase/(Decrease) | | (606,512) | 406,740 | (482,167) | 234,038 | 167,950 | (9,641) | (183,560) | 1,136,246 | (490,739) | 599,191 | (375,425) | (39,987) | 356,134 |
| 0585000 - 0585000 - St Lghtng and Sgnl Systm - Dist | 0585000 | 2018 | 85,089 | 69,648 | 105,203 | 115,664 | 74,593 | 11,636 | 2,045 | 4,896 | 4,469 | 5,169 | 5,129 | 8,493 | 492,035 |
| | 0585000 | 2017 | 53,007 | 111,452 | 82,952 | 121,390 | 133,892 | 36,054 | 146,791 | 90,913 | 76,449 | 109,071 | 36,726 | 170,025 | 1,168,723 |
| | Increase/(Decrease) | | 32,082 | (41,804) | 22,252 | (5,727) | (59,299) | (24,418) | (144,746) | (86,018) | (71,980) | (103,902) | (31,596) | (161,532) | (676,688) |
| 0586000 - 0586000 - Meter Expenses - Dist | 0586000 | 2018 | 892,881 | 1,019,424 | 1,112,371 | 853,343 | 1,081,169 | 883,725 | 898,139 | 1,118,716 | 496,108 | 846,329 | 655,121 | 851,730 | 10,709,054 |
| | 0586000 | 2017 | 1,387,825 | 1,338,264 | 1,350,641 | 1,767,404 | 1,524,021 | 1,231,248 | 1,591,064 | 1,585,081 | 1,272,824 | 1,045,089 | 999,510 | 929,565 | 16,022,534 |
| | Increase/(Decrease) | | (494,943) | (318,840) | (238,270) | (914,060) | (442,852) | (347,523) | (692,925) | (466,365) | (776,716) | (198,760) | (344,389) | (77,835) | (5,313,479) |
| 0587000 - 0587000 - Cust Install Exp - Other Dist | 0587000 | 2018 | 952,424 | 856,253 | 1,094,755 | 804,697 | 847,209 | 874,941 | 864,506 | 1,247,139 | 756,664 | 747,770 | 852,707 | 627,218 | 10,526,283 |
| | 0587000 | 2017 | 473,535 | 422,209 | 575,097 | 435,418 | 493,946 | 503,891 | 567,303 | 525,312 | 578,812 | 902,489 | 901,990 | 1,067,235 | 7,447,237 |
| | Increase/(Decrease) | | 478,889 | 434,044 | 519,657 | 369,279 | 353,263 | 371,050 | 297,203 | 721,827 | 177,853 | (154,719) | (49,283) | (440,017) | 3,079,046 |
| 0587100 - 0587100 - Lcd - Opting and Installing - Dist | 0587100 | 2018 | - | - | - | - | - | - | 130 | - | - | - | - | - | 130 |
| | 0587100 | 2017 | - | 672 | 162 | - | 260 | - | - | 227 | 235 | - | 441 | - | 1,997 |
| | Increase/(Decrease) | | - | (672) | (162) | - | (260) | - | 130 | (227) | (235) | - | (441) | - | (1,867) |
| 0588100 - 0588100 - Misc Distribution Exp - Other | 0588100 | 2018 | 5,596,687 | 2,917,371 | 3,980,392 | 3,697,151 | 3,683,819 | 3,286,990 | 3,487,069 | 3,728,338 | 3,322,588 | 3,986,740 | 3,910,262 | 5,892,826 | 47,490,235 |
| | 0588100 | 2017 | 2,641,860 | 3,917,702 | 3,953,832 | 3,736,974 | 3,329,464 | 3,273,482 | 3,375,002 | 3,838,553 | 4,336,463 | 5,298,786 | 2,236,163 | 5,357,719 | 45,296,000 |
| | Increase/(Decrease) | | 2,954,828 | (1,000,331) | 26,560 | (39,822) | 354,355 | 13,508 | 112,067 | (110,215) | (1,013,874) | (1,312,047) | 1,674,099 | 535,107 | 2,194,234 |
| 0588300 - 0588300 - Load Mang - Gen and Control - Dist | 0588300 | 2018 | 652 | 333 | - | - | 3,993 | - | - | 441 | - | - | - | - | 5,419 |
| | 0588300 | 2017 | 10,469 | 5,947 | 9,946 | 22,061 | 5,215 | 5,532 | 5,682 | 6,697 | 16,770 | 3,733 | 8,872 | 584 | 101,508 |
| | Increase/(Decrease) | | (9,817) | (5,614) | (9,946) | (22,061) | (1,222) | (5,532) | (5,682) | (6,256) | (16,770) | (3,733) | (8,872) | (584) | (96,089) |
| 0589000 - 0589000 - Rents - Dist Oper | 0589000 | 2018 | 16,000 | 30,073 | - | 4,602 | 17,186 | 2,111 | 2,280 | 4,850 | - | - | 1,815 | 38,979 | 117,896 |
| | 0589000 | 2017 | 49,890 | - | 43,654 | - | 14,400 | 4,051 | 2,378 | 629 | 45 | - | 74,171 | 62,825 | 252,043 |
| | Increase/(Decrease) | | (33,890) | 30,073 | (43,654) | 4,602 | 2,786 | (1,940) | (98) | 4,221 | (45) | - | (72,357) | (23,846) | (134,148) |
| 0581004 - 0581004 - Load Dispatch-Dist of Elec | 0581004 | 2018 | 707,248 | 642,625 | 901,602 | 660,776 | 666,689 | 660,081 | 664,760 | 937,415 | 632,896 | 609,693 | 637,802 | 704,137 | 8,425,724 |
| | 0581004 | 2017 | 617,666 | 643,412 | 902,225 | 668,218 | 676,386 | (2,171) | 753,620 | 454,839 | 1,155,043 | 238,100 | 592,220 | 616,177 | 7,315,735 |
| | Increase/(Decrease) | | 89,582 | (787) | (623) | (7,442) | (9,696) | 662,252 | (88,860) | 482,577 | (522,148) | 371,593 | 45,582 | 87,960 | 1,109,989 |
| 0535000 - 0535000 - Supervsn and Engrng - Hydro Oper | 0535000 | 2018 | 602,364 | 830,307 | 689,832 | 599,126 | 739,244 | 746,833 | 616,554 | 575,041 | 594,567 | 615,632 | 1,330,140 | 706,360 | 8,646,000 |
| | 0535000 | 2017 | 403,203 | 534,598 | 600,954 | 579,383 | 782,966 | 654,630 | 653,919 | 501,366 | 645,894 | 631,805 | 777,617 | 885,993 | 7,652,327 |
| | Increase/(Decrease) | | 199,161 | 295,710 | 88,878 | 19,743 | (43,723) | 92,203 | (37,365) | 73,676 | (51,327) | (16,173) | 552,523 | (179,633) | 993,673 |
| 0537100 - 0537100 - Hydraulic Expenses | 0537100 | 2018 | 1,078 | 1,964 | 4,051 | 1,565 | 53,165 | 17,672 | 1,513 | 10,023 | 1,228 | 917 | 1,185 | 923 | 95,283 |
| | 0537100 | 2017 | 2,146 | 1,270 | 1,068 | 1,168 | 1,056 | 1,211 | 1,016 | 3,697 | 1,935 | 965 | 1,323 | 1,198 | 18,053 |
| | Increase/(Decrease) | | (1,068) | 694 | 2,983 | 397 | 52,110 | 16,461 | 496 | 6,325 | (707) | (48) | (138) | (275) | 77,229 |
| 0537400 - 0537400 - Recreation Expenses - Hydro | 0537400 | 2018 | 34,591 | 123,773 | (1,907,014) | 106,490 | 102,224 | 61,309 | 116,100 | 49,056 | 72,622 | 97,659 | 73,657 | 41,312 | (1,028,221) |
| | 0537400 | 2017 | 76,234 | 74,209 | (1,788,777) | 155,704 | 62,100 | 120,091 | 79,277 | 21,462 | 88,830 | 95,549 | 98,705 | 68,226 | (848,389) |
| | Increase/(Decrease) | | (41,643) | 49,564 | (118,237) | (49,214) | 40,123 | (58,782) | 36,823 | 27,595 | (16,208) | 2,109 | (25,049) | (26,914) | (179,832) |
| 0538100 - 0538100 - Electric Expenses - Other - Hydro | 0538100 | 2018 | 494,480 | 468,745 | 588,552 | 439,555 | 417,713 | 431,566 | 467,049 | 603,148 | 436,027 | 385,622 | 410,341 | 469,584 | 5,612,382 |
| | 0538100 | 2017 | 455,712 | 436,525 | 532,728 | 540,761 | 364,087 | 394,299 | 432,149 | 412,953 | 552,514 | 565,544 | 442,401 | 483,539 | 5,613,211 |
| | Increase/(Decrease) | | 38,768 | 32,220 | 55,824 | (101,206) | 53,626 | 37,266 | 34,900 | 190,195 | (116,486) | (179,922) | (32,060) | (13,954) | (830) |
| 0539000 - 0539000 - Misc Hydraulic Expenses | 0539000 | 2018 | 682,265 | 720,748 | 857,714 | 865,352 | 642,482 | 721,786 | 682,707 | 772,478 | 695,578 | 498,778 | 682,360 | 856,341 | 8,678,588 |
| | 0539000 | 2017 | 652,148 | 643,889 | 768,464 | 736,011 | 676,827 | 729,457 | 683,663 | 621,280 | 1,063,471 | 783,105 | 723,134 | 870,290 | 8,951,738 |
| | Increase/(Decrease) | | 30,116 | 76,859 | 89,251 | 129,340 | (34,346) | (7,671) | (955) | 151,198 | (367,892) | (284,328) | (40,774) | (13,949) | (273,150) |
| 0517000 - 0517000 - Supervsn and Engnring - Nuc Oper | 0517000 | 2018 | 2,693,545 | 2,722,104 | 3,155,639 | 2,905,672 | 3,040,545 | 3,302,050 | 3,382,980 | 3,425,420 | 3,026,494 | 3,102,173 | 2,775,622 | 3,124,172 | 36,656,416 |
| | 0517000 | 2017 | 3,197,768 | 2,657,546 | 3,423,207 | 3,427,198 | 2,735,872 | 2,939,837 | 3,159,871 | 2,937,148 | 3,332,240 | 3,069,708 | 2,716,586 | 2,821,122 | 36,418,104 |
| | Increase/(Decrease) | | (504,223) | 64,558 | (267,569) | (521,527) | 304,673 | 362,213 | 223,109 | 488,273 | (305,746) | 32,465 | 59,036 | 303,050 | 238,312 |
| 0518510 - 0518510 - Oil in Aux Stm Gen Fac - Nuc Opr | 0518510 | 2018 | 1,243 | 1,241 | 347 | 948 | 970 | 686 | 1,545 | 926 | 3,125 | 190 | (742) | 940 | 11,419 |
| | 0518510 | 2017 | 50 | 1,317 | 237 | 533 | 173 | 1,388 | 455 | 1,756 | 797 | 597 | 763 | - | 8,067 |
| | Increase/(Decrease) | | 1,193 | (76) | 110 | 415 | 797 | (702) | 1,090 | (830) | 2,328 | (407) | (1,505) | 940 | 3,353 |
| 0518530 - 0518530 - Diesel Unit Oil Cons - Nuc Oper | 0518530 | 2018 | 5,013 | 9,324 | 11,357 | 21,490 | 3,070 | 8,179 | 5,856 | 23,487 | 4,099 | 14,300 | (8,124) | 8,936 | 106,987 |
| | 0518530 | 2017 | 18,570 | 52,933 | 3,539 | 5,823 | 28,170 | 24,587 | 33,105 | 35,508 | 1,243 | 31,003 | 1,207 | (5,173) | 230,515 |
| | Increase/(Decrease) | | (13,557) | (43,609) | 7,817 | 15,667 | (25,100) | (16,408) | (27,249) | (12,021) | 2,857 | (16,702) | (9,331) | 14,109 | (123,527) |
| 0519000 - 0519000 - Coolants and Water - Nuc Oper | 0519000 | 2018 | 814,777 | 645,409 | 819,119 | 758,235 | 712,213 | 657,239 | 739,251 | 823,222 | 667,394 | 800,691 | 957,400 | 696,392 | 9,091,343 |
| | 0519000 | 2017 | 790,057 | 660,329 | 801,504 | 719,544 | 789,423 | 701,849 | 574,303 | 696,704 | 912,802 | 794,023 | 694,716 | 753,708 | 8,888,962 |
| | Increase/(Decrease) | | 24,720 | (14,920) | 17,615 | 38,692 | (77,209) | (44,610) | 164,948 | 126,518 | (245,407) | 6,668 | 262,684 | (57,317) | 202,382 |
| 0520000 - 0520000 - Steam Expenses - Nuc Oper | 0520000 | 2018 | 2,892,383 | 2,703,719 | 4,983,992 | 2,827,615 | 4,278,126 | 2,606,104 | 3,998,166 | 3,443,833 | 5,485,745 | 4,842,203 | 4,768,939 | 3,361,836 | 46,192,663 |
| | 0520000 | 2017 | 2,868,687 | 3,401,123 | 5,975,601 | 4,365,591 | 3,843,192 | 3,809,873 | 2,968,899 | 3,111,545 | 6,368,453 | 5,892,798 | 5,689,843 | 1,876,109 | 50,171,714 |
| | Increase/(Decrease) | | 23,696 | (697,404) | (991,609) | (1,537,976) | 434,934 | (1,203,768) | 1,029,267 | 332,288 | (882,707) | (1,050,595) | (920,904) | 1,485,728 | (3,979,051) |
| 0523000 - 0523000 - Electric Expenses | 0523000 | 2018 | 1,470,376 | 1,581,127 | 2,232,731 | 1,732,567 | 2,267,087 | 1,595,688 | 1,577,061 | 2,117,860 | 1,507,224 | 1,679,621 | 1,983,149 | 1,577,393 | 21,321,886 |
| | 0523000 | 2017 | 1,517,522 | 1,671,057 | 2,532,287 | 1,761,553 | 1,598,640 | 1,596,943 | 1,576,499 | 1,555,366 | 2,176,815 | 1,666,435 | 2,128,593 | 1,724,235 | 21,505,945 |
| | Increase/(Decrease) | | (47,146) | (89,929) | (299,556) | (28,986) | 668,447 | (1,255) | 562 | 562,494 | (669,591) | 13,186 | (145,444) | (146,842) | (184,059) |
| 0524000 - 0524000 - Misc Expenses - Nuc Oper | 0524000 | 2018 | 16,209,208 | 14,690,141 | 16,072,110 | 17,174,853 | 15,642,897 | 13,612,804 | 16,034,019 | 15,186,604 | 14,648,259 | 14,060,043 | 16,124,228 | 10,049,443 | 179,504,609 |
| | 0524000 | 2017 | 15,365,040 | 15,697,054 | 18,040,959 | 15,019,281 | 14,888,561 | 13,239,830 | 18,910,645 | 11,867,772 | 9,705,734 | 15,324,578 | 15,347,435 | 19,300,218 | 182,707,106 |
| | Increase/(Decrease) | | 844,168 | (1,006,913) | (1,968,849) | 2,155,572 | 754,336 | 372,974 | (2,876,626) | 3,318,832 | 4,942,525 | (1,264,534) | 776,793 | (9,250,775) | (3,202,498) |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0517001 - 0517001 - Sup and Engineer - NC | 0517001 | 2018 | 50,993 | 52,142 | 33,157 | (8,332) | (78,517) | 45,563 | 57,872 | 57,872 | (109,492) | (122,589) | (38,304) | (952) | (60,586) |
| | 0517001 | 2017 | 77,263 | 77,263 | 21,746 | (139,974) | (35,969) | 50,635 | 63,441 | 63,441 | (48,321) | (171,905) | (43,166) | 14,898 | (70,648) |
| | Increase/(Decrease) | | **(26,270)** | **(25,121)** | **11,412** | **131,643** | **(42,548)** | **(5,072)** | **(5,569)** | **(5,569)** | **(61,171)** | **49,316** | **4,862** | **(15,850)** | **10,062** |
| 0517002 - 0517002 - Sup and Engineer - SC | 0517002 | 2018 | 19,965 | 18,345 | 11,527 | (3,324) | (28,462) | 16,046 | 20,507 | 20,507 | (39,437) | (44,128) | (13,940) | (474) | (22,868) |
| | 0517002 | 2017 | 25,762 | 25,762 | 6,873 | (48,148) | (12,764) | 16,941 | 21,327 | 21,327 | (18,182) | (61,869) | (16,359) | (481) | (39,811) |
| | Increase/(Decrease) | | **(5,796)** | **(7,417)** | **4,654** | **44,824** | **(15,698)** | **(894)** | **(820)** | **(820)** | **(21,256)** | **17,741** | **2,419** | **7** | **16,943** |
| 0519001 - 0519001 - Coolants and Water - NC | 0519001 | 2018 | 8,025 | 8,518 | 2,296 | (14,149) | (3,744) | 8,959 | 8,665 | 3,296 | (5,322) | (32,759) | (12,865) | (3,491) | (32,571) |
| | 0519001 | 2017 | 10,639 | 10,639 | 97 | (18,273) | (11,300) | 6,381 | 10,061 | 10,061 | 4,711 | (24,096) | (2,248) | 1,641 | (1,687) |
| | Increase/(Decrease) | | **(2,615)** | **(2,121)** | **2,199** | **4,124** | **7,556** | **2,578** | **(1,395)** | **(6,765)** | **(10,033)** | **(8,663)** | **(10,617)** | **(5,132)** | **(30,884)** |
| 0519002 - 0519002 - Coolants and Water - SC | 0519002 | 2018 | 3,139 | 2,986 | 757 | (5,132) | (1,406) | 3,160 | 3,073 | 1,150 | (1,937) | (11,764) | (4,639) | (1,268) | (11,882) |
| | 0519002 | 2017 | 3,556 | 3,556 | (31) | (6,280) | (3,909) | 2,131 | 3,389 | 3,389 | 1,498 | (8,685) | (962) | (385) | (2,734) |
| | Increase/(Decrease) | | **(417)** | **(569)** | **789** | **1,148** | **2,503** | **1,029** | **(317)** | **(2,240)** | **(3,435)** | **(3,079)** | **(3,677)** | **(883)** | **(9,147)** |
| 0520001 - 0520001 - Steam Exp Nuc Op - NC | 0520001 | 2018 | 418,284 | 47,412 | 592,390 | (255,563) | (460,402) | 172,075 | 422,404 | 365,374 | (665,625) | (753,068) | (603,272) | 166,215 | (553,775) |
| | 0520001 | 2017 | 511,043 | 511,043 | (183,293) | (557,667) | 28,237 | 449,694 | 457,705 | 386,324 | (435,581) | (896,646) | (1,287,862) | 317,451 | (699,551) |
| | Increase/(Decrease) | | **(92,759)** | **(463,631)** | **775,682** | **302,104** | **(488,639)** | **(277,619)** | **(35,301)** | **(20,951)** | **(230,044)** | **143,578** | **684,591** | **(151,237)** | **145,776** |
| 0520002 - 0520002 - Steam Exp Nuc Op - SC | 0520002 | 2018 | 157,928 | 15,380 | 206,954 | (94,944) | (168,310) | 58,648 | 149,744 | 129,318 | (239,950) | (271,269) | (217,617) | 58,480 | (215,638) |
| | 0520002 | 2017 | 170,842 | 170,842 | (65,392) | (192,766) | 6,577 | 151,115 | 154,024 | 129,738 | (162,706) | (324,748) | (463,045) | 77,151 | (348,367) |
| | Increase/(Decrease) | | **(12,914)** | **(155,463)** | **272,346** | **97,822** | **(174,886)** | **(92,467)** | **(4,280)** | **(420)** | **(77,244)** | **53,478** | **245,427** | **(18,671)** | **132,729** |
| 0523001 - 0523001 - Electric Exp - NC | 0523001 | 2018 | 45,836 | 46,027 | 42,874 | (60,241) | (418,722) | 45,796 | 54,271 | 51,559 | 26,709 | (27,379) | (240,173) | 44,376 | (389,065) |
| | 0523001 | 2017 | 45,947 | 45,947 | 36,725 | 9,818 | 27,089 | 41,497 | 43,950 | 43,864 | 25,002 | (3,745) | (361,703) | (95,966) | (141,577) |
| | Increase/(Decrease) | | **(111)** | **80** | **6,150** | **(70,059)** | **(445,811)** | **4,300** | **10,320** | **7,695** | **1,708** | **(23,635)** | **121,531** | **140,342** | **(247,488)** |
| 0523002 - 0523002 - Electric Exp - SC | 0523002 | 2018 | 16,323 | 16,053 | 14,922 | (22,412) | (150,405) | 15,980 | 19,298 | 19,298 | 9,426 | (9,946) | (86,161) | 15,769 | (141,856) |
| | 0523002 | 2017 | 15,411 | 15,411 | 12,274 | 3,118 | 8,995 | 13,936 | 14,667 | 14,667 | 8,082 | (2,080) | (128,626) | (37,109) | (61,254) |
| | Increase/(Decrease) | | **912** | **642** | **2,648** | **(25,530)** | **(159,400)** | **2,044** | **4,631** | **4,631** | **1,344** | **(7,866)** | **42,465** | **52,878** | **(80,602)** |
| 0524001 - 0524001 - Misc Exp Nuc - NC | 0524001 | 2018 | 56,923 | 58,817 | 36,662 | (80,368) | (705,003) | 457,964 | 67,408 | 61,105 | (12,702) | (153,366) | (1,668,739) | 1,654,473 | (226,825) |
| | 0524001 | 2017 | 84,996 | 84,996 | 26,780 | (257,029) | 91,732 | 49,374 | 55,865 | 45,627 | (133) | (98,275) | (163,668) | 30,559 | (49,176) |
| | Increase/(Decrease) | | **(28,072)** | **(26,179)** | **9,882** | **176,662** | **(796,735)** | **408,590** | **11,542** | **15,478** | **(12,569)** | **(55,091)** | **(1,505,071)** | **1,623,914** | **(177,649)** |
| 0524002 - 0524002 - Misc Exp Nuc - SC | 0524002 | 2018 | 30,499 | 29,148 | 4,075 | (29,272) | (252,994) | 163,612 | 23,936 | 21,679 | (4,664) | (55,137) | (597,891) | 590,944 | (76,067) |
| | 0524002 | 2017 | 37,822 | 37,822 | 18,015 | (78,545) | 40,113 | 26,045 | 28,292 | 24,809 | 8,360 | (26,197) | (49,314) | 14,185 | 81,405 |
| | Increase/(Decrease) | | **(7,323)** | **(8,674)** | **(13,940)** | **49,273** | **(293,107)** | **137,567** | **(4,356)** | **(3,130)** | **(13,024)** | **(28,940)** | **(548,577)** | **576,759** | **(157,472)** |
| 0557000 - 0557000 - Other Expenses - Oper | 0557000 | 2018 | 13,822,504 | 14,462,990 | 10,967,418 | 10,299,268 | 11,717,326 | 13,544,892 | 15,608,252 | 17,288,432 | 12,911,203 | 16,268,648 | 13,187,565 | 15,561,117 | 165,639,614 |
| | 0557000 | 2017 | 14,132,358 | 14,667,325 | 18,295,485 | 32,539,747 | 16,373,061 | 14,228,501 | 15,939,851 | 15,967,612 | 14,360,188 | 13,297,109 | 13,385,289 | 15,204,010 | 198,390,535 |
| | Increase/(Decrease) | | **(309,854)** | **(204,335)** | **(7,328,067)** | **(22,240,480)** | **(4,655,735)** | **(683,609)** | **(331,599)** | **1,320,820** | **(1,448,985)** | **2,971,539** | **(197,725)** | **357,107** | **(32,750,921)** |
| 0401100 - 0401100 - Non-reg Operation Expense | 0401100 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0401100 | 2017 | 172 | - | - | - | (2,275) | - | - | - | - | - | - | 2,103 | - |
| | Increase/(Decrease) | | **(172)** | **-** | **-** | **-** | **2,275** | **-** | **-** | **-** | **-** | **-** | **-** | **(2,103)** | **-** |
| 0556000 - 0556000 - System Cents and Load Dispatching | 0556000 | 2018 | 8 | - | 683 | 184 | - | 430 | 320 | 256 | 28,861 | 464 | 835 | - | 32,042 |
| | 0556000 | 2017 | (639) | 280 | 372 | - | 187 | 341 | - | 31 | - | - | 64 | 7,286 | 7,922 |
| | Increase/(Decrease) | | **647** | **(280)** | **311** | **184** | **(187)** | **89** | **320** | **225** | **28,861** | **464** | **771** | **(7,286)** | **24,119** |
| 0911000 - 0911000 - Supervision | 0911000 | 2018 | - | 265 | 458 | 744 | - | 420 | 382 | 413 | 389 | 729 | - | 984 | 4,784 |
| | 0911000 | 2017 | - | - | - | - | - | - | - | 50 | - | - | - | 217 | 267 |
| | Increase/(Decrease) | | **-** | **265** | **458** | **744** | **-** | **420** | **382** | **363** | **389** | **729** | **-** | **766** | **4,517** |
| 0912000 - 0912000 - Demonstrating and Selling Exp | 0912000 | 2018 | 826,474 | 858,405 | 1,070,233 | 1,294,029 | 996,956 | 1,120,976 | 1,050,186 | 1,062,833 | 1,440,042 | 1,240,024 | 1,112,917 | 1,531,967 | 13,605,042 |
| | 0912000 | 2017 | 727,051 | 793,446 | 855,621 | 732,303 | 809,531 | 801,233 | 869,088 | 892,074 | 1,184,169 | 760,304 | 968,408 | 1,396,439 | 10,789,667 |
| | Increase/(Decrease) | | **99,423** | **64,959** | **214,612** | **561,726** | **187,425** | **319,743** | **181,098** | **170,759** | **255,873** | **479,719** | **144,509** | **135,528** | **2,815,375** |
| 0913001 - 0913001 - Advertising Expense | 0913001 | 2018 | 19,977 | 34,168 | 60,415 | 53,318 | 87,451 | 102,841 | 1,236 | 70,115 | 86,251 | (75,675) | 35,362 | 89,968 | 565,426 |
| | 0913001 | 2017 | 60,288 | 23,261 | 36,012 | 37,459 | 71,162 | (223) | 106,635 | 80,956 | 115,644 | 56,261 | 100,668 | 104,966 | 793,089 |
| | Increase/(Decrease) | | (40,311) | 10,907 | 24,404 | 15,859 | 16,289 | 103,063 | (105,400) | (10,841) | (29,393) | (131,936) | (65,306) | (14,998) | (227,664) |
| 0916000 - 0916000 - Miscellaneous Sales Expense | 0916000 | 2018 | - | - | - | - | - | - | - | 7,551 | 13,775 | 15,257 | 19,391 | 2,914 | 58,889 |
| | 0916000 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **7,551** | **13,775** | **15,257** | **19,391** | **2,914** | **58,889** |
| 0500000 - 0500000 - Suprvsn and Engrg - Steam Oper | 0500000 | 2018 | 1,296,561 | 1,143,008 | 1,238,281 | 1,258,926 | 1,186,228 | 1,260,918 | 1,010,655 | 1,202,998 | 1,068,583 | 977,658 | 1,008,516 | 1,454,624 | 14,106,955 |
| | 0500000 | 2017 | 1,346,688 | 1,274,227 | 1,245,226 | 1,137,661 | 1,135,457 | 1,231,030 | 1,342,728 | 1,269,835 | 1,320,722 | 1,282,362 | 1,034,797 | 1,196,815 | 14,817,549 |
| | Increase/(Decrease) | | **(50,127)** | **(131,219)** | **(6,944)** | **121,265** | **50,771** | **29,888** | **(332,074)** | **(66,838)** | **(252,138)** | **(304,704)** | **(26,282)** | **257,808** | **(710,593)** |
| 0501150 - 0501150 - Coal Handling | 0501150 | 2018 | 700,966 | 659,805 | 775,609 | 566,821 | 1,232,773 | 632,471 | 666,222 | 890,771 | 677,242 | 765,288 | 748,518 | 730,709 | 9,047,197 |
| | 0501150 | 2017 | 730,805 | 734,212 | 850,604 | 695,550 | 811,698 | 751,188 | 857,575 | 807,227 | 912,415 | 754,984 | 695,388 | 572,004 | 9,173,649 |
| | Increase/(Decrease) | | **(29,839)** | **(74,407)** | **(74,995)** | **(128,729)** | **421,075** | **(118,716)** | **(191,353)** | **83,544** | **(235,173)** | **10,305** | **53,131** | **158,705** | **(126,452)** |
| 0501160 - 0501160 - Coal Sampling and Testing | 0501160 | 2018 | 6,785 | 29,927 | 5,493 | (21,657) | 29,413 | (35,403) | 19,335 | 17,433 | (3,835) | 10,303 | (20,063) | (6,228) | 31,504 |
| | 0501160 | 2017 | 107,561 | (86,370) | (22,099) | 11,791 | (33,583) | 38,388 | (8,884) | (16,598) | 46,382 | (19,001) | 2,008 | 40,599 | 60,194 |
| | Increase/(Decrease) | | **(100,775)** | **116,297** | **27,592** | **(33,447)** | **62,996** | **(73,792)** | **28,219** | **34,031** | **(50,217)** | **29,305** | **(22,070)** | **(46,827)** | **(28,690)** |
| 0501180 - 0501180 - Sale of Fly Ash - Revenues | 0501180 | 2018 | (83,332) | (154,689) | (59,322) | (3,269) | (69,960) | (139,954) | (131,416) | (178,391) | (99,112) | (58,082) | 257,700 | (73,895) | (793,723) |
| | 0501180 | 2017 | 6,934,127 | 7,317,574 | 7,390,243 | 7,580,834 | 7,362,424 | 6,878,827 | 14,833,718 | 14,312,336 | (74,103,413) | (82,065) | (34,085) | (108,738) | (1,718,217) |
| | Increase/(Decrease) | | **(7,017,459)** | **(7,472,263)** | **(7,449,565)** | **(7,584,103)** | **(7,432,384)** | **(7,018,781)** | **(14,965,135)** | **(14,490,728)** | **74,004,301** | **23,983** | **291,785** | **34,842** | **924,494** |
| 0501190 - 0501190 - Sale of Fly Ash - Expenses | 0501190 | 2018 | 598,374 | 332,843 | 78,789 | 451,093 | 281,753 | 606,115 | 180,847 | 264,867 | 1,242,689 | 32,499 | (63,401) | 289,950 | 4,296,418 |
| | 0501190 | 2017 | 503,361 | 366,352 | 327,190 | 222,351 | 310,933 | 507,692 | 205,461 | 197,361 | 821,727 | 133,636 | 545,941 | 341,585 | 4,483,591 |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Increase/(Decrease) | | **95,013** | **(33,510)** | **(248,401)** | **228,742** | **(29,180)** | **98,422** | **(24,613)** | **67,506** | **420,961** | **(101,137)** | **(609,341)** | **(51,635)** | **(187,173)** |
| 0502040 - 0502040 - Cost of Lime | 0502040 | 2018 | 2,393,471 | 839,085 | 1,610,972 | 1,100,998 | 1,872,920 | 2,530,992 | 2,108,932 | 2,013,724 | 1,864,982 | 951,881 | 961,632 | 1,345,043 | 19,594,631 |
| | 0502040 | 2017 | 1,650,732 | 761,535 | 1,382,326 | 1,712,076 | 1,686,611 | 1,841,806 | 2,651,375 | 2,353,962 | 1,476,925 | 1,315,905 | 1,025,394 | 1,101,725 | 18,960,371 |
| | Increase/(Decrease) | | **742,739** | **77,550** | **228,646** | **(611,078)** | **186,309** | **689,186** | **(542,444)** | **(340,238)** | **388,057** | **(364,024)** | **(63,762)** | **243,318** | **634,259** |
| 0502100 - 0502100 - Fossil Steam Exp - Other | 0502100 | 2018 | 1,988,031 | 1,688,785 | 2,533,091 | 1,270,090 | 1,695,498 | 1,664,707 | 1,604,350 | 2,334,499 | 1,611,818 | 1,381,383 | 1,393,512 | 1,898,682 | 21,064,445 |
| | 0502100 | 2017 | 1,797,337 | 1,798,125 | 2,264,155 | 1,527,480 | 1,578,614 | 1,681,923 | 1,681,168 | 1,818,607 | 2,210,559 | 1,913,306 | 1,813,255 | 1,951,706 | 22,036,236 |
| | Increase/(Decrease) | | **190,694** | **(109,340)** | **268,935** | **(257,390)** | **116,884** | **(17,216)** | **(76,818)** | **515,892** | **(598,741)** | **(531,924)** | **(419,743)** | **(53,025)** | **(971,791)** |
| 0505000 - 0505000 - Electric Expenses - Steam Oper | 0505000 | 2018 | 594,913 | 577,827 | 823,690 | 536,777 | 614,596 | 619,570 | 616,744 | 853,763 | 584,393 | 517,904 | 463,984 | 646,555 | 7,450,715 |
| | 0505000 | 2017 | 627,262 | 554,924 | 734,353 | 515,438 | 523,661 | 549,250 | 593,511 | 588,662 | 856,585 | 599,238 | 607,099 | 650,367 | 7,400,350 |
| | Increase/(Decrease) | | **(32,349)** | **22,903** | **89,337** | **21,339** | **90,934** | **70,320** | **23,233** | **265,102** | **(272,193)** | **(81,334)** | **(143,115)** | **(3,812)** | **50,365** |
| 0506000 - 0506000 - Misc Fossil Power Expenses | 0506000 | 2018 | 1,589,167 | 1,374,546 | 2,334,039 | 1,349,147 | 1,440,100 | 1,146,228 | 1,467,375 | 1,734,206 | 1,210,663 | 1,639,560 | 1,090,534 | 2,367,561 | 18,743,126 |
| | 0506000 | 2017 | 1,878,320 | 1,335,652 | 2,752,236 | 1,456,816 | 1,301,991 | 1,529,022 | 1,423,336 | 1,244,507 | 1,460,409 | 1,328,532 | 1,243,697 | 1,223,798 | 18,178,317 |
| | Increase/(Decrease) | | **(289,154)** | **38,894** | **(418,197)** | **(107,669)** | **138,110** | **(382,794)** | **44,039** | **489,699** | **(249,746)** | **311,028** | **(153,163)** | **1,143,763** | **564,809** |
| 0502020 - 0502020 - Ammonia - Qualifying | 0502020 | 2018 | 964,514 | 446,665 | (291,959) | 92,371 | 70,374 | 636,378 | 562,781 | 92,206 | 146,607 | 135,031 | 311,021 | (34,931) | 3,131,057 |
| | 0502020 | 2017 | 342,264 | 90,035 | 308,879 | 337,518 | 748,798 | 185,063 | 410,071 | 594,766 | 370,499 | 76,741 | 41,598 | 448,802 | 3,955,036 |
| | Increase/(Decrease) | | **622,250** | **356,630** | **(600,838)** | **(245,148)** | **(678,424)** | **451,315** | **152,710** | **(502,561)** | **(223,892)** | **58,290** | **269,423** | **(483,733)** | **(823,978)** |
| 0502030 - 0502030 - Urea - Qualifying | 0502030 | 2018 | 108,714 | 47,887 | 23,852 | 82,531 | 50,922 | 94,285 | 103,513 | 70,406 | 109,135 | 98,611 | 93,257 | 45,004 | 928,117 |
| | 0502030 | 2017 | 101,908 | 64,437 | 11,917 | 10,590 | - | 55,292 | 142,409 | 110,351 | 117,275 | 135,593 | 134,921 | 91,752 | 976,445 |
| | Increase/(Decrease) | | **6,806** | **(16,550)** | **11,935** | **71,941** | **50,922** | **38,993** | **(38,895)** | **(39,945)** | **(8,139)** | **(36,983)** | **(41,664)** | **(46,747)** | **(48,327)** |
| 0502070 - 0502070 - Gypsum - Qualifying | 0502070 | 2018 | 652,972 | 224,528 | 439,043 | 546,706 | 502,461 | 394,835 | 495,079 | 526,316 | 333,424 | 933,067 | 523,850 | 618,328 | 6,190,611 |
| | 0502070 | 2017 | 380,397 | 624,113 | 722,218 | 617,949 | 570,853 | 620,520 | 381,278 | 229,511 | 252,231 | 657,873 | 392,300 | 616,464 | 6,065,708 |
| | Increase/(Decrease) | | **272,574** | **(399,585)** | **(283,175)** | **(71,242)** | **(68,391)** | **(225,685)** | **113,801** | **296,805** | **81,193** | **275,195** | **131,550** | **1,864** | **124,903** |
| 0502080 - 0502080 - Mag Hydroxide Qualifying Reag | 0502080 | 2018 | 175,743 | 75,794 | 122,163 | 55,866 | 153,256 | 301,188 | 152,508 | 200,880 | 111,303 | 82,571 | 157,174 | 86,874 | 1,675,320 |
| | 0502080 | 2017 | 81,234 | 79,839 | 86,446 | 82,847 | 131,056 | 145,007 | 179,415 | 194,605 | 90,838 | 81,374 | 124,000 | 159,430 | 1,436,090 |
| | Increase/(Decrease) | | **94,509** | **(4,045)** | **35,717** | **(26,981)** | **22,200** | **156,182** | **(26,907)** | **6,275** | **20,464** | **1,198** | **33,174** | **(72,556)** | **239,229** |
| 0502082 - 0502082 - Re-emission Chem Exp - Reagent | 0502082 | 2018 | - | - | - | - | - | - | - | - | - | 64,788 | 4,373 | - | 69,161 |
| | 0502082 | 2017 | - | - | - | - | - | - | - | 70,082 | 69,862 | (35,383) | - | - | 104,561 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(70,082)** | **(69,862)** | **100,170** | **4,373** | **-** | **(35,400)** |
| 0502090 - 0502090 - Calcium Carbonate | 0502090 | 2018 | 93,160 | 20,643 | 39,099 | 23,151 | 67,862 | 76,789 | 38,813 | 68,015 | 83,814 | 45,377 | 81,634 | 40,207 | 678,564 |
| | 0502090 | 2017 | 18,004 | 23,838 | 53,463 | 29,931 | 68,627 | 57,142 | 98,102 | 105,955 | 57,276 | 38,796 | 73,531 | 82,887 | 707,554 |
| | Increase/(Decrease) | | **75,156** | **(3,195)** | **(14,364)** | **(6,780)** | **(765)** | **19,647** | **(59,289)** | **(37,941)** | **26,537** | **6,582** | **8,102** | **(42,680)** | **(28,990)** |
| 0506300 - 0506300 - Misc Fossil Power Expenses - Recoverables | 0506300 | 2018 | - | 251 | 109 | 99 | - | - | - | - | - | - | - | - | 459 |
| | 0506300 | 2017 | 26 | 1,617 | 891 | - | 609 | 57 | - | 641 | 24 | 749 | 176 | 279 | 5,069 |
| | Increase/(Decrease) | | **(26)** | **(1,366)** | **(782)** | **99** | **(609)** | **(57)** | **-** | **(641)** | **(24)** | **(749)** | **(176)** | **(279)** | **(4,611)** |
| 0502083 - 0502083 - Activated Carbon Exp - Reagent | 0502083 | 2018 | - | 57,846 | 78,473 | - | - | - | - | - | - | - | - | 34,464 | 170,782 |
| | 0502083 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **57,846** | **78,473** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **34,464** | **170,782** |
| 0501181 - 0501181 - Contra Fuel Exp Pond Ash - SC | 0501181 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0501181 | 2017 | (1,638,696) | (1,720,571) | (1,715,842) | (1,790,322) | (1,809,774) | (1,819,437) | (3,566,473) | (3,447,755) | 17,508,870 | - | - | - | - |
| | Increase/(Decrease) | | **1,638,696** | **1,720,571** | **1,715,842** | **1,790,322** | **1,809,774** | **1,819,437** | **3,566,473** | **3,447,755** | **(17,508,870)** | **-** | **-** | **-** | **-** |
| 0501182 - 0501182 - Contra Fuel Exp Pond Ash - W/S | 0501182 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0501182 | 2017 | (588,817) | (618,237) | (616,538) | (643,300) | (710,996) | (840,898) | 4,023,145 | (135,091) | 130,731 | - | - | - | - |
| | Increase/(Decrease) | | **588,817** | **618,237** | **616,538** | **643,300** | **710,996** | **840,898** | **(4,023,145)** | **135,091** | **(130,731)** | **-** | **-** | **-** | **-** |
| 0560000 - 0560000 - Supervsn and Engrng - Trans Oper | 0560000 | 2018 | 729 | 718 | 945 | 1,157 | 738 | 831 | 1,608 | 784 | 813 | 1,703 | 1,114 | 916 | 12,057 |
| | 0560000 | 2017 | 1,552 | 570 | 715 | 853 | 594 | 697 | 810 | 1,048 | 886 | 1,260 | 686 | 586 | 10,256 |
| | Increase/(Decrease) | | **(823)** | **149** | **230** | **305** | **144** | **134** | **798** | **(264)** | **(73)** | **443** | **428** | **330** | **1,800** |
| 0561100 - 0561100 - Load Dispatch - Reliability | 0561100 | 2018 | 41,136 | 39,364 | 436,212 | 39,741 | 224,668 | 26,262 | 40,415 | 28,692 | 277,823 | 117,821 | 347,962 | (50,840) | 1,569,257 |
| | 0561100 | 2017 | 10,054 | 36,612 | 272,205 | 406,331 | 650,263 | 43,550 | (754,803) | 34,806 | (83,175) | 48,326 | 31,682 | 549,948 | 1,245,799 |
| | Increase/(Decrease) | | **31,082** | **2,752** | **164,008** | **(366,590)** | **(425,594)** | **(17,288)** | **795,218** | **(6,114)** | **360,998** | **69,494** | **316,280** | **(600,788)** | **323,457** |
| 0561200 - 0561200 - Load Dispatch - MnitorandOprtrnsys | 0561200 | 2018 | 667,691 | 654,116 | 702,093 | 669,454 | 646,526 | 722,796 | 759,862 | 762,765 | 809,959 | 863,170 | 592,223 | 767,360 | 8,618,014 |
| | 0561200 | 2017 | 801,782 | 761,906 | 833,910 | 822,825 | 875,641 | 510,798 | 359,630 | 675,057 | 700,094 | 704,331 | 722,629 | 702,993 | 8,471,596 |
| | Increase/(Decrease) | | **(134,091)** | **(107,789)** | **(131,817)** | **(153,372)** | **(229,116)** | **211,998** | **400,232** | **87,708** | **109,865** | **158,839** | **(130,406)** | **64,367** | **146,418** |
| 0561300 - 0561300 - Load Dispatch - TranssvcandSch | 0561300 | 2018 | 63,592 | 62,884 | 71,559 | 61,511 | 62,554 | 68,572 | 74,944 | 68,860 | 81,481 | 84,289 | 44,159 | 68,287 | 812,692 |
| | 0561300 | 2017 | 62,601 | 61,054 | 65,195 | 65,732 | 64,976 | 65,724 | 66,952 | 67,577 | 69,782 | 72,718 | 77,473 | 71,941 | 811,724 |
| | Increase/(Decrease) | | **991** | **1,830** | **6,363** | **(4,221)** | **(2,422)** | **2,848** | **7,992** | **1,283** | **11,699** | **11,571** | **(33,314)** | **(3,654)** | **968** |
| 0561400 - 0561400 - Scheduling - Sys CntrlandDisp Svs | 0561400 | 2018 | - | - | - | - | 832 | - | - | - | - | - | - | - | 832 |
| | 0561400 | 2017 | - | - | 448 | 304 | 22 | 840 | - | - | - | - | - | - | 1,614 |
| | Increase/(Decrease) | | **-** | **-** | **(448)** | **(304)** | **810** | **(840)** | **-** | **-** | **-** | **-** | **-** | **-** | **(782)** |
| 0561500 - 0561500 - Reliability Planning and Stdsdev | 0561500 | 2018 | 71,277 | 15,496 | 30,891 | 9,853 | 9,057 | 10,302 | 58,597 | 12,456 | 5,226 | 8,212 | 30,486 | 43,897 | 305,750 |
| | 0561500 | 2017 | 9,071 | 42,853 | 7,473 | (21,664) | 8,866 | 11,644 | 11,315 | 11,719 | 59,923 | 11,905 | 66,456 | 12,050 | 231,610 |
| | Increase/(Decrease) | | **62,206** | **(27,357)** | **23,418** | **31,517** | **191** | **(1,342)** | **47,282** | **737** | **(54,696)** | **(3,693)** | **(35,970)** | **31,847** | **74,141** |
| 0561600 - 0561600 - Trans Svc Studios | 0561600 | 2018 | 2,238 | 1,066 | 663 | 598 | 465 | 407 | 618 | (4,569) | 1,421 | 629 | - | 6,232 | 9,768 |
| | 0561600 | 2017 | 914 | 4,315 | 681 | 1,038 | 4,675 | 824 | 1,611 | 864 | 559 | 17 | 3,280 | 3,591 | 22,370 |
| | Increase/(Decrease) | | **1,324** | **(3,249)** | **(17)** | **(440)** | **(4,211)** | **(417)** | **(993)** | **(5,433)** | **862** | **611** | **(3,280)** | **2,641** | **(12,602)** |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0561700 - 0561700 - Generation Interconnect Studies | 0561700 | 2018 | 5,782 | 2,235 | 1,149 | 1,377 | 242 | 6,576 | - | 13,123 | 1,417 | 1,193 | 53 | (34,658) | (1,511) |
| | 0561700 | 2017 | 2,805 | 1,713 | 1,428 | (90,728) | 783 | 3,321 | 20,198 | (1,891) | 8,548 | 1,215 | 3,698 | 11,642 | (37,269) |
| | Increase/(Decrease) | | **2,977** | **522** | **(279)** | **92,105** | **(541)** | **3,255** | **(20,198)** | **15,014** | **(7,131)** | **(22)** | **(3,645)** | **(46,300)** | **35,758** |
| 0562000 - 0562000 - Station Expenses | 0562000 | 2018 | 125,138 | 72,422 | 156,437 | 150,055 | 171,959 | 207,842 | 59,846 | 152,964 | 79,136 | 90,947 | 195,706 | 184,846 | 1,647,297 |
| | 0562000 | 2017 | 118,443 | 113,708 | 223,411 | 116,469 | 155,816 | 117,761 | 172,285 | 148,556 | 156,370 | 133,486 | 120,256 | 116,138 | 1,692,699 |
| | Increase/(Decrease) | | **6,695** | **(41,286)** | **(66,974)** | **33,586** | **16,142** | **90,082** | **(112,439)** | **4,409** | **(77,234)** | **(42,539)** | **75,450** | **68,707** | **(45,401)** |
| 0563000 - 0563000 - Overhead Line Expenses - Trans | 0563000 | 2018 | 12,081 | 22,840 | 83,511 | 119,618 | 170,294 | 66,503 | 16,885 | 43,069 | 30,224 | 82,614 | 81,900 | 208,590 | 938,130 |
| | 0563000 | 2017 | 12,733 | 25,169 | 164,760 | 105,665 | 125,762 | 48,288 | 8,244 | 5,457 | 66,177 | 101,702 | 220,531 | 183,621 | 1,068,110 |
| | Increase/(Decrease) | | **(653)** | **(2,328)** | **(81,249)** | **13,953** | **44,532** | **18,215** | **8,641** | **37,612** | **(35,953)** | **(19,088)** | **(138,631)** | **24,968** | **(129,980)** |
| 0565000 - 0565000 - Transm of Elec By Others | 0565000 | 2018 | 15,048 | 15,048 | 201,624 | 38,613 | 26,830 | 26,830 | 27,038 | 26,636 | 26,451 | 26,451 | 26,451 | 26,451 | 483,473 |
| | 0565000 | 2017 | 15,367 | 15,848 | 15,848 | 15,848 | 15,848 | 15,246 | 14,818 | 14,835 | 14,835 | 14,835 | 14,835 | 15,256 | 183,420 |
| | Increase/(Decrease) | | **(319)** | **(801)** | **185,775** | **22,764** | **10,982** | **11,584** | **12,220** | **11,801** | **11,617** | **11,617** | **11,617** | **11,196** | **300,053** |
| 0565010 - 0565010 - Trans of Elect - Purchase | 0565010 | 2018 | - | - | - | - | 463 | (463) | - | - | - | - | - | - | - |
| | 0565010 | 2017 | - | - | - | - | - | - | - | - | 1,734 | - | - | - | 1,734 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **463** | **(463)** | **-** | **-** | **(1,734)** | **-** | **-** | **-** | **(1,734)** |
| 0566000 - 0566000 - Misc Trans Exp - Other | 0566000 | 2018 | 1,144,957 | 713,554 | 1,108,357 | 1,267,395 | 543,715 | 745,853 | 989,236 | 684,684 | 676,225 | 1,399,982 | 806,411 | 831,652 | 10,912,020 |
| | 0566000 | 2017 | 550,754 | 671,441 | 670,476 | 751,985 | 523,304 | 700,586 | 1,328,141 | 783,622 | 1,062,018 | 1,085,268 | 1,277,072 | 1,112,092 | 10,516,759 |
| | Increase/(Decrease) | | **594,203** | **42,113** | **437,881** | **515,410** | **20,412** | **45,266** | **(338,905)** | **(98,939)** | **(385,792)** | **314,714** | **(470,662)** | **(280,440)** | **395,261** |
| 0566100 - 0566100 - Misc Trans - Trans Lines Related | 0566100 | 2018 | 99,566 | 824 | 59,033 | - | 4,032 | - | 1,675 | 9,150 | 74,237 | 63,613 | 61,000 | 29,000 | 402,131 |
| | 0566100 | 2017 | 16,450 | 61,566 | 7,394 | 37,387 | 43,269 | - | 5,429 | 74,725 | 57,500 | - | - | 55,000 | 358,720 |
| | Increase/(Decrease) | | **83,116** | **(60,742)** | **51,639** | **(37,387)** | **(39,236)** | **-** | **(3,754)** | **(65,575)** | **16,737** | **63,613** | **61,000** | **(26,000)** | **43,411** |
| 0567000 - 0567000 - Rents - Trans Oper | 0567000 | 2018 | 16,543 | 1,800 | 866 | 35,348 | - | 10,048 | 4,025 | 4,140 | (6,322) | - | 14,853 | 65,839 | 147,140 |
| | 0567000 | 2017 | 9 | - | 12,363 | 4,044 | 2,178 | 13,477 | 1,734 | 9 | - | 171 | 440 | 34,032 | 68,458 |
| | Increase/(Decrease) | | **16,534** | **1,800** | **(11,497)** | **31,304** | **(2,178)** | **(3,429)** | **2,291** | **4,131** | **(6,322)** | **(171)** | **14,413** | **31,807** | **78,682** |
| 0565016 - 0565016 - I/C Joint Disp - Trans NW Exp | 0565016 | 2018 | 295,172 | 156,400 | (24,247) | (3,105) | 294,633 | 339,277 | 220,155 | 207,417 | 237,740 | 358,408 | 260,891 | 209,410 | 2,552,151 |
| | 0565016 | 2017 | 446,914 | 343,181 | 471,178 | 244,103 | 60,405 | 160,391 | 94,035 | 169,466 | 301,907 | 108,666 | 25,657 | 26,397 | 2,452,300 |
| | Increase/(Decrease) | | (151,742) | (186,781) | (495,426) | (247,209) | 234,227 | 178,886 | 126,120 | 37,951 | (64,166) | 249,742 | 235,235 | 183,013 | 99,851 |
| 0403500 - 0403500 - Depr of General Plant | 0403500 | 2018 | 5,795,878 | 5,757,269 | 5,822,356 | 5,411,906 | 6,322,305 | 6,507,532 | 6,047,477 | 3,047,126 | 4,356,681 | 3,841,404 | 4,146,523 | 4,237,982 | 61,294,439 |
| | 0403500 | 2017 | 4,884,773 | 4,220,376 | 4,244,910 | 4,983,683 | 4,419,496 | 6,487,216 | 5,030,350 | 4,337,872 | 6,063,828 | 6,095,490 | 5,359,406 | 4,771,669 | 60,899,069 |
| | Increase/(Decrease) | | **911,105** | **1,536,892** | **1,577,446** | **428,223** | **1,902,809** | **20,316** | **1,017,127** | **(1,290,746)** | **(1,707,147)** | **(2,254,086)** | **(1,212,883)** | **(533,687)** | **395,370** |
| 0403100 - 0403100 - Depr of Steam Production Plant | 0403100 | 2018 | 21,062,103 | 21,111,712 | 21,131,705 | 21,168,542 | 21,169,342 | 21,413,387 | 21,488,765 | 21,663,227 | 22,893,072 | 22,288,466 | 22,768,266 | 22,821,767 | 260,980,355 |
| | 0403100 | 2017 | 20,425,066 | 20,450,190 | 20,494,455 | 20,477,120 | 20,454,042 | 20,540,171 | 20,563,547 | 20,570,627 | 20,604,737 | 20,605,933 | 20,702,374 | 20,875,279 | 246,763,539 |
| | Increase/(Decrease) | | **637,037** | **661,522** | **637,251** | **691,422** | **715,300** | **873,217** | **925,218** | **1,092,600** | **2,288,335** | **1,682,532** | **2,065,892** | **1,946,488** | **14,216,816** |
| 0403200 - 0403200 - Depr of Hydro Production Plant | 0403200 | 2018 | 3,299,167 | 3,300,754 | 3,302,452 | 3,306,574 | 3,307,854 | 3,320,066 | 3,313,981 | 3,226,881 | 3,291,274 | 3,293,107 | 3,301,942 | 3,307,222 | 39,571,275 |
| | 0403200 | 2017 | 3,207,463 | 3,208,970 | 3,212,495 | 3,214,412 | 3,218,735 | 3,220,090 | 3,225,251 | 3,230,828 | 3,231,438 | 3,234,479 | 3,242,580 | 3,296,529 | 38,743,270 |
| | Increase/(Decrease) | | **91,705** | **91,784** | **89,957** | **92,162** | **89,119** | **99,976** | **88,730** | **(3,947)** | **59,836** | **58,628** | **59,362** | **10,693** | **828,005** |
| 0403300 - 0403300 - Depr of Transmission Plant | 0403300 | 2018 | 6,662,889 | 6,687,621 | 6,707,665 | 6,730,141 | 6,770,317 | 6,780,408 | 6,800,173 | 6,575,634 | 6,585,275 | 6,597,576 | 6,661,400 | 6,721,900 | 80,280,998 |
| | 0403300 | 2017 | 6,124,798 | 6,178,046 | 6,185,034 | 6,197,424 | 6,217,665 | 6,322,674 | 6,351,676 | 6,385,654 | 6,449,489 | 6,444,137 | 6,541,249 | 6,592,363 | 75,990,208 |
| | Increase/(Decrease) | | **538,090** | **509,575** | **522,631** | **532,716** | **552,652** | **457,735** | **448,497** | **189,980** | **135,786** | **153,440** | **120,151** | **129,537** | **4,290,790** |
| 0403400 - 0403400 - Depr of Distribution Plant | 0403400 | 2018 | 20,883,323 | 21,034,807 | 21,149,120 | 21,268,014 | 21,366,872 | 21,462,559 | 21,584,223 | 21,414,777 | 21,687,655 | 21,832,389 | 21,962,639 | 22,195,419 | 257,841,798 |
| | 0403400 | 2017 | 19,787,576 | 19,888,276 | 19,968,102 | 20,068,462 | 20,190,893 | 20,228,408 | 20,266,552 | 20,373,026 | 20,469,839 | 20,658,409 | 20,775,894 | 20,884,255 | 243,559,692 |
| | Increase/(Decrease) | | **1,095,747** | **1,146,531** | **1,181,018** | **1,199,553** | **1,175,979** | **1,234,151** | **1,317,671** | **1,041,751** | **1,217,816** | **1,173,980** | **1,186,745** | **1,311,163** | **14,282,105** |
| 0403600 - 0403600 - Depr of Comb Turbine Plant | 0403600 | 2018 | 6,265,742 | 6,268,982 | 6,270,079 | 7,484,648 | 7,656,273 | 7,668,334 | 7,702,601 | 2,301,785 | 12,861,734 | 7,974,775 | 7,629,361 | 7,816,434 | 87,900,747 |
| | 0403600 | 2017 | 5,946,827 | 5,949,300 | 5,954,721 | 6,253,688 | 6,237,933 | 6,244,213 | 6,248,175 | 6,252,406 | 6,257,889 | 6,258,982 | 6,259,075 | 6,263,118 | 74,126,327 |
| | Increase/(Decrease) | | **318,915** | **319,681** | **315,357** | **1,230,959** | **1,418,340** | **1,424,122** | **1,454,426** | **(3,950,621)** | **6,603,845** | **1,715,792** | **1,370,286** | **1,553,316** | **13,774,420** |
| 0403700 - 0403700 - Depr of Nuc Production Plant | 0403700 | 2018 | 18,900,781 | 18,912,312 | 18,915,322 | 18,926,730 | 18,920,295 | 18,978,277 | 18,998,629 | 23,293,780 | 23,389,849 | 23,394,200 | 23,583,168 | 23,631,552 | 249,844,895 |
| | 0403700 | 2017 | 18,675,852 | 18,575,289 | 18,575,741 | 18,579,990 | 18,629,594 | 18,617,089 | 18,643,500 | 18,669,329 | 18,684,885 | 18,713,964 | 18,744,814 | 18,891,528 | 224,001,577 |
| | Increase/(Decrease) | | **224,929** | **337,022** | **339,581** | **346,740** | **290,700** | **361,188** | **355,129** | **4,624,450** | **4,704,964** | **4,680,236** | **4,838,354** | **4,740,023** | **25,843,318** |
| 0403201 - 0403201 - Depr Hydro Prod Plnt - Sec 124 | 0403201 | 2018 | - | - | 75,977 | - | - | - | - | - | - | - | - | - | 75,977 |
| | 0403201 | 2017 | - | 75,977 | - | - | - | - | - | - | - | - | - | - | 75,977 |
| | Increase/(Decrease) | | **-** | **(75,977)** | **75,977** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 0403850 - 0403850 - Deferral of Depr. Exp. - Solar | 0403850 | 2018 | (23,135) | - | - | (368,090) | - | (165,907) | 29,016 | (45,656) | (81,532) | 146,863 | (81,531) | (81,532) | (671,504) |
| | 0403850 | 2017 | (33,359) | (38,789) | (30,739) | (30,739) | (30,739) | (131,688) | 70,210 | (30,740) | (30,740) | (60,795) | (683) | 24,253 | (324,548) |
| | Increase/(Decrease) | | **10,224** | **38,789** | **30,739** | **(337,351)** | **30,739** | **(34,219)** | **(41,194)** | **(14,916)** | **(50,792)** | **207,658** | **(80,848)** | **(105,785)** | **(346,956)** |
| 0403501 - 0403501 - SC EDP Depreciation Expense | 0403501 | 2018 | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | 160,909 | (595,356) | 770,194 | 404,654 | 384,158 | (79,849) |
| | 0403501 | 2017 | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | (172,058) | (2,064,699) |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **332,967** | **(423,298)** | **942,252** | **576,712** | **556,217** | **1,984,850** |
| 0403111 - 0403111 - Depr Steam Prdn Plt- SC | 0403111 | 2018 | 293,719 | 373,594 | 293,719 | 293,719 | 293,719 | 293,719 | 293,719 | 105,802 | (106,878) | (329,849) | (371,131) | (371,223) | 1,062,626 |
| | 0403111 | 2017 | 320,344 | 320,344 | 320,344 | 320,344 | 320,344 | 320,344 | 320,344 | 320,344 | 320,344 | 320,344 | 320,344 | 320,344 | 3,844,124 |
| | Increase/(Decrease) | | **(26,625)** | **53,250** | **(26,625)** | **(26,625)** | **(26,625)** | **(26,625)** | **(26,625)** | **(214,542)** | **(427,222)** | **(650,193)** | **(691,475)** | **(691,567)** | **(2,781,499)** |
| 0403112 - 0403112 - Depr Steam Prdn Plt - WH | 0403112 | 2018 | 106,245 | 127,471 | 106,245 | 43,267 | 43,267 | 43,267 | 43,267 | 43,267 | 43,267 | 27,722 | 27,722 | 27,722 | 682,731 |
| | 0403112 | 2017 | 113,321 | 113,321 | 113,321 | 113,321 | 113,321 | 113,321 | 113,321 | 113,321 | 113,321 | 113,321 | 113,321 | 113,321 | 1,359,847 |
| | Increase/(Decrease) | | **(7,075)** | **14,151** | **(7,075)** | **(70,053)** | **(70,053)** | **(70,053)** | **(70,053)** | **(70,053)** | **(70,053)** | **(85,598)** | **(85,598)** | **(85,598)** | **(677,116)** |
| 0403210 - 0403210 - Depr of Hydro Prod - NC | 0403210 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0403210 | 2017 | 3,747 | 3,747 | 3,747 | 3,747 | 3,747 | 3,747 | 3,747 | 3,747 | 3,747 | 3,747 | 3,747 | 3,747 | 44,964 |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Increase/(Decrease) | | (3,747) | (3,747) | (3,747) | (3,747) | (3,747) | (3,747) | (3,747) | (3,747) | (3,747) | (3,747) | (3,747) | (3,747) | (44,964) |
| 0403211 - 0403211 - Depr of Hydro Prod - SC | 0403211 | 2018 | 401 | 401 | 401 | 401 | 401 | 401 | 401 | 17,598 | 2,684 | (10,281) | 3,334 | 3,334 | 19,475 |
| | 0403211 | 2017 | 401 | 401 | 401 | 401 | 401 | 401 | 401 | 401 | 401 | 401 | 401 | 401 | 4,812 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | 17,197 | 2,283 | (10,682) | 2,933 | 2,933 | 14,663 |
| 0403311 - 0403311 - Depr Transm Plt - SC | 0403311 | 2018 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | 45,443 | 45,394 | 1,770 | 33,807 | 16,750 | 147,364 |
| | 0403311 | 2017 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | 7,200 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | 44,843 | 44,794 | 1,170 | 33,207 | 16,150 | 140,164 |
| 0403312 - 0403312 - Depr Transm Plt - WH | 0403312 | 2018 | 1,209 | 1,209 | 1,209 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 4,347 |
| | 0403312 | 2017 | 1,209 | 1,209 | 1,209 | 1,209 | 1,209 | 1,209 | 1,209 | 1,209 | 1,209 | 1,209 | 1,209 | 1,209 | 14,508 |
| | Increase/(Decrease) | | 0 | 0 | 0 | (1,129) | (1,129) | (1,129) | (1,129) | (1,129) | (1,129) | (1,129) | (1,129) | (1,129) | (10,161) |
| 0403310 - 0403310 - Depr Transm Plt - NC | 0403310 | 2018 | - | - | - | - | - | - | - | - | - | - | - | (885) | (885) |
| | 0403310 | 2017 | 5,338 | 5,338 | 5,338 | 5,338 | 5,338 | 5,338 | 5,338 | 5,338 | 5,338 | 5,338 | 5,338 | 5,338 | 64,056 |
| | Increase/(Decrease) | | (5,338) | (5,338) | (5,338) | (5,338) | (5,338) | (5,338) | (5,338) | (5,338) | (5,338) | (5,338) | (5,338) | (6,223) | (64,941) |
| 0403410 - 0403410 - Depr Distribn - NC | 0403410 | 2018 | - | - | - | - | - | - | - | - | - | - | - | (59,078) | (59,078) |
| | 0403410 | 2017 | 192,756 | 192,756 | 192,756 | 192,756 | 192,756 | 192,756 | 192,756 | 192,756 | 192,756 | 192,756 | 192,756 | 192,756 | 2,313,072 |
| | Increase/(Decrease) | | (192,756) | (192,756) | (192,756) | (192,756) | (192,756) | (192,756) | (192,756) | (192,756) | (192,756) | (192,756) | (192,756) | (251,834) | (2,372,150) |
| 0403411 - 0403411 - Depr Distribn - SC | 0403411 | 2018 | 41 | 41 | (474,571) | 41 | 41 | (345,342) | 41 | 63,784 | (928,521) | 45,825 | 48,628 | (1,439,983) | (3,029,976) |
| | 0403411 | 2017 | 41 | 41 | (493,752) | 41 | 41 | (418,213) | 41 | 41 | (710,755) | 41 | 41 | (745,732) | (2,368,124) |
| | Increase/(Decrease) | | - | - | 19,181 | - | - | 72,871 | - | 63,743 | (217,766) | 45,784 | 48,587 | (694,251) | (661,851) |
| 0403412 - 0403412 - Depr Distribn - Plt - WH | 0403412 | 2018 | 34 | 34 | 34 | - | - | - | - | - | - | - | - | - | 103 |
| | 0403412 | 2017 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 408 |
| | Increase/(Decrease) | | 0 | 0 | 0 | (34) | (34) | (34) | (34) | (34) | (34) | (34) | (34) | (34) | (305) |
| 0403610 - 0403610 - Depr Cmb Turbine - NC | 0403610 | 2018 | - | - | - | - | - | - | - | 43,785 | (3,775,183) | 43,785 | 43,785 | 43,785 | (3,600,045) |
| | 0403610 | 2017 | 70,093 | 70,093 | 70,093 | 70,093 | 70,093 | 70,093 | 70,093 | 70,093 | 70,093 | 70,093 | 70,093 | 70,093 | 841,116 |
| | Increase/(Decrease) | | (70,093) | (70,093) | (70,093) | (70,093) | (70,093) | (70,093) | (70,093) | (26,308) | (3,845,276) | (26,308) | (26,308) | (26,308) | (4,441,161) |
| 0403611 - 0403611 - Depr Cmb Turbine - SC | 0403611 | 2018 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | (15,760) | (2,074,993) | (456,653) | (406,232) | (406,934) | (3,261,172) |
| | 0403611 | 2017 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | 14,200 | 170,400 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | (29,960) | (2,089,193) | (470,853) | (420,432) | (421,134) | (3,431,572) |
| 0403612 - 0403612 - Depr Cmb Turbine - WH | 0403612 | 2018 | 22,049 | 22,049 | 22,049 | 4,721 | 4,721 | 4,721 | 4,721 | 4,721 | 4,721 | 4,721 | 4,721 | 4,721 | 108,635 |
| | 0403612 | 2017 | 22,049 | 22,049 | 22,049 | 22,049 | 22,049 | 22,049 | 22,049 | 22,049 | 22,049 | 22,049 | 22,049 | 22,049 | 264,588 |
| | Increase/(Decrease) | | (0) | (0) | (0) | (17,328) | (17,328) | (17,328) | (17,328) | (17,328) | (17,328) | (17,328) | (17,328) | (17,328) | (155,953) |
| 0403710 - 0403710 - Depr Nuc Product - NC | 0403710 | 2018 | 9,006 | - | - | - | - | - | - | - | - | - | - | - | 9,006 |
| | 0403710 | 2017 | 22,000 | 22,000 | 22,000 | 22,000 | 22,000 | 22,000 | 22,000 | 22,000 | 22,000 | 22,000 | 22,000 | 22,000 | 264,000 |
| | Increase/(Decrease) | | (12,994) | (22,000) | (22,000) | (22,000) | (22,000) | (22,000) | (22,000) | (22,000) | (22,000) | (22,000) | (22,000) | (22,000) | (254,994) |
| 0403711 - 0403711 - Depr Nuc Product - SC | 0403711 | 2018 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | (1,021,216) | (1,028,866) | (1,240,867) | (1,096,983) | (1,096,983) | (5,441,284) |
| | 0403711 | 2017 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | 6,233 | 74,796 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | (1,027,449) | (1,035,099) | (1,247,100) | (1,103,216) | (1,103,216) | (5,516,080) |
| 0403712 - 0403712 - Depr Nuc Product - WH | 0403712 | 2018 | 1,971 | - | - | - | - | - | - | - | - | - | - | - | 1,971 |
| | 0403712 | 2017 | 1,971 | 1,971 | 1,971 | 1,971 | 1,971 | 1,971 | 1,971 | 1,971 | 1,971 | 1,971 | 1,971 | 1,971 | 23,652 |
| | Increase/(Decrease) | | (0) | (1,971) | (1,971) | (1,971) | (1,971) | (1,971) | (1,971) | (1,971) | (1,971) | (1,971) | (1,971) | (1,971) | (21,681) |
| 0403212 - 0403212 - Depr of Hydro Prod - WH | 0403212 | 2018 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 3,432 |
| | 0403212 | 2017 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 286 | 3,432 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0403110 - 0403110 - Depr Steam Prdn Plt - NC | 0403110 | 2018 | 391,731 | 625,997 | 391,731 | 391,731 | 391,731 | 391,731 | 391,731 | 391,731 | (238,805) | 206,699 | (110,214) | (110,470) | 3,115,325 |
| | 0403110 | 2017 | 1,176,935 | 1,176,935 | 1,176,935 | 1,176,935 | 1,176,935 | 1,176,935 | 1,176,935 | 1,176,935 | 1,176,935 | 1,176,935 | 1,176,935 | 1,176,935 | 14,123,216 |
| | Increase/(Decrease) | | (785,204) | (550,938) | (785,204) | (785,204) | (785,204) | (785,204) | (785,204) | (785,204) | (1,415,739) | (970,235) | (1,287,149) | (1,287,404) | (11,007,891) |
| 0403602 - 0403602 - Rotable Fleet Spare Amort | 0403602 | 2018 | 148,287 | 148,287 | 148,287 | 148,287 | 167,757 | 167,757 | 167,757 | 167,757 | 203,116 | 203,116 | 133,983 | 133,983 | 1,938,375 |
| | 0403602 | 2017 | 125,227 | 125,227 | 125,227 | 125,227 | 125,227 | 125,227 | 125,227 | 125,227 | 125,227 | 125,227 | 148,287 | 148,287 | 1,548,845 |
| | Increase/(Decrease) | | 23,059 | 23,059 | 23,059 | 23,059 | 42,530 | 42,530 | 42,530 | 42,530 | 77,889 | 77,889 | (14,303) | (14,303) | 389,531 |
| 0404100 - 0404100 - Amor of Limited Term Elec Plt | 0404100 | 2018 | 10,617 | 10,617 | 10,617 | 10,617 | 10,617 | 10,617 | 10,617 | 10,617 | 10,617 | 10,617 | 10,617 | 10,617 | 127,400 |
| | 0404100 | 2017 | 10,607 | 10,607 | 10,607 | 10,607 | 10,607 | 10,607 | 10,607 | 10,607 | 10,607 | 10,645 | 10,614 | 10,617 | 127,339 |
| | Increase/(Decrease) | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | (28) | 2 | (0) | 61 |
| 0404200 - 0404200 - Amort of Elec Plt - Software | 0404200 | 2018 | 5,301,263 | 5,455,738 | 5,345,693 | 5,221,246 | 5,301,836 | 5,326,296 | 5,293,439 | 5,730,185 | 5,501,168 | 5,508,305 | 5,753,469 | 5,994,448 | 65,733,086 |
| | 0404200 | 2017 | 4,369,860 | 3,948,447 | 3,944,500 | 3,968,425 | 3,063,871 | 3,961,086 | 4,784,149 | 4,336,517 | 3,409,977 | 6,002,746 | 5,194,031 | 5,639,288 | 52,622,897 |
| | Increase/(Decrease) | | 931,404 | 1,507,291 | 1,401,193 | 1,252,821 | 2,237,964 | 1,365,210 | 509,290 | 1,393,668 | 2,091,191 | (494,440) | 559,437 | 355,160 | 13,110,189 |
| 0404400 - 0404400 - Franchise Amortization | 0404400 | 2018 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 60 |
| | 0404400 | 2017 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 60 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0407307 - 0407307 - SC Cliffside Amortization | 0407307 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0407307 | 2017 | 482,000 | 209,078 | - | - | - | - | - | - | - | - | - | - | 691,078 |
| | Increase/(Decrease) | | (482,000) | (209,078) | - | - | - | - | - | - | - | - | - | - | (691,078) |
| 0407309 - 0407309 - Pension Amortization | 0407309 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0407309 | 2017 | - | 232,414 | - | - | - | - | - | - | - | - | - | - | 232,414 |
| | Increase/(Decrease) | | - | (232,414) | - | - | - | - | - | - | - | - | - | - | (232,414) |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0407356 - 0407356 - Deferred VOP Amortization | 0407356 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0407356 | 2017 | 1,026,417 | - | - | - | - | (0) | - | - | - | - | - | - | 1,026,416 |
| | Increase/(Decrease) | | **(1,026,417)** | - | - | - | - | **0** | - | - | - | - | - | - | **(1,026,416)** |
| 0407350 - 0407350 - REPS Rider NC Retail | 0407350 | 2018 | 148,665 | 148,075 | 148,327 | 148,989 | 148,701 | 149,060 | 149,970 | 149,850 | (68,886) | (162,739) | (55,820) | (55,847) | 848,344 |
| | 0407350 | 2017 | 187,296 | 187,695 | 187,261 | 187,960 | 188,254 | 189,265 | 188,440 | 190,289 | 170,986 | 166,631 | 147,468 | 148,154 | 2,139,699 |
| | Increase/(Decrease) | | **(38,631)** | **(39,621)** | **(38,934)** | **(38,971)** | **(39,553)** | **(40,205)** | **(38,470)** | **(40,439)** | **(239,872)** | **(329,371)** | **(203,287)** | **(204,002)** | **(1,291,355)** |
| 0407351 - 0407351 - REPS Rider NC Whse | 0407351 | 2018 | 16,269 | 16,269 | 16,269 | 16,269 | 16,269 | 16,269 | 16,269 | 16,269 | (72,450) | 10,706 | 10,706 | 10,706 | 89,820 |
| | 0407351 | 2017 | 22,182 | 22,182 | 22,182 | 22,182 | 22,182 | 22,182 | 22,182 | 22,182 | (24,367) | 16,269 | 16,269 | 16,269 | 201,896 |
| | Increase/(Decrease) | | **(5,913)** | **(5,913)** | **(5,913)** | **(5,913)** | **(5,913)** | **(5,913)** | **(5,913)** | **(5,913)** | **(48,083)** | **(5,563)** | **(5,563)** | **(5,563)** | **(112,076)** |
| 0407352 - 0407352 - REPS Rider NC Retail-Cert | 0407352 | 2018 | (2,247,389) | (2,238,496) | (2,242,301) | (2,252,282) | (2,247,955) | (2,253,410) | (2,267,137) | (2,265,343) | (1,500,719) | (952,643) | (400,181) | (400,465) | (21,268,322) |
| | 0407352 | 2017 | (2,441,391) | (2,446,283) | (2,440,756) | (2,450,277) | (2,453,490) | (2,466,912) | (2,456,453) | (2,480,344) | (2,356,818) | (2,276,953) | (2,229,309) | (2,239,725) | (28,738,712) |
| | Increase/(Decrease) | | **194,002** | **207,787** | **198,456** | **197,994** | **205,535** | **213,502** | **189,317** | **215,001** | **856,099** | **1,324,310** | **1,829,128** | **1,839,260** | **7,470,390** |
| 0407353 - 0407353 - REPS Rider NC Whse-Cert | 0407353 | 2018 | (230,399) | (230,399) | (230,399) | (230,399) | (230,399) | (230,399) | (230,399) | (230,399) | 1,064,886 | (168,750) | (168,750) | (168,750) | (1,284,556) |
| | 0407353 | 2017 | (223,549) | (223,549) | (223,549) | (223,549) | (223,549) | (223,549) | (223,549) | (223,549) | 124,844 | (230,399) | (230,399) | (230,399) | (2,354,745) |
| | Increase/(Decrease) | | **(6,850)** | **(6,850)** | **(6,850)** | **(6,850)** | **(6,850)** | **(6,850)** | **(6,850)** | **(6,850)** | **940,042** | **61,649** | **61,649** | **61,649** | **1,070,189** |
| 0407391 - 0407391 - SC Storm Reserve Accrual | 0407391 | 2018 | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (5,000,000) |
| | 0407391 | 2017 | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (416,667) | (5,000,000) |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0407342 - 0407342 - Nuclear Fuel - Last Core Amort | 0407342 | 2018 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 316,041 | 316,041 | 316,041 | 316,041 | 316,041 | 7,751,874 |
| | 0407342 | 2017 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 881,667 | 10,580,000 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | **(565,625)** | **(565,625)** | **(565,625)** | **(565,625)** | **(565,625)** | **(2,828,126)** |
| 0407375 - 0407375 - M&S Inv LOL Reserve Amort | 0407375 | 2018 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 916,911 | 916,911 | 916,911 | 916,911 | 916,911 | 9,128,723 |
| | 0407375 | 2017 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 649,167 | 7,790,000 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | **267,745** | **267,745** | **267,745** | **267,745** | **267,745** | **1,338,723** |
| 0407343 - 0407343 - Buck/Bridgewater Amort-NC | 0407343 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0407343 | 2017 | 282,367 | 282,367 | 282,367 | 282,367 | 282,367 | 282,367 | 282,367 | 282,367 | 282,367 | 282,367 | 282,367 | 282,367 | 3,388,404 |
| | Increase/(Decrease) | | **(282,367)** | **(282,367)** | **(282,367)** | **(282,367)** | **(282,367)** | **(282,367)** | **(282,367)** | **(282,367)** | **(282,367)** | **(282,367)** | **(282,367)** | **(282,367)** | **(3,388,404)** |
| 0407344 - 0407344 - Buck/Bridgewater Amort-SC | 0407344 | 2018 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 581,964 |
| | 0407344 | 2017 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 48,497 | 581,964 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0407346 - 0407346 - Cliffside 6 Amort-NC | 0407346 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0407346 | 2017 | 711,551 | 711,551 | 711,551 | 711,551 | 711,551 | 711,551 | 711,551 | 711,551 | 711,551 | 711,551 | 711,551 | 711,551 | 8,538,612 |
| | Increase/(Decrease) | | **(711,551)** | **(711,551)** | **(711,551)** | **(711,551)** | **(711,551)** | **(711,551)** | **(711,551)** | **(711,551)** | **(711,551)** | **(711,551)** | **(711,551)** | **(711,551)** | **(8,538,612)** |
| 0407347 - 0407347 - Cliffside 6 Amort-SC | 0407347 | 2018 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 464,160 |
| | 0407347 | 2017 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 38,680 | 464,160 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0407349 - 0407349 - Dan River Amort-NC | 0407349 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0407349 | 2017 | 514,678 | 514,678 | 514,678 | 514,678 | 514,678 | 514,678 | 514,678 | 514,678 | 514,678 | 514,678 | 514,678 | 514,678 | 6,176,136 |
| | Increase/(Decrease) | | **(514,678)** | **(514,678)** | **(514,678)** | **(514,678)** | **(514,678)** | **(514,678)** | **(514,678)** | **(514,678)** | **(514,678)** | **(514,678)** | **(514,678)** | **(514,678)** | **(6,176,136)** |
| 0407362 - 0407362 - Dan River Amort-SC | 0407362 | 2018 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 810,852 |
| | 0407362 | 2017 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 67,571 | 810,852 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0407364 - 0407364 - Oconee HELB Amort - SC | 0407364 | 2018 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 54,768 |
| | 0407364 | 2017 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 4,564 | 54,768 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0407365 - 0407365 - McGuire Uprate Amort - NC | 0407365 | 2018 | 1,086 | - | - | - | - | - | - | - | - | - | - | - | 1,086 |
| | 0407365 | 2017 | 2,610 | 2,610 | 2,610 | 2,610 | 2,610 | 2,610 | 2,610 | 2,610 | 2,610 | 2,610 | 2,610 | 2,610 | 31,320 |
| | Increase/(Decrease) | | **(1,524)** | **(2,610)** | **(2,610)** | **(2,610)** | **(2,610)** | **(2,610)** | **(2,610)** | **(2,610)** | **(2,610)** | **(2,610)** | **(2,610)** | **(2,610)** | **(30,234)** |
| 0407366 - 0407366 - McGuire Uprate Amort-SC | 0407366 | 2018 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 177,408 |
| | 0407366 | 2017 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 14,784 | 177,408 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0407368 - 0407368 - Fukushima CyberSecurity Amort-SC | 0407368 | 2018 | 1,146 | 1,146 | (1,146) | - | - | - | - | - | - | - | - | - | 1,146 |
| | 0407368 | 2017 | 1,260 | 1,260 | 1,260 | 1,260 | 1,260 | 1,260 | 1,260 | 1,260 | 1,260 | 1,260 | 1,260 | 1,260 | 15,120 |
| | Increase/(Decrease) | | **(114)** | **(114)** | **(2,406)** | **(1,260)** | **(1,260)** | **(1,260)** | **(1,260)** | **(1,260)** | **(1,260)** | **(1,260)** | **(1,260)** | **(1,260)** | **(13,974)** |
| 0407369 - 0407369 - Buck Retired Plant Amort-NC | 0407369 | 2018 | 119,333 | 119,333 | 119,333 | 119,333 | 119,333 | 119,333 | 119,333 | 119,333 | 119,333 | 119,333 | 119,333 | 119,333 | 1,431,992 |
| | 0407369 | 2017 | 144,678 | 144,678 | 144,678 | 144,678 | 144,678 | 144,678 | 144,678 | 144,678 | 144,678 | 144,678 | 144,678 | 144,678 | 1,736,131 |
| | Increase/(Decrease) | | **(25,345)** | **(25,345)** | **(25,345)** | **(25,345)** | **(25,345)** | **(25,345)** | **(25,345)** | **(25,345)** | **(25,345)** | **(25,345)** | **(25,345)** | **(25,345)** | **(304,139)** |
| 0407373 - 0407373 - Buck Retired Plant Amort-SC | 0407373 | 2018 | 4,321 | 4,321 | 4,321 | 4,321 | 4,321 | 4,321 | 4,321 | 4,321 | 4,321 | 4,321 | 4,321 | 4,321 | 51,853 |
| | 0407373 | 2017 | 20,885 | 20,885 | 20,885 | 20,885 | 20,885 | 20,885 | 20,885 | 20,885 | 20,885 | 20,885 | 20,885 | 20,885 | 250,624 |
| | Increase/(Decrease) | | **(16,564)** | **(16,564)** | **(16,564)** | **(16,564)** | **(16,564)** | **(16,564)** | **(16,564)** | **(16,564)** | **(16,564)** | **(16,564)** | **(16,564)** | **(16,564)** | **(198,771)** |
| 0407376 - 0407376 - Clemson Univ Grant Amort | 0407376 | 2018 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | - | - | - | 225,000 |
| | 0407376 | 2017 | - | 50,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 300,000 |
| | Increase/(Decrease) | | **25,000** | **(25,000)** | - | - | - | - | - | - | - | **(25,000)** | **(25,000)** | **(25,000)** | **(75,000)** |
| 0407392 - 0407392 - Amort Debt Ret-NC | 0407392 | 2018 | 296 | - | - | - | - | - | - | - | - | - | - | - | 296 |
| | 0407392 | 2017 | 944,067 | 944,067 | 944,067 | 944,067 | 944,067 | 944,067 | 944,067 | 944,067 | 944,067 | 944,067 | 944,067 | 944,067 | 11,328,804 |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Increase/(Decrease) | | **(943,771)** | **(944,067)** | **(944,067)** | **(944,067)** | **(944,067)** | **(944,067)** | **(944,067)** | **(944,067)** | **(944,067)** | **(944,067)** | **(944,067)** | **(944,067)** | **(11,328,508)** |
| 0407393 - 0407393 - Amort Debt Ret-SC | 0407393 | 2018 | 75,902 | 75,902 | 75,321 | 75,611 | 75,611 | 75,611 | 75,611 | 75,611 | 75,611 | 75,611 | 75,611 | 75,611 | 907,624 |
| | 0407393 | 2017 | 75,931 | 75,931 | 75,931 | 75,931 | 75,931 | 75,931 | 75,931 | 75,931 | 75,931 | 75,931 | 75,931 | 75,931 | 911,172 |
| | Increase/(Decrease) | | **(29)** | **(29)** | **(610)** | **(320)** | **(320)** | **(320)** | **(320)** | **(320)** | **(320)** | **(320)** | **(320)** | **(320)** | **(3,548)** |
| 0407385 - 0407385 - Deferred NDTF Overfund | 0407385 | 2018 | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (4,995,000) |
| | 0407385 | 2017 | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (416,250) | (4,995,000) |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0411822 - 0411822 - SO2 Sales Proceeds | 0411822 | 2018 | - | - | - | - | 166 | - | - | - | - | - | - | - | 166 |
| | 0411822 | 2017 | - | - | - | 161 | - | - | - | - | - | - | - | - | 161 |
| | Increase/(Decrease) | | - | - | - | **(161)** | **166** | - | - | - | - | - | - | - | **5** |
| 0411832 - 0411832 - NOx Sales Proceeds | 0411832 | 2018 | - | 40,000 | - | - | 44,671 | - | - | - | - | - | - | - | 84,671 |
| | 0411832 | 2017 | 75,000 | - | - | - | - | 175,470 | - | - | - | - | - | - | 250,470 |
| | Increase/(Decrease) | | **(75,000)** | **40,000** | - | - | **44,671** | **(175,470)** | - | - | - | - | - | - | **(165,799)** |
| 0411875 - 0411875- Annual NOx Proceeds | 0411875 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0411875 | 2017 | 3,500 | 7,500 | - | - | - | - | - | - | - | 5,000 | - | - | 16,000 |
| | Increase/(Decrease) | | **(3,500)** | **(7,500)** | - | - | - | - | - | - | - | **(5,000)** | - | - | **(16,000)** |
| 0411861 - 0411861- RECS COS | 0411861 | 2018 | - | - | - | (226,600) | (3,000) | (105,800) | - | - | - | - | - | - | (335,400) |
| | 0411861 | 2017 | - | (85,600) | (7,280) | (97,234) | - | (293,171) | - | - | (2,805) | - | - | - | (486,090) |
| | Increase/(Decrease) | | - | **85,600** | **7,280** | **(129,366)** | **(3,000)** | **187,371** | - | - | **2,805** | - | - | - | **150,690** |
| 0407450 - 0407450 - NC Amort of Retail REC Exp | 0407450 | 2018 | - | - | (16,383,758) | - | - | - | - | - | - | - | - | - | (16,383,758) |
| | 0407450 | 2017 | - | - | (12,762,344) | - | - | - | - | - | - | - | - | - | (12,762,344) |
| | Increase/(Decrease) | | - | - | **(3,621,414)** | - | - | - | - | - | - | - | - | - | **(3,621,414)** |
| 0407451 - 0407451 - NC Amort of Whse REC Exp | 0407451 | 2018 | - | - | (782,036) | - | - | - | - | - | - | - | - | - | (782,036) |
| | 0407451 | 2017 | - | - | (872,763) | - | - | - | - | - | - | - | - | - | (872,763) |
| | Increase/(Decrease) | | - | - | **90,727** | - | - | - | - | - | - | - | - | - | **90,727** |
| 0407445 - 0407445 - SC Storm Reserve | 0407445 | 2018 | - | - | - | - | - | - | - | - | 7,483,400 | 5,363,350 | 5,383,150 | 19,288,200 | 37,518,100 |
| | 0407445 | 2017 | - | - | - | - | - | - | - | - | 6,341,415 | (6,924) | - | - | 6,334,491 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | 1,141,985 | 5,370,274 | 5,383,150 | 19,288,200 | 31,183,609 |
| 0407700 - 0407700 - SC DERP Amortization | 0407700 | 2018 | 212,597 | 221,309 | 224,129 | 225,437 | 227,696 | 228,110 | 228,484 | 238,288 | 245,496 | 245,512 | 245,580 | 245,563 | 2,788,199 |
| | 0407700 | 2017 | 75,897 | 87,288 | 124,213 | 133,327 | 144,275 | 151,422 | 156,814 | 164,554 | 167,508 | 168,422 | 187,295 | 211,084 | 1,772,099 |
| | Increase/(Decrease) | | **136,700** | **134,021** | **99,916** | **92,110** | **83,421** | **76,688** | **71,670** | **73,734** | **77,988** | **77,090** | **58,285** | **34,479** | **1,016,101** |
| 0510000 - 0510000 - Suprvsn and Engrng - Steam Maint | 0510000 | 2018 | 1,173,042 | 1,190,332 | 1,104,091 | 1,058,907 | 502,914 | 1,609,754 | 1,103,587 | 1,157,370 | 1,055,520 | 1,005,781 | 1,158,622 | 892,827 | 13,012,747 |
| | 0510000 | 2017 | 1,146,746 | 1,136,041 | 999,682 | 841,384 | 957,850 | 1,089,303 | 1,180,153 | 998,865 | 972,313 | 957,696 | 948,998 | 927,141 | 12,156,171 |
| | Increase/(Decrease) | | **26,297** | **54,291** | **104,409** | **217,523** | **(454,936)** | **520,451** | **(76,566)** | **158,505** | **83,207** | **48,085** | **209,624** | **(34,314)** | **856,576** |
| 0511000 - 0511000 - Maint of Structures - Steam | 0511000 | 2018 | 926,252 | 1,316,137 | 1,160,933 | 1,281,345 | 2,328,833 | 1,763,660 | 993,659 | 2,101,887 | 2,484,964 | 3,427,326 | 1,287,757 | 6,318,859 | 25,391,613 |
| | 0511000 | 2017 | 837,172 | 1,241,054 | 1,609,310 | 1,358,299 | 1,370,442 | (8,241,279) | 1,295,270 | 885,128 | 1,094,246 | 1,140,095 | 1,242,372 | 1,654,027 | 5,486,137 |
| | Increase/(Decrease) | | **89,081** | **75,083** | **(448,377)** | **(76,954)** | **958,391** | **10,004,939** | **(301,611)** | **1,216,759** | **1,390,717** | **2,287,230** | **45,385** | **4,664,832** | **19,905,476** |
| 0512100 - 0512100 - Maint of Boiler Plant - Other | 0512100 | 2018 | 1,899,013 | 2,495,214 | 3,630,391 | 3,211,169 | 2,584,245 | 2,942,054 | 1,430,410 | 2,011,178 | 4,546,547 | 6,175,221 | 4,044,080 | 5,905,383 | 40,874,905 |
| | 0512100 | 2017 | 2,015,437 | 2,317,539 | 3,386,885 | 3,887,521 | 3,993,021 | 2,160,906 | 1,926,312 | 1,815,652 | 5,108,591 | 6,138,341 | 6,696,418 | 4,211,959 | 43,658,583 |
| | Increase/(Decrease) | | **(116,424)** | **177,675** | **243,506** | **(676,352)** | **(1,408,776)** | **781,148** | **(495,902)** | **195,526** | **(562,044)** | **36,879** | **(2,652,338)** | **1,693,424** | **(2,783,678)** |
| 0513100 - 0513100 - Maint of Electric Plant - Other | 0513100 | 2018 | 783,509 | 1,084,278 | 914,498 | 925,693 | 1,230,690 | 759,488 | 724,878 | 1,336,313 | 2,258,639 | 3,375,018 | 2,617,024 | 2,602,905 | 18,612,933 |
| | 0513100 | 2017 | 725,110 | 850,431 | 3,509,641 | 3,065,685 | 2,783,202 | 1,455,764 | 773,861 | 725,262 | 2,085,366 | 5,130,944 | 4,680,809 | 4,026,966 | 29,813,042 |
| | Increase/(Decrease) | | **58,399** | **233,847** | **(2,595,143)** | **(2,139,992)** | **(1,552,512)** | **(696,276)** | **(48,983)** | **611,051** | **173,272** | **(1,755,926)** | **(2,063,786)** | **(1,424,061)** | **(11,200,108)** |
| 0514000 - 0514000 - Maintenance - Misc Steam Plant | 0514000 | 2018 | 105,217 | 293,670 | 607,907 | 2,732 | 419,600 | 322,636 | 302,375 | 697,990 | 705,261 | 445,800 | 670,017 | 1,377,789 | 5,950,994 |
| | 0514000 | 2017 | 263,202 | 343,137 | 466,581 | 401,886 | 396,354 | 715,093 | 250,406 | 525,994 | 877,742 | 1,179,144 | (393,875) | 1,624,968 | 6,650,632 |
| | Increase/(Decrease) | | **(157,985)** | **(49,467)** | **141,326** | **(399,155)** | **23,246** | **(392,457)** | **51,969** | **171,996** | **(172,481)** | **(733,344)** | **1,063,893** | **(247,178)** | **(699,638)** |
| 0510100 - 0510100 - Suprvsn and Engrng-Steam Maint - Rec | 0510100 | 2018 | 24,416 | 28,281 | 34,893 | 29,487 | 25,128 | 35,541 | 34,896 | 38,565 | 35,622 | 47,957 | 71,372 | 93,708 | 499,867 |
| | 0510100 | 2017 | 9,998 | 26,022 | 32,780 | 21,091 | 33,773 | 18,382 | 13,565 | 41,484 | 34,124 | 29,837 | 29,638 | 18,822 | 309,516 |
| | Increase/(Decrease) | | **14,418** | **2,259** | **2,113** | **8,396** | **(8,645)** | **17,159** | **21,332** | **(2,919)** | **1,498** | **18,120** | **41,734** | **74,886** | **190,350** |
| 0511200 - 0511200 - Maint Of Structures-Steam - Recoverable | 0511200 | 2018 | - | - | 150 | - | (150) | - | - | - | - | - | - | - | - |
| | 0511200 | 2017 | - | - | - | 2,977 | 1,233 | 725 | - | - | (4,210) | - | - | - | 725 |
| | Increase/(Decrease) | | - | - | **150** | **(2,977)** | **(1,383)** | **(725)** | - | - | **4,210** | - | - | - | **(725)** |
| 0514300 - 0514300 - Maintenance - Misc Steam Plant | 0514300 | 2018 | 806 | 987 | 230 | 421 | 679 | 507 | 520 | 320 | 517 | 516 | 351 | 337 | 6,191 |
| | 0514300 | 2017 | 464 | 454 | 588 | 530 | 542 | 492 | 647 | 980 | 1,124 | 78 | 717 | 565 | 7,182 |
| | Increase/(Decrease) | | **342** | **533** | **(358)** | **(108)** | **137** | **15** | **(127)** | **(661)** | **(608)** | **438** | **(365)** | **(228)** | **(990)** |
| 0510001 - 0510001 - Deferred O&M-NC | 0510001 | 2018 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 550 |
| | 0510001 | 2017 | 67,684 | 68,722 | 67,684 | 67,684 | 67,684 | 67,684 | 67,684 | 67,684 | 67,684 | 67,837 | 68,073 | 67,684 | 813,787 |
| | Increase/(Decrease) | | **(67,638)** | **(68,676)** | **(67,638)** | **(67,638)** | **(67,638)** | **(67,638)** | **(67,638)** | **(67,638)** | **(67,638)** | **(67,791)** | **(68,027)** | **(67,638)** | **(813,238)** |
| 0510002 - 0510002 - Deferred O&M - SC | 0510002 | 2018 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 45,720 |
| | 0510002 | 2017 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 3,810 | 45,720 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0510003 - 0510003 - Deferred O&M - WH | 0510003 | 2018 | 5,809 | 5,809 | 5,809 | 2,433 | 2,433 | 2,433 | 2,433 | 2,433 | 2,433 | 2,433 | 2,433 | 2,433 | 39,324 |
| | 0510003 | 2017 | 5,809 | 5,809 | 5,809 | 5,809 | 5,809 | 5,809 | 5,809 | 5,809 | 5,809 | 5,809 | 5,809 | 5,809 | 69,708 |
| | Increase/(Decrease) | | - | - | - | **(3,376)** | **(3,376)** | **(3,376)** | **(3,376)** | **(3,376)** | **(3,376)** | **(3,376)** | **(3,376)** | **(3,376)** | **(30,384)** |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0513102 - 0513102 - Main. Electric Plt - NC | 0513102 | 2018 | 183 | 195 | 195 | 46 | (95) | 599 | 84 | 84 | 84 | 84 | 84 | - | 1,544 |
| | 0513102 | 2017 | 396 | 396 | 396 | (1,150) | 396 | 482 | 482 | 482 | 482 | (458) | 80 | 382 | 2,367 |
| | Increase/(Decrease) | | **(213)** | **(201)** | **(201)** | **1,196** | **(491)** | **117** | **(398)** | **(398)** | **(398)** | **543** | **5** | **(382)** | **(824)** |
| 0513103 - 0513103 - Main. Electric Plt - SC | 0513103 | 2018 | 71 | 67 | 67 | 67 | 67 | 63 | 30 | 30 | 30 | 30 | 30 | - | 551 |
| | 0513103 | 2017 | 132 | 132 | 132 | (394) | 132 | 161 | 161 | 161 | 161 | 161 | 161 | 132 | 1,236 |
| | Increase/(Decrease) | | **(61)** | **(65)** | **(65)** | **461** | **(65)** | **(98)** | **(132)** | **(132)** | **(132)** | **(132)** | **(132)** | **(132)** | **(685)** |
| 0541000 - 0541000 - Suprvsn and Engrng - Hydro Maint | 0541000 | 2018 | 219,281 | 218,165 | 175,951 | 198,142 | 215,807 | 244,128 | 276,026 | 238,804 | 225,517 | 194,331 | 249,887 | 277,870 | 2,733,907 |
| | 0541000 | 2017 | 185,361 | 195,447 | 194,657 | 200,514 | 206,199 | 248,297 | 258,782 | 216,963 | 234,576 | 210,827 | 241,342 | 221,723 | 2,614,689 |
| | Increase/(Decrease) | | **33,920** | **22,717** | **(18,706)** | **(2,372)** | **9,608** | **(4,170)** | **17,244** | **21,841** | **(9,059)** | **(16,496)** | **8,545** | **56,147** | **119,219** |
| 0542000 - 0542000 - Maint of Structures - Hydro | 0542000 | 2018 | 60,403 | 50,879 | 58,951 | 33,280 | 70,723 | 111,817 | (4,141) | 125,480 | 63,231 | 101,964 | 28,843 | 41,745 | 743,175 |
| | 0542000 | 2017 | 55,532 | 105,522 | 67,208 | 100,160 | 26,561 | 96,918 | 64,518 | 52,395 | 81,077 | 65,194 | 60,090 | 495,726 | 1,270,898 |
| | Increase/(Decrease) | | **4,871** | **(54,643)** | **(8,257)** | **(66,879)** | **44,162** | **14,899** | **(68,659)** | **73,084** | **(17,846)** | **36,771** | **(31,246)** | **(453,981)** | **(527,723)** |
| 0543000 - 0543000 - Maint - Reservoir Dam and Waterway | 0543000 | 2018 | 96,144 | 137,359 | 224,492 | 327,622 | 385,909 | 277,786 | 245,876 | (57,143) | 168,204 | 526,707 | 286,033 | 554,882 | 3,173,870 |
| | 0543000 | 2017 | 233,283 | 226,060 | 198,956 | 191,570 | 161,079 | 457,615 | 218,041 | 402,006 | 320,142 | 204,364 | 490,080 | 450,335 | 3,553,530 |
| | Increase/(Decrease) | | **(137,139)** | **(88,700)** | **25,536** | **136,052** | **224,831** | **(179,829)** | **27,835** | **(459,149)** | **(151,938)** | **322,343** | **(204,047)** | **104,547** | **(379,659)** |
| 0544000 - 0544000 - Maint of Electric Plant - Hydro | 0544000 | 2018 | 471,855 | 462,497 | 524,725 | 367,681 | 445,977 | 350,276 | 333,436 | 574,345 | 558,325 | 703,496 | 643,606 | 615,397 | 6,051,617 |
| | 0544000 | 2017 | 388,347 | 652,434 | 693,736 | 645,646 | 647,773 | 547,080 | 666,717 | 345,930 | 472,516 | 537,859 | 522,277 | 600,801 | 6,721,117 |
| | Increase/(Decrease) | | **83,508** | **(189,937)** | **(169,010)** | **(277,964)** | **(201,796)** | **(196,804)** | **(333,281)** | **228,415** | **85,809** | **165,636** | **121,329** | **14,596** | **(669,500)** |
| 0545100 - 0545100 - Maint - Misc Hydraulic Plant | 0545100 | 2018 | 275,391 | 138,633 | 356,429 | 199,097 | 8,044 | 326,969 | 154,611 | 713,977 | 180,441 | 149,612 | 206,880 | 357,983 | 3,068,068 |
| | 0545100 | 2017 | 253,634 | 18,619 | 263,831 | 350,846 | 253,679 | 330,687 | 337,767 | (36,975) | 193,583 | 228,919 | 372,919 | 332,942 | 2,900,452 |
| | Increase/(Decrease) | | **21,757** | **120,014** | **92,598** | **(151,749)** | **(245,635)** | **(3,717)** | **(183,156)** | **750,951** | **(13,142)** | **(79,307)** | **(166,039)** | **25,041** | **167,616** |
| 0545400 - 0545400 - Recreation Facilities - Hydro | 0545400 | 2018 | (16,817) | 155,502 | 33,843 | 122,800 | 83,862 | 77,401 | 120,235 | 30,654 | 68,005 | 162,221 | 54,955 | 60,290 | 952,951 |
| | 0545400 | 2017 | 41,348 | 115,295 | 88,189 | 40,422 | 150,304 | 62,634 | 63,112 | 151,357 | 48,015 | 71,221 | 55,897 | 152,992 | 1,040,785 |
| | Increase/(Decrease) | | **(58,165)** | **40,207** | **(54,346)** | **82,379** | **(66,442)** | **14,767** | **57,122** | **(120,703)** | **19,990** | **91,001** | **(941)** | **(92,702)** | **(87,834)** |
| 0569000 - 0569000 - Maint of Structures - Trans | 0569000 | 2018 | 24,028 | 60,356 | 67,123 | 118,227 | 111,753 | 61,210 | 93,380 | 85,425 | 71,828 | 61,363 | 77,212 | 112,094 | 943,999 |
| | 0569000 | 2017 | 7,846 | (48,718) | (18,099) | 9,674 | 12,107 | 55,266 | 15,005 | 10,494 | 24,731 | 29,867 | 29,853 | 23,996 | 152,022 |
| | Increase/(Decrease) | | **16,182** | **109,073** | **85,222** | **108,553** | **99,646** | **5,944** | **78,375** | **74,931** | **47,097** | **31,497** | **47,358** | **88,098** | **791,977** |
| 0569100 - 0569100 - Maint of Computer Hardware | 0569100 | 2018 | 4,286 | 1,001 | 4,383 | 8,697 | 49,903 | 2,652 | 3,310 | 918 | 1,040 | (52) | 753 | 144 | 77,034 |
| | 0569100 | 2017 | 4,324 | 7,274 | 7,244 | 2,165 | 19,431 | 98,364 | 39,256 | 1,114,294 | (731,801) | (379,945) | 18,933 | 21,854 | 221,392 |
| | Increase/(Decrease) | | **(39)** | **(6,273)** | **(2,861)** | **6,532** | **30,472** | **(95,712)** | **(35,945)** | **(1,113,376)** | **732,841** | **379,893** | **(18,180)** | **(21,711)** | **(144,358)** |
| 0569200 - 0569200 - Maint of Computer Software | 0569200 | 2018 | 201,676 | 225,807 | 47,531 | 177,809 | 252,256 | 213,615 | 189,284 | 186,560 | 183,039 | 248,871 | 232,604 | 508,369 | 2,667,421 |
| | 0569200 | 2017 | 207,042 | 144,008 | 155,928 | 162,159 | 157,007 | 186,409 | 175,488 | 153,511 | 2,013,418 | (1,663,096) | 265,671 | 171,763 | 2,129,308 |
| | Increase/(Decrease) | | **(5,366)** | **81,799** | **(108,398)** | **15,650** | **95,249** | **27,205** | **13,796** | **33,050** | **(1,830,378)** | **1,911,967** | **(33,067)** | **336,606** | **538,113** |
| 0569300 - 0569300 - Maint of Communication Equipment | 0569300 | 2018 | 16 | - | 150 | - | - | 7 | - | 38 | - | - | - | - | 210 |
| | 0569300 | 2017 | 4,001 | 3,402 | 1,951 | 1,597 | 1,730 | 1,612 | 2,135 | 1,787 | 1,872 | 1,013 | 822 | 1,467 | 23,389 |
| | Increase/(Decrease) | | **(3,985)** | **(3,402)** | **(1,801)** | **(1,597)** | **(1,730)** | **(1,606)** | **(2,135)** | **(1,749)** | **(1,872)** | **(1,013)** | **(822)** | **(1,467)** | **(23,179)** |
| 0570100 - 0570100 - Maint Stat Equip - Other_Trans | 0570100 | 2018 | (90,128) | (73,907) | 353,706 | 88,184 | 187,023 | 170,816 | (58,144) | 112,441 | 113,968 | 33,762 | 112,005 | 94,085 | 1,043,811 |
| | 0570100 | 2017 | 41,098 | 43,611 | 58,473 | 65,200 | 15,454 | 87,162 | 52,365 | 95,943 | (4,939) | 73,832 | 20,868 | 165,293 | 714,359 |
| | Increase/(Decrease) | | **(131,225)** | **(117,518)** | **295,232** | **22,984** | **171,569** | **83,654** | **(110,509)** | **16,499** | **118,907** | **(40,069)** | **91,137** | **(71,208)** | **329,452** |
| 0570200 - 0570200 - Main - Cir Brkrs Trnsf Mtrs - Trans | 0570200 | 2018 | 550,208 | 508,950 | 761,365 | 601,340 | 833,194 | 853,075 | 409,289 | 812,156 | 550,795 | 600,458 | 403,785 | 524,891 | 7,409,505 |
| | 0570200 | 2017 | 541,383 | 497,646 | 918,116 | 402,397 | 554,025 | 634,524 | 583,344 | 564,480 | 682,405 | 465,311 | 551,710 | 755,712 | 7,151,053 |
| | Increase/(Decrease) | | **8,825** | **11,304** | **(156,751)** | **198,943** | **279,169** | **218,551** | **(174,055)** | **247,676** | **(131,610)** | **135,147** | **(147,925)** | **(230,821)** | **258,452** |
| 0571000 - 0571000 - Maint of Overhead Lines - Trans | 0571000 | 2018 | 1,183,111 | 1,007,126 | 1,668,210 | 1,750,331 | 1,205,467 | 3,240,304 | 1,900,456 | 1,470,798 | 12,854,895 | 852,933 | (509,192) | (1,543,273) | 25,081,167 |
| | 0571000 | 2017 | 679,628 | 1,254,259 | 1,346,167 | 702,640 | 1,029,798 | 1,141,348 | 1,416,223 | 1,001,703 | 2,338,169 | 1,671,056 | 2,317,386 | 959,017 | 15,857,393 |
| | Increase/(Decrease) | | **503,483** | **(247,133)** | **322,044** | **1,047,691** | **175,669** | **2,098,956** | **484,234** | **469,095** | **10,516,726** | **(818,123)** | **(2,826,578)** | **(2,502,290)** | **9,223,773** |
| 0573000 - 0573000 - Maint of Misc Transm Plant | 0573000 | 2018 | 216,426 | 952,598 | 252,851 | 3,138 | 2,068 | 6,144 | 6,623 | 4,217 | 9,861 | (5,573) | 348 | 2,613 | 1,451,315 |
| | 0573000 | 2017 | 1,386 | 765 | 1,216 | 483 | 5,252 | 774 | 1,068 | 1,258 | (1,098) | 918 | 965 | 1,882 | 14,870 |
| | Increase/(Decrease) | | **215,040** | **951,833** | **251,635** | **2,655** | **(3,184)** | **5,370** | **5,555** | **2,958** | **10,960** | **(6,492)** | **(617)** | **731** | **1,436,445** |
| 0572000 - 0572000 - Maintenance of Underground Lines | 0572000 | 2018 | 291 | 1,198 | 569 | 1,242 | 168 | 173 | - | (5,318) | - | - | 429 | - | (1,248) |
| | 0572000 | 2017 | 878 | 248 | 64 | 781 | 902 | 9,698 | 5,208 | - | 11 | (1,046) | 33 | (6,155) | 10,622 |
| | Increase/(Decrease) | | **(587)** | **950** | **506** | **461** | **(734)** | **(9,525)** | **(5,208)** | **(5,318)** | **(11)** | **1,046** | **396** | **6,155** | **(11,870)** |
| 0590000 - 0590000 - Supervsn and Engrng - Dist Maint | 0590000 | 2018 | 388 | 5,303 | 11,070 | 28,752 | 52,334 | 54,981 | 33,742 | 99,974 | 142,129 | 135,919 | 197,701 | 215,487 | 977,779 |
| | 0590000 | 2017 | 510 | 9,540 | 59,924 | 30,312 | 22,576 | 5,996 | 18,533 | 43,514 | 58,422 | 15,178 | 3,368 | 4,402 | 272,276 |
| | Increase/(Decrease) | | **(121)** | **(4,237)** | **(48,855)** | **(1,561)** | **29,758** | **48,985** | **15,209** | **56,460** | **83,707** | **120,741** | **194,333** | **211,086** | **705,504** |
| 0592100 - 0592100 - Maint Station Equip - Other - Dist | 0592100 | 2018 | (8,030) | (18,578) | 109,160 | 61,427 | 25,614 | 61,056 | 96,231 | 133,969 | (151) | 54,646 | 4,666 | 31,608 | 551,617 |
| | 0592100 | 2017 | 135,107 | 23,330 | 62,306 | 6,884 | 20,643 | 41,262 | 67,847 | 49,756 | 13,167 | 16,316 | (3,037) | 39,777 | 473,357 |
| | Increase/(Decrease) | | **(143,137)** | **(41,908)** | **46,854** | **54,543** | **4,971** | **19,794** | **28,384** | **84,213** | **(13,318)** | **38,331** | **7,703** | **(8,169)** | **78,259** |
| 0592200 - 0592200 - Cir Brkrs Trnsf Mters Rely - Dist | 0592200 | 2018 | 219,158 | 267,499 | 701,950 | (95,312) | 328,759 | 418,248 | 353,305 | 527,981 | 485,644 | 240,207 | 300,900 | 269,352 | 4,017,692 |
| | 0592200 | 2017 | 244,366 | 116,256 | 353,858 | (2,289) | 273,857 | 311,717 | 358,109 | 216,790 | 524,298 | 309,659 | 291,712 | 229,511 | 3,227,844 |
| | Increase/(Decrease) | | **(25,208)** | **151,243** | **348,092** | **(93,022)** | **54,902** | **106,531** | **(4,804)** | **311,191** | **(38,654)** | **(69,452)** | **9,188** | **39,840** | **789,847** |
| 0593000 - 0593000 - Maint Overhd Lines - Other - Dist | 0593000 | 2018 | 716,542 | 4,039,800 | 1,340,424 | 10,726,697 | 4,717,423 | 11,661,890 | 2,820,375 | 10,913,646 | 25,873,514 | 9,846,362 | 14,911,995 | 39,444,186 | 137,012,854 |
| | 0593000 | 2017 | 7,210,727 | 3,456,828 | 8,557,257 | 8,165,183 | 4,831,386 | 5,276,400 | 6,601,552 | 4,343,973 | 23,732,415 | 19,387,209 | 437,632 | 15,362,156 | 107,362,718 |
| | Increase/(Decrease) | | **(6,494,185)** | **582,973** | **(7,216,833)** | **2,561,514** | **(113,963)** | **6,385,490** | **(3,781,177)** | **6,569,674** | **2,141,099** | **(9,540,847)** | **14,474,363** | **24,082,030** | **29,650,136** |
| 0593100 - 0593100 - Right - Of - Way Maintenance - Dist | 0593100 | 2018 | 4,574,775 | 4,780,713 | 5,124,434 | 3,955,529 | 5,892,762 | 4,865,769 | 4,532,384 | 5,361,585 | 4,229,523 | 5,508,573 | 5,067,515 | 4,157,618 | 58,051,182 |
| | 0593100 | 2017 | 4,454,672 | 3,895,889 | 4,897,705 | 4,349,564 | 5,159,254 | 5,067,484 | 4,858,920 | 5,300,480 | 3,628,779 | 1,473,216 | 360,628 | 1,672,357 | 45,118,946 |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Increase/(Decrease) | | 120,103 | 884,825 | 226,730 | (394,035) | 733,508 | (201,715) | (326,537) | 61,106 | 600,745 | 4,035,357 | 4,706,887 | 2,485,261 | 12,932,235 |
| 0594000 - 0594000 - Maint - Underground Lines - Dist | 0594000 | 2018 | 1,163,344 | 1,310,374 | 1,706,697 | 1,344,345 | 1,512,695 | 1,967,588 | 1,547,955 | 2,313,647 | 1,842,115 | 1,981,621 | 1,691,532 | 1,945,427 | 20,327,339 |
| | 0594000 | 2017 | 666,829 | 601,272 | 689,648 | 445,674 | 517,848 | 537,545 | 770,095 | 885,350 | 915,003 | 894,750 | 1,016,930 | 979,317 | 8,920,262 |
| | Increase/(Decrease) | | 496,515 | 709,103 | 1,017,049 | 898,670 | 994,847 | 1,430,043 | 777,860 | 1,428,297 | 927,112 | 1,086,871 | 674,602 | 966,109 | 11,407,078 |
| 0595100 - 0595100 - Maint Lines Transfrs - Other - Dist | 0595100 | 2018 | 86,801 | 100,710 | 144,136 | 138,609 | 148,179 | 123,334 | 109,035 | 157,087 | 56,435 | 113,649 | 74,331 | 82,409 | 1,334,715 |
| | 0595100 | 2017 | 75,234 | 132,616 | 133,162 | 93,636 | (81,546) | 104,168 | 88,639 | 91,418 | 100,116 | 88,358 | 70,805 | 88,094 | 984,697 |
| | Increase/(Decrease) | | 11,567 | (31,906) | 10,975 | 44,973 | 229,726 | 19,166 | 20,396 | 65,669 | (43,681) | 25,291 | 3,527 | (5,685) | 350,018 |
| 0595200 - 0595200 - Cir Brkrs Transf Capcitrs - Dist | 0595200 | 2018 | 97,839 | 107,960 | 119,169 | 138,745 | 207,973 | 116,745 | 140,631 | 175,335 | 118,974 | 87,263 | 51,322 | 119,646 | 1,481,601 |
| | 0595200 | 2017 | 84,187 | 39,727 | 91,888 | 82,415 | 96,314 | 94,002 | 106,137 | 38,783 | 98,229 | 61,249 | 37,481 | 51,328 | 881,737 |
| | Increase/(Decrease) | | 13,652 | 68,233 | 27,281 | 56,330 | 111,659 | 22,743 | 34,494 | 136,553 | 20,745 | 26,014 | 13,841 | 68,319 | 599,864 |
| 0596000 - 0596000 - Maint - Streetlightng/Signl - Dist | 0596000 | 2018 | 776,210 | 920,326 | 964,628 | 884,400 | 754,790 | 1,875,798 | 955,180 | 812,011 | 724,346 | 1,421,948 | 1,120,981 | 1,588,835 | 12,799,453 |
| | 0596000 | 2017 | 312,892 | 537,917 | 239,159 | 465,062 | 424,816 | 183,652 | 473,545 | 362,904 | 403,450 | 601,217 | 367,571 | 738,898 | 5,111,083 |
| | Increase/(Decrease) | | 463,318 | 382,408 | 725,469 | 419,338 | 329,974 | 1,692,146 | 481,636 | 449,107 | 320,895 | 820,731 | 753,410 | 849,937 | 7,688,370 |
| 0597000 - 0597000 - Maintenance of Meters - Dist | 0597000 | 2018 | 198,032 | 171,716 | 351,264 | 158,134 | 150,453 | 184,109 | 158,954 | 207,259 | 168,832 | 178,773 | 238,550 | 148,899 | 2,314,975 |
| | 0597000 | 2017 | 202,487 | 204,205 | 249,460 | 193,617 | 237,446 | 211,815 | 219,589 | 186,520 | 288,457 | 176,451 | 171,497 | 207,688 | 2,549,231 |
| | Increase/(Decrease) | | (4,455) | (32,488) | 101,804 | (35,483) | (86,994) | (27,705) | (60,635) | 20,738 | (119,625) | 2,322 | 67,053 | (58,789) | (234,257) |
| 0598100 - 0598100 - Main Misc Dist Plt - Other - Dist | 0598100 | 2018 | 715,479 | 228,671 | 88,279 | 169,933 | 412,176 | 527,070 | 386,517 | 159,846 | 282,471 | 159,092 | 237,864 | 554,579 | 3,921,975 |
| | 0598100 | 2017 | 469,937 | 667,579 | 600,713 | 701,331 | 637,266 | 476,345 | 641,564 | 644,805 | 448,012 | 406,854 | 456,458 | 761,174 | 6,912,040 |
| | Increase/(Decrease) | | 245,541 | (438,908) | (512,435) | (531,399) | (225,090) | 50,726 | (255,047) | (484,959) | (165,540) | (247,762) | (218,595) | (206,595) | (2,990,064) |
| 0591000 - 0591000 - Maintenance of Structures - Dist | 0591000 | 2018 | - | - | - | - | - | - | - | 482 | 191 | - | - | 1,383 | 2,056 |
| | 0591000 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | 482 | 191 | - | - | 1,383 | 2,056 |
| 0551000 - 0551000 - Suprvsn and Enginring - Ct Maint | 0551000 | 2018 | 370,565 | 179,468 | 408,284 | 376,583 | 360,031 | 547,605 | 456,208 | 595,862 | 436,760 | 486,422 | 394,651 | 438,261 | 5,050,700 |
| | 0551000 | 2017 | 295,213 | 262,748 | 365,379 | 284,285 | 237,868 | 347,414 | 326,558 | 235,882 | 375,551 | 294,744 | 200,922 | 224,437 | 3,451,002 |
| | Increase/(Decrease) | | 75,352 | (83,280) | 42,906 | 92,298 | 122,163 | 200,191 | 129,650 | 359,979 | 61,209 | 191,678 | 193,729 | 213,823 | 1,599,698 |
| 0552000 - 0552000 - Maintenance of Structures - Ct | 0552000 | 2018 | 430,557 | 497,993 | 528,757 | 477,958 | 550,659 | 504,401 | 377,780 | 583,165 | 712,853 | 673,815 | 582,119 | 962,330 | 6,882,389 |
| | 0552000 | 2017 | 432,077 | 510,763 | 626,374 | 1,698,619 | 133,886 | 614,719 | 454,253 | 398,284 | 602,977 | 479,930 | 453,548 | 737,045 | 7,142,474 |
| | Increase/(Decrease) | | (1,521) | (12,770) | (97,617) | (1,220,661) | 416,774 | (110,317) | (76,473) | 184,881 | 109,876 | 193,885 | 128,572 | 225,286 | (260,085) |
| 0553000 - 0553000 - Maint - Gentg and Elect Equip - Ct | 0553000 | 2018 | 317,345 | 323,228 | 793,950 | 874,286 | 476,914 | 492,371 | 295,735 | 59,348 | 617,030 | 440,309 | 519,969 | 1,562,441 | 6,772,926 |
| | 0553000 | 2017 | 424,720 | 481,377 | 360,599 | 1,498,020 | 948,874 | (25,766) | 392,517 | 327,747 | 540,466 | 660,797 | 380,610 | 1,440,709 | 7,430,669 |
| | Increase/(Decrease) | | (107,376) | (158,150) | 433,351 | (623,734) | (471,960) | 518,137 | (96,782) | (268,399) | 76,564 | (220,488) | 139,360 | 121,732 | (657,743) |
| 0554000 - 0554000 - Misc Power Generation Plant - Ct | 0554000 | 2018 | 336,889 | 320,502 | 336,165 | 299,286 | 206,426 | 247,015 | 252,477 | 235,641 | 354,341 | 426,964 | 450,118 | 798,468 | 4,264,290 |
| | 0554000 | 2017 | 285,541 | 295,088 | 563,050 | 318,815 | 408,297 | 393,282 | 358,537 | 349,185 | 493,833 | 359,878 | 399,623 | 1,073,353 | 5,298,481 |
| | Increase/(Decrease) | | 51,348 | 25,413 | (226,886) | (19,529) | (201,871) | (146,267) | (106,059) | (113,545) | (139,492) | 67,086 | 50,495 | (274,885) | (1,034,191) |
| 0554100 - 0554100 - Other Production Maintenance | 0554100 | 2018 | 349 | 590 | 295 | 8,286 | 4,522 | 2,575 | 25,386 | 8,793 | 2,575 | 12,677 | 64,473 | 10,055 | 140,576 |
| | 0554100 | 2017 | 3,697 | 4,169 | 2,266 | - | 2,338 | 2,622 | 6,499 | 84,443 | 4,855 | 590 | 295 | 2,975 | 114,748 |
| | Increase/(Decrease) | | (3,348) | (3,579) | (1,971) | 8,286 | 2,183 | (47) | 18,888 | (75,649) | (2,280) | 12,087 | 64,178 | 7,081 | 25,829 |
| 0528000 - 0528000 - Maint Suprvsn and Enginrng - Nuc | 0528000 | 2018 | 5,263,347 | 4,667,804 | 5,396,416 | 5,384,258 | 5,472,764 | 4,491,122 | 4,717,435 | 5,314,554 | 5,149,950 | 5,947,886 | 5,325,508 | 3,456,092 | 60,587,136 |
| | 0528000 | 2017 | 5,877,408 | 6,342,357 | 5,869,589 | 6,498,794 | 6,626,638 | 5,727,738 | 4,007,567 | 5,593,063 | 5,837,988 | 6,297,246 | 6,424,768 | 6,831,475 | 71,934,632 |
| | Increase/(Decrease) | | (614,061) | (1,674,553) | (473,173) | (1,114,537) | (1,153,873) | (1,236,616) | 709,867 | (278,509) | (688,038) | (349,359) | (1,099,260) | (3,375,383) | (11,347,495) |
| 0529000 - 0529000 - Maintenance of Structures - Nuc | 0529000 | 2018 | 782,163 | 987,851 | 923,822 | 1,166,401 | 1,279,955 | 1,056,610 | 838,936 | 956,959 | 935,841 | 1,241,587 | 1,050,361 | 2,350,722 | 13,571,207 |
| | 0529000 | 2017 | 732,775 | 777,229 | 1,300,190 | 1,219,432 | 980,926 | 883,200 | 849,184 | 1,044,967 | 1,057,455 | 1,093,914 | 1,637,752 | 881,270 | 12,458,294 |
| | Increase/(Decrease) | | 49,387 | 210,622 | (376,368) | (53,031) | 299,030 | 173,409 | (10,249) | (88,009) | (121,614) | 147,673 | (587,391) | 1,469,453 | 1,112,913 |
| 0530000 - 0530000 - Maint of Reactor Plt Equip - Nuc | 0530000 | 2018 | 4,518,374 | 7,215,109 | 3,510,173 | 7,537,004 | 10,432,697 | 4,352,150 | 3,942,503 | 6,243,849 | 10,927,759 | 11,034,152 | 10,954,147 | 5,500,075 | 86,167,991 |
| | 0530000 | 2017 | 5,382,665 | 4,964,437 | 11,611,200 | 11,827,486 | 5,119,433 | 6,009,150 | 3,735,815 | 5,396,372 | 10,928,861 | 12,327,759 | 8,764,572 | 4,366,357 | 90,434,108 |
| | Increase/(Decrease) | | (864,292) | 2,250,672 | (8,101,027) | (4,290,483) | 5,313,264 | (1,657,001) | 206,688 | 847,477 | (1,101) | (1,293,607) | 2,189,575 | 1,133,718 | (4,266,117) |
| 0531100 - 0531100 - Maint Electric Plt - Other - Nuc | 0531100 | 2018 | 2,909,902 | 2,960,834 | 3,825,466 | 4,978,735 | 9,862,823 | 1,894,142 | 2,745,809 | 2,910,139 | 6,997,288 | 6,642,274 | 8,722,337 | 4,442,457 | 58,892,206 |
| | 0531100 | 2017 | 2,193,763 | 2,248,894 | 6,212,631 | 7,576,181 | 3,952,744 | 3,042,352 | 2,842,713 | 3,472,424 | 6,634,111 | 6,454,524 | 8,796,185 | 3,529,885 | 56,956,406 |
| | Increase/(Decrease) | | 716,138 | 711,939 | (2,387,165) | (2,597,446) | 5,910,080 | (1,148,211) | (96,904) | (562,285) | 363,177 | 187,750 | (73,847) | 912,572 | 1,935,800 |
| 0531200 - 0531200 - Monitor Ventiltn Gas - Nuc Maint | 0531200 | 2018 | (195,088) | - | - | - | - | - | - | - | - | - | - | (48,414) | (243,502) |
| | 0531200 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | (195,088) | - | - | - | - | - | - | - | - | - | - | (48,414) | (243,502) |
| 0532100 - 0532100 - Maint Misc Nuclear Plt - Other | 0532100 | 2018 | 2,938,838 | 2,740,907 | 3,592,132 | 3,949,547 | 4,615,123 | 2,586,699 | 2,917,980 | 3,204,520 | 7,437,183 | 5,558,420 | 5,657,990 | 15,196,220 | 60,395,557 |
| | 0532100 | 2017 | 2,850,192 | 2,488,584 | 3,818,416 | 5,047,932 | 3,238,678 | 3,440,046 | 2,538,902 | 3,289,525 | 5,024,426 | 5,696,886 | 5,903,585 | 4,901,253 | 48,238,427 |
| | Increase/(Decrease) | | 88,646 | 252,323 | (226,284) | (1,098,385) | 1,376,445 | (853,347) | 379,077 | (85,006) | 2,412,757 | (138,466) | (245,595) | 10,294,967 | 12,157,130 |
| 0528001 - 0528001 - Main Sup and Eng Nuc - NC | 0528001 | 2018 | 172,631 | 178,792 | (155,116) | (167,681) | (267,690) | 154,976 | 154,829 | 154,246 | (163,567) | (337,773) | (374,946) | (20,271) | (671,571) |
| | 0528001 | 2017 | 261,690 | 261,690 | 143,656 | (105,601) | 30,867 | 210,888 | 243,490 | 240,272 | (24,051) | (95,377) | (325,776) | 180,871 | 1,022,620 |
| | Increase/(Decrease) | | (89,060) | (82,898) | (298,772) | (62,081) | (298,557) | (55,912) | (88,661) | (86,026) | (139,516) | (242,396) | (49,170) | (201,142) | (1,694,191) |
| 0528002 - 0528002 - Main Sup and Eng Nuc - SC | 0528002 | 2018 | 63,741 | 61,977 | (57,424) | (61,924) | (97,707) | 54,068 | 54,986 | 54,929 | (57,337) | (121,447) | (134,761) | (7,583) | (248,482) |
| | 0528002 | 2017 | 87,664 | 87,664 | 47,505 | (37,299) | 9,130 | 70,732 | 81,917 | 80,822 | (12,703) | (37,874) | (119,322) | 50,761 | 308,998 |
| | Increase/(Decrease) | | (23,923) | (25,687) | (104,929) | (24,625) | (106,837) | (16,664) | (26,932) | (25,893) | (44,634) | (83,573) | (15,440) | (58,344) | (557,480) |
| 0529001 - 0529001 - Main of Structure Nuc - NC | 0529001 | 2018 | 56,408 | 58,251 | 43,938 | (81,226) | (130,408) | (7,461) | 64,747 | 58,293 | (485) | (122,640) | (74,773) | 2,170 | (133,186) |
| | 0529001 | 2017 | 99,142 | 99,142 | 2,879 | (17,595) | 29,062 | 78,274 | 79,046 | 54,290 | (26,982) | (100,972) | (235,365) | 11,352 | 72,274 |
| | Increase/(Decrease) | | (42,734) | (40,891) | 41,059 | (63,631) | (159,470) | (85,736) | (14,300) | 4,003 | 26,496 | (21,668) | 160,593 | (9,183) | (205,460) |

/A



**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0529002 - 0529002 - Main of Structure Nuc - SC | 0529002 | 2018 | 21,245 | 20,442 | 15,313 | (29,499) | (47,131) | (3,080) | 22,969 | 20,658 | (395) | (44,146) | (27,002) | 638 | (49,987) |
| | 0529002 | 2017 | 33,077 | 33,077 | 326 | (6,641) | 9,234 | 26,235 | 26,507 | 18,084 | (11,304) | (37,131) | (84,640) | (353) | 6,471 |
| | Increase/(Decrease) | | **(11,832)** | **(12,635)** | **14,987** | **(22,858)** | **(56,364)** | **(29,315)** | **(3,537)** | **2,574** | **10,909** | **(7,015)** | **57,638** | **991** | **(56,458)** |
| 0530001 - 0530001 - Main Reactor Plt Eq Nuc - NC | 0530001 | 2018 | 1,589,587 | 1,260,358 | 940,673 | (731,162) | (1,827,443) | 1,336,663 | 1,579,238 | 818,567 | (3,010,075) | (2,854,701) | (1,537,408) | 88,343 | (2,347,358) |
| | 0530001 | 2017 | 1,847,308 | 1,847,308 | (1,755,065) | (3,276,777) | 861,788 | 1,967,285 | 1,822,052 | 1,241,479 | (2,042,124) | (3,172,971) | (3,273,138) | 1,502,927 | (2,429,925) |
| | Increase/(Decrease) | | **(257,722)** | **(586,951)** | **2,695,738** | **2,545,615** | **(2,689,231)** | **(630,622)** | **(242,813)** | **(422,911)** | **(967,951)** | **318,269** | **1,735,730** | **(1,414,584)** | **82,567** |
| 0530002 - 0530002 - Main Reactor Plt Eq Nuc - SC | 0530002 | 2018 | 605,373 | 440,185 | 321,931 | (274,985) | (667,634) | 467,704 | 559,752 | 287,306 | (1,083,980) | (1,028,330) | (556,522) | 27,953 | (901,246) |
| | 0530002 | 2017 | 617,758 | 617,758 | (607,881) | (1,125,614) | 282,454 | 662,137 | 613,310 | 415,781 | (760,406) | (1,152,460) | (1,187,870) | 383,844 | (1,241,188) |
| | Increase/(Decrease) | | **(12,385)** | **(177,574)** | **929,812** | **850,629** | **(950,088)** | **(194,433)** | **(53,558)** | **(128,475)** | **(323,573)** | **124,130** | **631,348** | **(355,891)** | **339,942** |
| 0531101 - 0531101 - Main Elect Plt Other Nuc - NC | 0531101 | 2018 | 816,757 | 678,221 | 521,292 | (791,937) | (2,643,552) | 763,966 | 902,393 | 981,127 | (1,145,526) | (1,900,687) | (2,633,162) | 786,047 | (3,665,062) |
| | 0531101 | 2017 | 1,234,073 | 1,234,073 | 303,791 | (1,857,107) | 319,289 | 1,064,008 | 1,053,536 | 928,546 | (1,002,894) | (1,148,541) | (2,135,066) | 601,239 | 594,945 |
| | Increase/(Decrease) | | **(417,316)** | **(555,852)** | **217,501** | **1,065,170** | **(2,962,841)** | **(300,042)** | **(151,143)** | **52,581** | **(142,632)** | **(752,146)** | **(498,096)** | **184,808** | **(4,260,007)** |
| 0531102 - 0531102 - Main Elect Plt Other Nuc - SC | 0531102 | 2018 | 337,350 | 263,482 | 205,635 | (263,897) | (927,081) | 266,919 | 320,178 | 348,378 | (413,315) | (683,787) | (946,134) | 140,274 | (1,351,997) |
| | 0531102 | 2017 | 438,662 | 438,662 | 122,151 | (613,053) | 127,425 | 383,497 | 380,627 | 338,101 | (347,992) | (397,820) | (746,478) | 161,505 | 285,288 |
| | Increase/(Decrease) | | **(101,313)** | **(175,181)** | **83,484** | **349,155** | **(1,054,506)** | **(116,578)** | **(60,449)** | **10,277** | **(65,322)** | **(285,967)** | **(199,656)** | **(21,230)** | **(1,637,285)** |
| 0532101 - 0532101 - Main Misc Nuc Plt - NC | 0532101 | 2018 | 410,253 | 369,853 | 173,974 | (367,701) | (983,132) | 428,651 | 441,477 | 382,258 | (1,824,730) | (1,228,115) | (1,268,814) | (136,523) | (3,602,549) |
| | 0532101 | 2017 | 434,787 | 434,787 | 75,808 | (720,611) | 50,593 | 360,729 | 385,102 | 284,023 | (582,818) | (1,277,649) | (1,330,427) | 243,889 | (1,641,787) |
| | Increase/(Decrease) | | **(24,534)** | **(64,935)** | **98,166** | **352,910** | **(1,033,725)** | **67,922** | **56,375** | **98,235** | **(1,241,912)** | **49,535** | **61,613** | **(380,411)** | **(1,960,762)** |
| 0532102 - 0532102 - Main Misc Nuc Plt - SC | 0532102 | 2018 | 153,802 | 129,909 | 59,278 | (134,724) | (355,128) | 149,873 | 156,951 | 135,735 | (654,447) | (440,942) | (455,668) | (48,736) | (1,304,096) |
| | 0532102 | 2017 | 145,377 | 145,377 | 23,242 | (247,726) | 14,662 | 121,203 | 129,636 | 95,245 | (213,871) | (458,157) | (476,814) | 56,036 | (665,789) |
| | Increase/(Decrease) | | **8,425** | **(15,468)** | **36,036** | **113,002** | **(369,790)** | **28,670** | **27,315** | **40,489** | **(440,575)** | **17,215** | **21,146** | **(104,772)** | **(638,308)** |
| 0935100 - 0935100 - Maint General Plant-Elec | 0935100 | 2018 | 345,826 | 255,890 | 255,680 | 200,963 | 239,337 | 140,752 | 196,043 | 364,787 | 115,039 | (38,000) | 93,024 | 753,373 | 2,922,713 |
| | 0935100 | 2017 | 248,076 | 370,587 | (158,852) | 149,767 | 111,324 | (35,462) | 186,934 | 174,882 | 172,793 | 125,807 | 147,854 | 791,688 | 2,285,396 |
| | Increase/(Decrease) | | **97,750** | **(114,697)** | **414,532** | **51,196** | **128,013** | **176,213** | **9,109** | **189,905** | **(57,754)** | **(163,807)** | **(54,829)** | **(38,314)** | **637,317** |
| 0935200 - 0935200 - Cust Infor and Computer Control | 0935200 | 2018 | 4 | 94,549 | 13,487 | 14,217 | 993 | (84,987) | (1,576) | (26,004) | 2,717 | 1,024 | 183 | (76,045) | (61,439) |
| | 0935200 | 2017 | 436 | (69) | (755) | 31 | 110 | 327 | 89 | 1,361 | 109 | 129 | 252 | 257 | 2,276 |
| | Increase/(Decrease) | | **(431)** | **94,618** | **14,241** | **14,186** | **883** | **(85,314)** | **(1,666)** | **(27,365)** | **2,608** | **896** | **(69)** | **(76,302)** | **(63,715)** |
| 0554220 - 0554220 - Solar: Maint Misc Gen Plt | 0554220 | 2018 | - | 3,991 | 4,260 | 5,451 | 3,648 | 879 | 6,274 | 6,782 | 9,311 | 4,389 | 9,871 | 12,668 | 67,523 |
| | 0554220 | 2017 | 1,763 | 464 | - | 590 | 451 | 3,925 | (1,252) | 295 | 112 | - | - | - | 6,348 |
| | Increase/(Decrease) | | **(1,763)** | **3,527** | **4,260** | **4,861** | **3,197** | **(3,046)** | **7,526** | **6,487** | **9,199** | **4,389** | **9,871** | **12,668** | **61,175** |
| 0408000 - 0408000 - NC Property Tax - Electric | 0408000 | 2018 | 7,700,008 | 7,699,753 | 7,699,753 | 7,696,140 | 7,699,753 | 7,702,601 | 7,706,417 | 7,698,658 | 4,864,188 | 7,706,105 | 7,706,106 | 7,706,104 | 89,585,588 |
| | 0408000 | 2017 | 7,254,178 | 7,249,901 | 6,918,347 | 7,250,251 | 7,250,312 | 7,158,900 | 7,255,663 | 7,250,313 | 7,250,313 | 7,247,255 | 7,253,370 | 5,923,311 | 85,262,116 |
| | Increase/(Decrease) | | **445,830** | **449,852** | **781,406** | **445,889** | **449,441** | **543,701** | **450,754** | **448,345** | **(2,386,125)** | **458,850** | **452,736** | **1,782,793** | **4,323,472** |
| 0408100 - 0408100 - Franchise Tax - Electric | 0408100 | 2018 | (17,204) | - | - | 255,456 | - | 38,643 | 9,901 | 15,424 | 20,978 | (64,058) | 21,758 | 30,315 | 311,213 |
| | 0408100 | 2017 | 10,034 | 31,217 | (14,540) | (1,290) | 350 | 110,780 | (115,102) | (2,305) | 42,433 | 14,668 | (15,989) | (140,176) | (79,920) |
| | Increase/(Decrease) | | **(27,238)** | **(31,217)** | **14,540** | **256,746** | **(350)** | **(72,137)** | **125,003** | **17,729** | **(21,455)** | **(78,726)** | **37,747** | **170,491** | **391,133** |
| 0408150 - 0408150 - State Unemployment Tax | 0408150 | 2018 | 187,967 | 157,987 | 32,024 | 4,744 | 4,409 | 3,895 | 3,945 | 3,779 | 2,186 | 2,104 | 1,744 | 1,703 | 406,487 |
| | 0408150 | 2017 | 315,718 | 241,425 | 163,308 | 13,363 | 8,905 | 7,184 | 5,459 | 3,589 | 5,626 | 4,098 | 3,724 | 3,798 | 776,198 |
| | Increase/(Decrease) | | **(127,751)** | **(83,438)** | **(131,284)** | **(8,619)** | **(4,496)** | **(3,289)** | **(1,514)** | **190** | **(3,440)** | **(1,994)** | **(1,981)** | **(2,095)** | **(369,711)** |
| 0408151 - 0408151 - Federal Unemployment Tax | 0408151 | 2018 | 298,227 | 7,473 | (97,327) | 34,721 | 36,139 | 422,774 | (22,352) | (23,419) | (240,254) | 39,391 | 38,307 | (207,780) | 285,900 |
| | 0408151 | 2017 | 289,100 | 8,600 | (12,388) | 32,682 | 31,986 | 738,327 | (20,736) | (27,323) | (279,511) | 32,682 | 32,136 | 91,298 | 916,855 |
| | Increase/(Decrease) | | **9,127** | **(1,128)** | **(84,940)** | **2,040** | **4,153** | **(315,553)** | **(1,616)** | **3,903** | **39,256** | **6,710** | **6,171** | **(299,079)** | **(630,955)** |
| 0408152 - 0408152 - Employer FICA Tax | 0408152 | 2018 | 5,964,033 | 6,056,640 | 4,698,085 | 6,330,632 | 5,511,801 | 5,834,914 | 5,781,493 | 6,840,327 | 5,818,602 | 6,028,058 | 6,374,670 | 5,421,182 | 70,660,436 |
| | 0408152 | 2017 | 5,941,481 | 5,644,486 | 5,140,665 | 6,144,241 | 5,968,681 | 5,630,615 | 5,578,136 | 6,367,305 | 6,620,959 | 5,509,891 | 6,228,549 | 5,152,628 | 69,927,636 |
| | Increase/(Decrease) | | **22,552** | **412,154** | **(442,580)** | **186,391** | **(456,881)** | **204,299** | **203,356** | **473,022** | **(802,357)** | **518,167** | **146,121** | **268,554** | **732,800** |
| 0408200 - 0408200 - NC Industrial Comm - Electric | 0408200 | 2018 | 19,433 | 19,433 | 14,203 | 14,203 | 14,203 | 14,203 | 14,203 | 14,203 | 14,203 | 14,203 | 14,203 | 14,203 | 180,894 |
| | 0408200 | 2017 | 22,710 | 22,710 | 12,879 | 19,433 | 19,433 | 19,433 | 19,433 | 19,433 | 19,433 | 19,433 | 19,433 | 19,433 | 233,195 |
| | Increase/(Decrease) | | **(3,277)** | **(3,277)** | **1,324** | **(5,230)** | **(5,230)** | **(5,230)** | **(5,230)** | **(5,230)** | **(5,230)** | **(5,230)** | **(5,230)** | **(5,230)** | **(52,301)** |
| 0408360 - 0408360 - SC Property Tax - Electric | 0408360 | 2018 | 10,279,649 | 10,034,483 | 10,040,334 | 10,061,429 | 10,060,290 | 10,024,241 | 10,028,413 | 10,025,966 | 6,473,847 | 10,028,077 | 10,020,745 | 10,030,716 | 117,108,190 |
| | 0408360 | 2017 | 9,483,560 | 9,269,215 | 9,283,237 | 9,284,885 | 9,284,405 | 9,302,072 | 9,340,841 | 9,276,238 | 9,271,967 | 9,272,793 | 9,283,118 | 12,819,313 | 115,171,645 |
| | Increase/(Decrease) | | **796,089** | **765,268** | **757,096** | **776,544** | **775,885** | **722,169** | **687,572** | **749,728** | **(2,798,120)** | **755,283** | **737,627** | **(2,788,597)** | **1,936,545** |
| 0408460 - 0408460 - SC Kwh Power Gen Tax - Electric | 0408460 | 2018 | 927,979 | 900,563 | 700,591 | 617,827 | 689,920 | 734,312 | 1,125,549 | 908,376 | 831,283 | 845,317 | 723,255 | 696,397 | 9,701,369 |
| | 0408460 | 2017 | 763,510 | 904,654 | 479,472 | 605,872 | 698,480 | 708,116 | 1,038,699 | 894,055 | 901,322 | 821,349 | 479,694 | 615,176 | 8,910,400 |
| | Increase/(Decrease) | | **164,469** | **(4,091)** | **221,119** | **11,955** | **(8,560)** | **26,196** | **86,850** | **14,321** | **(70,039)** | **23,968** | **243,561** | **81,221** | **790,969** |
| 0408470 - 0408470 - Franchise Tax | 0408470 | 2018 | 2,267,778 | 697,778 | 2,551,042 | 2,417,689 | 2,506,591 | 2,462,140 | 2,417,689 | 2,506,591 | 2,462,140 | 1,723,063 | 1,753,379 | 1,725,819 | 25,491,697 |
| | 0408470 | 2017 | 2,133,059 | 2,133,059 | 2,366,915 | 2,176,859 | 2,254,293 | 2,215,621 | 2,215,576 | 2,215,576 | 2,215,576 | 2,660,423 | 2,545,099 | 2,545,099 | 27,677,154 |
| | Increase/(Decrease) | | **134,719** | **(1,435,281)** | **184,126** | **240,830** | **252,298** | **246,519** | **202,113** | **291,015** | **246,564** | **(937,360)** | **(791,720)** | **(819,280)** | **(2,185,457)** |
| 0408620 - 0408620 - SC Greenwood Tax - Electric | 0408620 | 2018 | - | - | 193 | - | - | 190 | - | - | 190 | - | - | 187 | 761 |
| | 0408620 | 2017 | - | - | - | 199 | - | 195 | - | - | - | 195 | - | 194 | 782 |
| | Increase/(Decrease) | | **-** | **-** | **193** | **(199)** | **-** | **(5)** | **-** | **-** | **190** | **(195)** | **-** | **(6)** | **(21)** |
| 0408800 - 0408800 - Federal Highway Use Tax - Elec | 0408800 | 2018 | - | 324 | 48 | - | - | 35 | 50,889 | 1,227 | 518 | 2,429 | 1,390 | 733 | 57,594 |
| | 0408800 | 2017 | 113 | 225 | 250 | - | (385) | 12 | 46,643 | 103 | 184 | 165 | 1,950 | (94) | 49,167 |
| | Increase/(Decrease) | | **(113)** | **99** | **(202)** | **-** | **385** | **23** | **4,246** | **1,124** | **334** | **2,264** | **(560)** | **827** | **8,427** |
| 0408960 - 0408960 - Allocated Payroll Taxes | 0408960 | 2018 | (1,626,105) | (1,949,867) | (3,594,926) | (2,529,570) | (2,496,337) | (1,621,203) | (2,236,735) | (3,039,798) | (2,850,332) | (2,592,256) | (2,668,454) | 7,153,302 | (20,052,280) |
| | 0408960 | 2017 | (802,622) | (1,688,671) | (4,360,064) | (1,897,897) | (2,265,909) | (2,530,385) | (1,727,884) | (2,249,505) | (2,416,080) | (2,413,146) | (1,785,835) | (123,791) | (24,261,788) |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| Account | Code | Year | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Increase/(Decrease) | | **(823,483)** | **(261,196)** | **765,138** | **(631,672)** | **(230,428)** | **909,183** | **(508,852)** | **(790,292)** | **(434,252)** | **(179,110)** | **(882,619)** | **7,277,092** | **4,209,508** |
| 0408120 - 0408120 - Framchise Tax - Non Electric | 0408120 | 2018 | - | 864,920 | - | - | - | - | - | - | - | - | - | - | 864,920 |
| | 0408120 | 2017 | - | - | - | - | - | 44 | - | (35) | 537 | 562 | - | 35 | 1,142 |
| | Increase/(Decrease) | | **-** | **864,920** | **-** | **-** | **-** | **(44)** | **-** | **35** | **(537)** | **(562)** | **-** | **(35)** | **863,778** |
| 0408121 - 0408121 - Taxes Property - Operating | 0408121 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0408121 | 2017 | 13,616 | - | - | - | - | - | - | - | - | - | - | - | 13,616 |
| | Increase/(Decrease) | | **(13,616)** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(13,616)** |
| 0408205 - 0408205 - Highway Use Tax | 0408205 | 2018 | 26,110 | (11) | - | 652 | (2,404) | - | 97 | - | - | 175 | - | - | 24,620 |
| | 0408205 | 2017 | 890 | - | - | 984 | - | - | 1,234 | - | - | 888 | - | - | 3,996 |
| | Increase/(Decrease) | | **25,220** | **(11)** | **-** | **(332)** | **(2,404)** | **-** | **(1,137)** | **-** | **-** | **(713)** | **-** | **-** | **20,624** |
| 0408851 - 0408851 - Sales and Use Tax Exp | 0408851 | 2018 | (86) | (1,457,445) | (178,390) | 493 | (26,136) | (292,413) | 646 | (971,289) | (13) | 611 | (28) | (15) | (2,924,063) |
| | 0408851 | 2017 | 5,227 | (28) | (2,612,221) | (6,647) | (13) | (2,875) | (74,565) | (1,012) | (5,506,569) | (11) | (28) | (72,150) | (8,270,893) |
| | Increase/(Decrease) | | **(5,312)** | **(1,457,417)** | **2,433,832** | **7,141** | **(26,123)** | **(289,537)** | **75,212** | **(970,276)** | **5,506,556** | **622** | **(0)** | **72,135** | **5,346,831** |
| 0408123 - 0408123 - Deferred Property Tax - NC | 0408123 | 2018 | - | - | - | - | - | - | - | 8,050 | 8,050 | 8,050 | 8,050 | 8,050 | 40,251 |
| | 0408123 | 2017 | 72,211 | 72,211 | 72,211 | 72,211 | 72,211 | 72,211 | 72,211 | 72,211 | 72,211 | 72,211 | 72,211 | 72,211 | 866,532 |
| | Increase/(Decrease) | | (72,211) | (72,211) | (72,211) | (72,211) | (72,211) | (72,211) | (72,211) | (64,161) | (64,161) | (64,161) | (64,161) | (64,161) | (826,281) |
| 0408124 - 0408124 - Deferred Property Tax - SC | 0408124 | 2018 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 45,984 |
| | 0408124 | 2017 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 45,984 |
| | Increase/(Decrease) | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0408125 - 0408124 - Deferred Property Tax - WH | 0408125 | 2018 | 6,459 | 6,459 | 6,459 | 2,276 | 2,276 | 2,276 | 2,276 | 2,276 | 2,276 | 2,276 | 2,276 | 2,276 | 39,860 |
| | 0408125 | 2017 | 6,459 | 6,459 | 6,459 | 6,459 | 6,459 | 6,459 | 6,459 | 6,459 | 6,459 | 6,459 | 6,459 | 6,459 | 77,508 |
| | Increase/(Decrease) | | **(0)** | **(0)** | **(0)** | **(4,183)** | **(4,183)** | **(4,183)** | **(4,183)** | **(4,183)** | **(4,183)** | **(4,183)** | **(4,183)** | **(4,183)** | **(37,648)** |
| 0409190 - 0409190 - Federal Income Tax - Electric CY | 0409190 | 2018 | - | 29,885,190 | (18,268,645) | 10,322,503 | 73,715 | 17,205,032 | 61,675,444 | (15,975,526) | 9,091,983 | 38,616,373 | (2,632,108) | (55,684,174) | 74,309,787 |
| | 0409190 | 2017 | - | 1,163,392 | (18,249,583) | 21,884,604 | (17,758,646) | 13,049,794 | 99,496,720 | 94,001,478 | (100,087,995) | 7,933,468 | (20,467,903) | 70,168,915 | 151,134,244 |
| | Increase/(Decrease) | | **-** | **28,721,798** | **(19,062)** | **(11,562,101)** | **17,832,361** | **4,155,238** | **(37,821,276)** | **(109,977,004)** | **109,179,978** | **30,682,905** | **17,835,795** | **(125,853,089)** | **(76,824,457)** |
| 0409192 - 0409192 - UTP Tax Expense: Fed Util-PY | 0409192 | 2018 | - | - | (597,789) | - | - | - | - | - | - | - | - | - | (597,789) |
| | 0409192 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **(597,789)** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(597,789)** |
| 0409191 - 0409191 - Federal Income Tax - Electric PY | 0409191 | 2018 | - | - | - | - | - | - | - | (79,427,344) | - | (0) | 40,721 | - | (79,386,624) |
| | 0409191 | 2017 | - | - | - | - | - | - | - | 54,848,932 | 2,323,680 | (0) | - | - | 57,172,612 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(134,276,276)** | **(2,323,680)** | **0** | **40,721** | **-** | **(136,559,235)** |
| 0409195 - 0409195 - UTP Tax Expense: Fed Util - PY | 0409195 | 2018 | - | - | - | - | - | - | - | - | 2,167,967 | - | - | - | 2,167,967 |
| | 0409195 | 2017 | - | - | - | - | - | - | - | - | 4,122,726 | - | - | - | 4,122,726 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(1,954,759)** | **-** | **-** | **-** | **(1,954,759)** |
| 0409102 - 0409102 - SIT Exp - Utility | 0409102 | 2018 | - | 4,595,726 | (3,147,576) | - | 658,343 | 1,189,737 | - | 6,200,487 | (1,331,009) | 5,389,071 | (35,364) | (3,090,898) | 10,428,517 |
| | 0409102 | 2017 | - | 2,165,170 | (2,583,020) | - | 1,569,786 | 2,019,128 | - | 0 | 10,453,522 | 1,445,377 | (1,527,581) | 1,934,834 | 15,477,217 |
| | Increase/(Decrease) | | **-** | **2,430,556** | **(564,556)** | **-** | **(911,443)** | **(829,391)** | **-** | **6,200,486** | **(11,784,531)** | **3,943,694** | **1,492,217** | **(5,025,732)** | **(5,048,700)** |
| 0409104 - 0409104 - Current State Income Tax - PY | 0409104 | 2018 | - | - | - | - | - | - | - | (9,590,273) | - | 3,373,852 | - | - | (6,216,421) |
| | 0409104 | 2017 | - | - | - | - | - | - | - | 6,639,085 | - | (2,541,247) | - | - | 4,097,838 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(16,229,358)** | **-** | **5,915,099** | **-** | **-** | **(10,314,259)** |
| 0409112 - 0409112 - UTP Tax Expense: State Utility | 0409112 | 2018 | - | - | 3,460,441 | - | - | - | - | - | - | - | - | - | 3,460,441 |
| | 0409112 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **3,460,441** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **3,460,441** |
| 0409113 - 0409113 - UTP Tax Exp: State Util-PY | 0409113 | 2018 | - | - | (613,827) | - | - | - | - | - | - | - | - | - | (613,827) |
| | 0409113 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **(613,827)** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(613,827)** |
| 0410100 - 0410100 - Dfit: Utility: Current Year | 0410100 | 2018 | - | 133,838,710 | 71,256,054 | - | 106,012,191 | 251,984,301 | - | 112,242,847 | 81,902,684 | 3,677,517 | 29,585,667 | 254,990,459 | 1,045,490,430 |
| | 0410100 | 2017 | - | 202,580,971 | 196,114,136 | - | 185,716,667 | 107,436,706 | - | (0) | 402,401,271 | 90,648,172 | 125,545,406 | 41,213,615 | 1,351,656,943 |
| | Increase/(Decrease) | | **-** | **(68,742,261)** | **(124,858,082)** | **-** | **(79,704,476)** | **144,547,595** | **-** | **112,242,847** | **(320,498,587)** | **(86,970,655)** | **(95,959,740)** | **213,776,844** | **(306,166,513)** |
| 0410102 - 0410102 - Dsit: Utility: Current Year | 0410102 | 2018 | - | 19,863,521 | 10,599,275 | - | 15,800,557 | 36,958,852 | - | 16,446,713 | 15,018,996 | 312,570 | 3,640,600 | 36,265,949 | 154,907,033 |
| | 0410102 | 2017 | - | 19,729,390 | 15,087,085 | - | 18,102,564 | (64,247,190) | - | 0 | 5,744,321 | 7,689,202 | 3,700,293 | 11,072,100 | 16,877,764 |
| | Increase/(Decrease) | | **-** | **134,131** | **(4,487,810)** | **-** | **(2,302,007)** | **101,206,042** | **-** | **16,446,713** | **9,274,674** | **(7,376,632)** | **(59,692)** | **25,193,849** | **138,029,269** |
| 0410105 - 0410105 - Dfit: Utility: Prior Year | 0410105 | 2018 | - | - | - | - | - | - | - | 200,549,638 | - | 573,039 | 719,310 | - | 201,841,987 |
| | 0410105 | 2017 | - | - | - | - | - | - | - | 43,894,354 | - | (36,422) | - | (7,483) | 43,850,449 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **156,655,284** | **-** | **609,461** | **719,310** | **7,483** | **157,991,537** |
| 0410106 - 0410106 - Dsit: Utility: Prior Year | 0410106 | 2018 | - | - | - | - | - | - | - | 22,997,020 | 871,370 | (207,749) | - | - | 23,660,641 |
| | 0410106 | 2017 | - | - | - | - | - | - | - | 3,735,500 | - | 2,736,616 | - | - | 6,472,116 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **19,261,520** | **871,370** | **(2,944,365)** | **-** | **-** | **17,188,525** |
| 0410109 - 0410109 - DFIT Utility - prior year | 0410109 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0410109 | 2017 | - | - | - | - | - | 94 | - | - | - | - | - | - | 94 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **(94)** | **-** | **-** | **-** | **-** | **-** | **-** | **(94)** |
| 0410110 - 0410110 - Prov/Defd Inc Tax - Electric CY | 0410110 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0410110 | 2017 | - | - | - | - | - | 50 | - | - | - | - | - | - | 50 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **(50)** | **-** | **-** | **-** | **-** | **-** | **-** | **(50)** |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0411100 - 0411100 - Dfit: Utility: Curr Year Cr | 0411100 | 2018 | - | (104,739,988) | (33,822,118) | - | (78,420,619) | (235,009,055) | - | (55,448,417) | (62,056,511) | (17,526,968) | (15,199,007) | (199,414,757) | (801,637,439) |
| | 0411100 | 2017 | - | (124,757,733) | (126,886,061) | - | (115,409,857) | (62,227,022) | - | (1) | (275,207,679) | (59,030,513) | (70,896,898) | (82,492,148) | (916,907,912) |
| | Increase/(Decrease) | | **-** | **20,017,745** | **93,063,943** | **-** | **36,989,238** | **(172,782,033)** | **-** | **(55,448,416)** | **213,151,169** | **41,503,546** | **55,697,891** | **(116,922,609)** | **115,270,473** |
| 0411101 - 0411101 - Dsit: Utility: Curr Year Cr | 0411101 | 2018 | - | (15,267,999) | (3,808,835) | - | (11,428,996) | (34,118,250) | - | (13,232,680) | (12,400,213) | (9,532,638) | (7,654,135) | (39,147,137) | (146,590,881) |
| | 0411101 | 2017 | - | (14,683,224) | (8,529,716) | - | (13,078,467) | 62,783,245 | - | (0) | 8,068,208 | (3,280,489) | (544,649) | (9,198,101) | 21,536,808 |
| | Increase/(Decrease) | | **-** | **(584,775)** | **4,720,881** | **-** | **1,649,471** | **(96,901,495)** | **-** | **(13,232,680)** | **(20,468,421)** | **(6,252,149)** | **(7,109,486)** | **(29,949,037)** | **(168,127,689)** |
| 0411102 - 0411102 - Dfit: Utility: Prior Year Cr | 0411102 | 2018 | - | - | - | - | - | - | - | (114,337,131) | (7,654,856) | 43,627 | (672,532) | - | (122,620,892) |
| | 0411102 | 2017 | - | - | - | - | - | - | - | (109,090,807) | (15,223,890) | (957,816) | - | - | (125,272,513) |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(5,246,324)** | **7,569,034** | **1,001,443** | **(672,532)** | **-** | **2,651,621** |
| 0411103 - 0411103 - Dsit: Utility: Prior Year Cr | 0411103 | 2018 | - | - | - | - | - | - | - | (14,937,317) | - | (2,728,757) | (222,750) | - | (17,888,824) |
| | 0411103 | 2017 | - | - | - | - | - | - | - | (11,409,400) | - | 104,062 | - | 21,379 | (11,283,959) |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(3,527,917)** | **-** | **(2,832,819)** | **(222,750)** | **(21,379)** | **(6,604,865)** |
| 0411106 - 0411106 - DFIT Utility - Prior year | 0411106 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0411106 | 2017 | - | - | - | - | - | (18) | - | - | - | - | - | - | (18) |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **18** | **-** | **-** | **-** | **-** | **-** | **-** | **18** |
| 0411107 - 0411107 - DSIT Utility - Prior Year | 0411107 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0411107 | 2017 | - | - | - | - | - | (267) | - | - | - | - | - | - | (267) |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **267** | **-** | **-** | **-** | **-** | **-** | **-** | **267** |
| 0411410 - 0411410 - Invest Tax Credit Adj - Electric | 0411410 | 2018 | - | (876,438) | (438,220) | - | (876,438) | (438,219) | - | (876,438) | (438,220) | (438,219) | (438,219) | (438,219) | (5,258,630) |
| | 0411410 | 2017 | - | (883,057) | (441,528) | - | (883,057) | (441,528) | - | - | (1,324,585) | (441,528) | (441,529) | (441,528) | (5,298,340) |
| | Increase/(Decrease) | | **-** | **6,619** | **3,308** | **-** | **6,619** | **3,309** | **-** | **(876,438)** | **886,365** | **3,309** | **3,310** | **3,309** | **39,710** |
| 0823000 - 0823000 - Storage - Gas Losses | 0823000 | 2018 | - | - | - | - | - | - | - | - | - | - | 26 | (26) | - |
| | 0823000 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **26** | **(26)** | **-** |
| 0880000 - 0880000 - Gas Distribution - Other Expense (a) | 0880000 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0880000 | 2017 | - | - | - | 625 | 45 | (670) | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **(625)** | **(45)** | **670** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 0501007 -0501007 - Beneficial Reuse - Coal Ash | 0501007 | 2018 | 6,347,446 | 1,889,058 | 1,900,889 | 12,428,105 | 3,657,639 | 7,116,993 | 5,766,326 | 6,628,781 | 4,807,161 | 6,817,589 | 6,245,648 | 5,427,848 | 69,033,482 |
| | 0501007 | 2017 | - | - | - | - | - | - | - | - | 86,807,816 | 13,355,392 | 11,702,985 | 8,614,991 | 120,481,185 |
| | Increase/(Decrease) | | **6,347,446** | **1,889,058** | **1,900,889** | **12,428,105** | **3,657,639** | **7,116,993** | **5,766,326** | **6,628,781** | **(82,000,655)** | **(6,537,803)** | **(5,457,338)** | **(3,187,143)** | **(51,447,703)** |
| 0501008 - 0501008 - Contra fuel Exp BR Ash - SC | 0501008 | 2018 | (1,503,539) | (1,316,372) | (1,317,167) | (1,208,079) | (866,396) | (1,685,823) | (1,371,207) | (1,576,295) | (1,143,122) | (1,621,193) | (1,485,188) | (1,300,660) | (16,395,042) |
| | 0501008 | 2017 | - | - | - | - | - | - | - | - | (20,562,428) | (3,163,532) | (2,772,121) | (2,040,659) | (28,538,740) |
| | Increase/(Decrease) | | **(1,503,539)** | **(1,316,372)** | **(1,317,167)** | **(1,208,079)** | **(866,396)** | **(1,685,823)** | **(1,371,207)** | **(1,576,295)** | **19,419,306** | **1,542,339** | **1,286,933** | **739,999** | **12,143,697** |
| 0501009 - 0501009 - Contra Fuel Exp BR Ash - W/S | 0501009 | 2018 | 299 | (353,755) | (401,166) | 708,236 | 2,078 | (2,021) | (1,748) | 2,305 | (25,757) | (28,997) | (8,226) | (7,212) | (115,964) |
| | 0501009 | 2017 | - | - | - | - | - | - | - | - | (158,722) | (52,163) | (5,245) | 216,131 | 0 |
| | Increase/(Decrease) | | **299** | **(353,755)** | **(401,166)** | **708,236** | **2,078** | **(2,021)** | **(1,748)** | **2,305** | **132,965** | **23,167** | **(2,981)** | **(223,343)** | **(115,964)** |
| 0547106 - 0547106 - Biogas Expense | 0547106 | 2018 | 336,808 | 308,586 | 294,030 | 217,429 | 248,988 | 206,972 | 255,822 | 282,301 | 377,464 | 344,086 | 232,676 | 361,043 | 3,466,205 |
| | 0547106 | 2017 | - | - | - | - | - | - | - | 127,288 | 175,169 | 130,923 | 293,101 | 269,843 | 996,324 |
| | Increase/(Decrease) | | **336,808** | **308,586** | **294,030** | **217,429** | **248,988** | **206,972** | **255,822** | **155,013** | **202,295** | **213,163** | **(60,425)** | **91,200** | **2,469,881** |
| 0547107 - 0547107 - REC Biogas Contra Expense | 0547107 | 2018 | (142,619) | (184,282) | (162,631) | (154,015) | (103,635) | (143,493) | (115,844) | (139,905) | (152,940) | (196,283) | (179,062) | (125,846) | (1,800,555) |
| | 0547107 | 2017 | - | - | - | - | - | - | - | - | (76,527) | (95,830) | (76,473) | (155,679) | (404,508) |
| | Increase/(Decrease) | | **(142,619)** | **(184,282)** | **(162,631)** | **(154,015)** | **(103,635)** | **(143,493)** | **(115,844)** | **(139,905)** | **(76,413)** | **(100,453)** | **(102,589)** | **29,833** | **(1,396,047)** |
| 0547124 - 0547124 - I/C Gas Purchases | 0547124 | 2018 | 1,294,548 | 1,271,594 | 1,309,094 | 1,263,008 | 1,302,583 | 1,238,303 | 1,275,428 | 1,231,877 | (3,931,837) | 826,010 | 712,980 | 644,072 | 8,437,660 |
| | 0547124 | 2017 | - | 1,222,263 | 540,268 | 576,257 | 539,701 | 1,007,860 | 1,404,043 | 1,077,220 | 1,282,015 | 1,206,829 | 1,951,365 | 579,964 | 11,387,785 |
| | Increase/(Decrease) | | **1,294,548** | **49,331** | **768,826** | **686,752** | **762,882** | **230,443** | **(128,615)** | **154,656** | **(5,213,852)** | **(380,819)** | **(1,238,385)** | **64,108** | **(2,950,125)** |
| 0557980 - 0557980 - Retail Deferred Fuel Expenses | 0557980 | 2018 | (104,820,808) | 31,388,428 | (19,424,242) | 14,466,556 | (16,706,980) | (17,227,207) | (26,705,396) | (23,054,716) | (1,357,735) | (3,713,303) | (19,140,311) | 2,738,613 | (183,557,101) |
| | 0557980 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **(104,820,808)** | **31,388,428** | **(19,424,242)** | **14,466,556** | **(16,706,980)** | **(17,227,207)** | **(26,705,396)** | **(23,054,716)** | **(1,357,735)** | **(3,713,303)** | **(19,140,311)** | **2,738,613** | **(183,557,101)** |
| 0555120 - 0555120 - Purchased Power - Other | 0555120 | 2018 | 661 | 1,457 | 1,035 | 1,521 | 1,712 | 1,262 | 1,078 | 1,058 | 1,100 | 764 | 1,033 | 640 | 13,320 |
| | 0555120 | 2017 | - | - | - | - | - | - | - | - | - | - | 1,561 | 1,235 | 2,796 |
| | Increase/(Decrease) | | **661** | **1,457** | **1,035** | **1,521** | **1,712** | **1,262** | **1,078** | **1,058** | **1,100** | **764** | **(527)** | **(595)** | **10,524** |
| 0926999 - 0926999 - Non Service Cost (ASU 2017-07) | 0926999 | 2018 | (3,230,096) | (6,343,912) | (4,787,004) | (5,678,161) | (5,009,793) | (5,009,793) | (5,009,793) | (5,009,793) | (5,009,793) | (5,009,793) | (5,009,793) | (5,009,793) | (60,117,517) |
| | 0926999 | 2017 | - | - | (13,558,103) | 13,558,103 | - | (27,116,206) | 27,116,206 | - | (40,674,309) | 40,674,309 | - | (59,694,882) | (59,694,882) |
| | Increase/(Decrease) | | **(3,230,096)** | **(6,343,912)** | **8,771,099** | **(19,236,264)** | **(5,009,793)** | **22,106,413** | **(32,125,999)** | **(5,009,793)** | **35,664,516** | **(45,684,102)** | **(5,009,793)** | **54,685,089** | **(422,635)** |
| 0524410 -0524410 - Nuclear Misc Expense - NCRC Rec | 0524410 | 2018 | 115 | 364 | 537 | - | 32 | - | 1,305 | 570 | - | - | - | - | 2,922 |
| | 0524410 | 2017 | - | - | - | - | - | - | - | - | 317 | - | - | - | 317 |
| | Increase/(Decrease) | | **115** | **364** | **537** | **-** | **32** | **-** | **1,305** | **570** | **(317)** | **-** | **-** | **-** | **2,606** |
| 0502410 -0502410 - Steam Oper-Bottom Ash/Fly Ash FL | 0502410 | 2018 | 896 | 470 | - | - | 82 | - | - | - | - | - | - | - | 1,449 |
| | 0502410 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **896** | **470** | **-** | **-** | **82** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **1,449** |
| 0513101 - 0513101 - Maint Elec Plant - Mitigation | 0513101 | 2018 | 256 | 256 | 256 | (158) | (554) | 1,426 | 260 | 260 | 260 | 260 | 260 | 260 | 3,045 |
| | 0513101 | 2017 | - | - | - | - | - | - | - | - | - | (2,661) | (1,139) | 198 | (3,601) |
| | Increase/(Decrease) | | **256** | **256** | **256** | **(158)** | **(554)** | **1,426** | **260** | **260** | **260** | **2,921** | **1,399** | **62** | **6,646** |
| 0553100 - 0553100 - CT Maint of Gen and Plant-Recoverable | 0553100 | 2018 | 35 | 26 | - | 589 | - | - | - | - | - | - | - | - | 650 |
| | 0553100 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |

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OFFICIAL COPY

Sep 30 2019

DUKE ENERGY CAROLINAS, LLC
Docket No. E-7, Sub 1214
NCUC Form E-1 Data Request
For the test year ended December 31, 2018

E-1 Item 12a
Operating Expense Comparison

COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR
ELECTRIC OPERATING EXPENSE ACCOUNTS

| Account | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Increase/(Decrease) | | **35** | **26** | **-** | **589** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **650** |
| 0553220 - 0553220 - Solar: Maint Gen & Elect Plt | 0553220 | 2018 | 50 | 524 | - | 262 | 439 | 522 | 33 | - | - | - | 137 | 33 | 2,001 |
| | 0553220 | 2017 | - | - | 566 | - | - | 820 | 592 | 466 | 29 | 574 | 698 | 3,470 | 7,215 |
| | Increase/(Decrease) | | **50** | **524** | **(566)** | **262** | **439** | **(298)** | **(559)** | **(466)** | **(29)** | **(574)** | **(560)** | **(3,436)** | **(5,214)** |
| 0407383 - 0407383 - Amort Coal Ash Spend - Whlsale | 0407383 | 2018 | 4,158,206 | 5,134,489 | 4,202,902 | (13,393,827) | (101,770) | - | - | - | - | - | - | - | - |
| | 0407383 | 2017 | - | - | - | - | - | - | 2,266,351 | 2,499,141 | 4,535,488 | 2,415,059 | 2,400,180 | 2,397,056 | 16,513,276 |
| | Increase/(Decrease) | | **4,158,206** | **5,134,489** | **4,202,902** | **(13,393,827)** | **(101,770)** | **-** | **(2,266,351)** | **(2,499,141)** | **(4,535,488)** | **(2,415,059)** | **(2,400,180)** | **(2,397,056)** | **(16,513,276)** |
| 0852000 -0852000 - Communication System Expenses | 0852000 | 2018 | 73 | - | - | (42) | - | (31) | - | - | - | - | - | - | 0 |
| | 0852000 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **73** | **-** | **-** | **(42)** | **-** | **(31)** | **-** | **-** | **-** | **-** | **-** | **-** | **0** |
| 0504000 - 0504000 - Steam Transferred - Credit | 0504000 | 2018 | - | (65) | - | - | - | - | - | - | - | - | - | - | (65) |
| | 0504000 | 2017 | - | - | - | - | - | - | 65 | - | - | - | - | - | 65 |
| | Increase/(Decrease) | | **-** | **(65)** | **-** | **-** | **-** | **-** | **(65)** | **-** | **-** | **-** | **-** | **-** | **(129)** |
| 0921990 - 0921990 - Corp Governance Office | 0921990 | 2018 | - | - | 80 | - | - | 65 | - | - | - | - | - | - | 146 |
| | 0921990 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **80** | **-** | **-** | **65** | **-** | **-** | **-** | **-** | **-** | **-** | **146** |
| 0517200 - 0517200 - Nuclear Op Super & Eng - NCRC Rec | 0517200 | 2018 | - | - | - | 187 | - | - | - | - | - | - | - | - | 187 |
| | 0517200 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **187** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **187** |
| 0407326 - 0407326 - Wholesale Coal Ash Amort Exp | 0407326 | 2018 | - | - | - | 16,499,820 | 4,124,955 | 605,955 | 4,046,342 | 4,046,342 | (5,447,053) | 4,046,342 | 4,046,342 | 2,835,282 | 34,804,327 |
| | 0407326 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **16,499,820** | **4,124,955** | **605,955** | **4,046,342** | **4,046,342** | **(5,447,053)** | **4,046,342** | **4,046,342** | **2,835,282** | **34,804,327** |
| 0407327 - 0407327 - Unbillable Coal Ash Expense | 0407327 | 2018 | - | - | - | 211,636 | 185,066 | 114,181 | (16,932) | (24,130) | (33,402) | (27,755) | 72,838 | 287,471 | 768,973 |
| | 0407327 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **211,636** | **185,066** | **114,181** | **(16,932)** | **(24,130)** | **(33,402)** | **(27,755)** | **72,838** | **287,471** | **768,973** |
| 0407324 - 0407324 - NC & MW Coal As Amort Exp | 0407324 | 2018 | - | - | - | 909,096 | - | - | - | 8,061,915 | 10,395,249 | 9,228,582 | 9,228,582 | 9,228,582 | 47,052,005 |
| | 0407324 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **909,096** | **-** | **-** | **-** | **8,061,915** | **10,395,249** | **9,228,582** | **9,228,582** | **9,228,582** | **47,052,005** |
| 0501015 - 0501015 - Contra Fuel Exp BR Ash - NCR | 0501015 | 2018 | - | - | - | (10,764,731) | (2,400,206) | (4,699,668) | (3,790,450) | (4,358,389) | (3,160,529) | (4,491,081) | (4,066,125) | (3,332,154) | (41,063,333) |
| | 0501015 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **(10,764,731)** | **(2,400,206)** | **(4,699,668)** | **(3,790,450)** | **(4,358,389)** | **(3,160,529)** | **(4,491,081)** | **(4,066,125)** | **(3,332,154)** | **(41,063,333)** |
| 0407305 - 0407305 - Regulatory Debits | 0407305 | 2018 | - | - | - | - | - | - | - | 2,403,708 | 2,403,708 | 2,403,708 | 2,403,708 | 2,403,708 | 12,018,542 |
| | 0407305 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **2,403,708** | **2,403,708** | **2,403,708** | **2,403,708** | **2,403,708** | **12,018,542** |
| 0407398 - 0407398 - ECIT Rider Amortization | 0407398 | 2018 | - | - | - | - | - | - | - | (603,292) | (603,292) | (603,292) | (603,292) | (603,292) | (3,016,460) |
| | 0407398 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(603,292)** | **(603,292)** | **(603,292)** | **(603,292)** | **(603,292)** | **(3,016,460)** |
| 0407447 - 0407447 - Lee CC Amort-NC Equity | 0407447 | 2018 | - | - | - | - | - | - | - | 98,849 | 98,849 | 98,849 | 98,849 | 98,849 | 494,247 |
| | 0407447 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **98,849** | **98,849** | **98,849** | **98,849** | **98,849** | **494,247** |
| 0407448 - 0407448 - Lee CC Amort-NC Debt Ret | 0407448 | 2018 | - | - | - | - | - | - | - | 34,509 | 34,509 | 34,509 | 34,509 | 34,509 | 172,544 |
| | 0407448 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **34,509** | **34,509** | **34,509** | **34,509** | **34,509** | **172,544** |
| 0407449 -0407449 - Amort Levelized Ret LeeCC | 0407449 | 2018 | - | - | - | - | - | - | - | 25,470 | 25,470 | 25,470 | 25,470 | 25,470 | 127,352 |
| | 0407449 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **25,470** | **25,470** | **25,470** | **25,470** | **25,470** | **127,352** |
| 0549200 - 0549200 - CT Misc Power Exp-Recoverable | 0549200 | 2018 | - | - | - | - | - | - | - | 39 | - | - | - | - | 39 |
| | 0549200 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **39** | **-** | **-** | **-** | **-** | **39** |
| 0407115 - 0407115 - Meter Amortization | 0407115 | 2018 | - | - | - | - | - | - | - | - | 639,794 | - | - | 1,012,985 | 1,652,780 |
| | 0407115 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **639,794** | **-** | **-** | **1,012,985** | **1,652,780** |
| 0407388 - 0407388 - COR Settlement Amortz - NC | 0407388 | 2018 | - | - | - | - | - | - | - | - | 340,352 | 170,176 | 170,176 | 170,176 | 850,880 |
| | 0407388 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **340,352** | **170,176** | **170,176** | **170,176** | **850,880** |
| 0403350 - 0403350 - IC Lease - Depr of CT Plant | 0403350 | 2018 | - | - | - | - | - | - | - | - | 525,289 | (87,924) | 275,144 | 93,610 | 806,118 |
| | 0403350 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **525,289** | **(87,924)** | **275,144** | **93,610** | **806,118** |
| 0524400 - 0524400 - Misc Expenses-Nuc Oper - Recoverable | 0524400 | 2018 | - | - | - | - | - | - | - | - | 4,704 | 4,590 | 2,250 | - | 11,544 |
| | 0524400 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **4,704** | **4,590** | **2,250** | **-** | **11,544** |
| 0407396 - 0407396 - Amortization Storm NC | 0407396 | 2018 | - | - | - | - | - | - | - | - | - | - | 22,045,720 | (22,045,720) | - |
| | 0407396 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **22,045,720** | **(22,045,720)** | **-** |

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**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**E-1 Item 12a**
**Operating Expense Comparison**

**COMPARISON OF TEST YEAR ACCOUNT BALANCES WITH THOSE OF PRECEDING YEAR**
**ELECTRIC OPERATING EXPENSE ACCOUNTS**

| | | | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | YEAR TO DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0912100 - 0912100 - Demonstration & Sell-Proj Supt - NCRC Rec | 0912100 | 2018 | - | - | - | - | - | - | - | - | - | - | 4,994 | 35 | 5,029 |
| | 0912100 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **4,994** | **35** | **5,029** |
| 0525001 - 0525001 - Nuc Power Gen Op Rents | 0525001 | 2018 | - | - | - | - | - | - | - | - | - | - | - | 618 | 618 |
| | 0525001 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **618** | **618** |
| 0588101 - 0588101 - Grid Solutions O&M Deferral | 0588101 | 2018 | - | - | - | - | - | - | - | - | - | (1,248,259) | (182,930) | (449,160) | (1,880,349) |
| | 0588101 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(1,248,259)** | **(182,930)** | **(449,160)** | **(1,880,349)** |
| 0547108 - 0547108 - REC Biogas Contra Expense - SC | 0547108 | 2018 | - | - | - | - | - | - | - | - | - | (64,749) | (17,991) | 3,607 | (79,134) |
| | 0547108 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(64,749)** | **(17,991)** | **3,607** | **(79,134)** |
| 0903720 - Cust Billing Ncemc - Operating | 0903720 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0903720 | 2017 | - | - | - | - | - | - | - | 430 | - | - | 112 | - | 541 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(430)** | **-** | **-** | **(112)** | **-** | **(541)** |
| 0551220 - Solar: Maint Supv & Eng | 0551220 | 2018 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 0551220 | 2017 | - | - | - | - | - | - | - | - | - | 400 | - | - | 400 |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **(400)** | **-** | **-** | **(400)** |
| 0502051- 0502051 Limestone Handling | 0502051 | 2018 | - | - | - | - | 13,054 | - | - | - | - | - | - | - | 13,054 |
| | 0502051 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **13,054** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **13,054** |
| 0932000 - 0932000 Maintenance Of Gen Plant | 0932000 | 2018 | - | - | - | - | - | - | - | - | - | - | 33 | - | 33 |
| | 0932000 | 2017 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Increase/(Decrease) | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **33** | **-** | **33** |
| **Total Electric Operating Expense** | | 2018 | **474,452,953** | **468,801,798** | **398,603,567** | **410,356,799** | **435,204,002** | **486,755,286** | **484,643,768** | **509,154,684** | **500,732,027** | **451,803,904** | **478,070,939** | **574,557,075** | **5,673,136,804** |
| **Total Electric Operating Expense** | | 2017 | **427,453,264** | **469,412,491** | **480,810,072** | **443,739,211** | **465,894,748** | **480,256,940** | **574,271,105** | **534,625,849** | **471,292,571** | **476,221,708** | **448,211,059** | **495,742,375** | **5,767,931,395** |
| | Increase/(Decrease) | | **46,999,689** | **(610,693)** | **(82,206,505)** | **(33,382,412)** | **(30,690,746)** | **6,498,346** | **(89,627,337)** | **(25,471,166)** | **29,439,456** | **(24,417,804)** | **29,859,880** | **78,814,701** | **(94,794,591)** |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 13**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**





☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide the following tax data for the test year for total company, North Carolina retail, other retail jurisdictions, and FERC wholesale:

a. Income taxes:

1. Federal operating income taxes deferred - accelerated tax depreciation
2. Federal operating income taxes deferred - other (explain)
3. Federal income taxes - operating
4. Income credits resulting from prior deferrals of federal income taxes
5. Investment tax credit net
   i. Investment credit realized
   ii. Investment credit amortized - Pre-Revenue Act of 1971
   iii. Investment credit amortized - Revenue Act of 1971
6. Provide the information in item 13.a (1) through 13.a (4) for state income taxes
7. Reconciliation of book to taxable income as shown in Format 13a (7) attached and a calculation of the book federal and state income tax expense for the test year using book taxable income as the starting point.
8. A copy of federal and state income tax returns including supporting schedules for the taxable year ended during the test year.
9. The quarterly gross receipts tax returns for each quarter during the test year.

b. An analysis of North Carolina's other operating taxes. See Format 13-b.
c. Provide the calculation of deferred income tax expense for the test year. See Format 13-c.
d. Provide a reconciliation of beginning and ending test year accumulated deferred income tax. See Format 13-d.
e. Provide the calculation of investment tax credits for the test year.
f. Provide a reconciliation of beginning and ending test year unamortized investment tax credits. See Format 13-d columnar hearings.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 14**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Prepare a complete detailed lead-lag study for the test year for total company electric. North Carolina retail, other retail jurisdictions, and FERC wholesale including all workpapers in support thereof.
Note: Nantahala Power and Light Company is not subject to this requirement.

**Response:**

DEC has calculated cash working capital requirements for the 12-month test period ended December 31, 2018, in its per books cost of service in accordance with the methodology per the Commission's June 22, 2018, order in Docket No. E-7 Sub 1146.

The results are provided in the files attached below which calculate the lead-lag based cash working capital applied in DEC's per books cost of service studies filed under the Summer Coincident peak (1CP) allocation methodology.

DEC Summary and Lead Lag Schedules NC 1 SCP 2018 PB COS.xlsx

DEC Summary and
Lead Lag Schedules

DEC Interest on Long Term Debt Lead Calculation 2018.xlsx

DEC Interest on
Long Term Debt Lea

DEC Summary of Exhibits.xlsx

DEC Summary of
Exhibits.xlsx

The lead-lag calculation applies lead-lag days to revenues and expenses allocated to the NC retail jurisdiction in the per books cost of service studies filed under E1 Item 45A in this docket. The number of lead-lag days applied to the various revenue and expense categories are obtained from the Lead Lag Study performed by Ernst & Young LLC and issued in May of 2019. The E&Y report narrative of that DEC study for the year ended December 31, 2017 is attached below.

E&Y Duke Lead Lag Report - DEC.pdf

E&Y Duke Lead Lag Report - DEC.pdf

E&Y Duke Lead Lag Report_Summary and Revenue and Expense Lead Lag.xlsx

E&Y Duke Lead Lag Report_Summary an

The "Revenue and Expense Lead Lag" tab in the attached lead-lag calculation file lists the revenues and expenses from the cost of service provided in E-1 Item 45A, the lead or lag days applicable to each, and a combined weighted average lead or lag for the major revenue and cost components. The "Summary" tab then combines these to calculate net lag days for revenues versus expenses, and the resulting cash working capital to be applied in the per books cost of service under the 1CP methodology.

Lead-lag calculations were performed at the NC retail jurisdictional level. The resulting cash working capital was then grossed up to a system level using the all rate base excluding cash working capital allocator. Amounts that would be allocable to other retail and FERC wholesale jurisdictions has been calculated on the "Summary" tab.

**E-1 Item 14**

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital for NC Retail Operations - Lead Lag Summary**
**For the Test Year Ended December 31, 2018**
**Dollars in Thousands**

| No. | Description | Actual Annual Amount [A] | Lead (Lag) Days [B] | Weighted Amount [C] |
|---|---|---|---|---|
| | **Calculation of NC Retail Amount:** | | | |
| 1 | Total Revenue Lag | | 40.09 | |
| 2 | | | | |
| 3 | Operation and Maintenance Expense | 2,559,661,028 | 28.87 | 73,903,776,282 |
| 4 | Depreciation and Amortization | 838,804,844 | 0.00 | 0 |
| 5 | Taxes Other Than Income Taxes | 194,680,961 | 160.71 | 31,287,269,740 |
| 6 | Interest on Customer Deposits | 7,129,673 | 218.40 | 1,557,120,627 |
| 7 | Income Taxes | 224,997,489 | 0.48 | 107,265,513 |
| 8 | Investment of Tax Credit | (3,525,573) | 0.00 | 0 |
| 9 | Net Operating Income | 1,082,335,768 | 24.97 | 27,025,316,831 |
| 10 | Total Requirements (Sum L3 through L9) | 4,904,084,190 | 27.30 | 133,880,748,992 |
| 11 | | | | |
| 12 | Revenue Lag Days (L1) | | 40.09 | |
| 13 | Requirements Lead Days (-L10) | | (27.30) | |
| 14 | Net Lag Days (L12 + L13) | | 12.79 | |
| 15 | Daily Requirements (Line 10, Col. A divided by 365) | | | 13,435,847 |
| 16 | | | | |
| 17 | Estimated Cash Working Capital Requirements (L14 x L15) | | | 171,869,445 |
| 18 | Add: Cash Working Capital Related to NC Sales Tax | | | 5,870,792 |
| 19 | Total Cash Working Capital Requirements (L17 + L18) | | | 177,740,237 |
| 20 | | | | |
| 21 | **Calculation of Total Company and Jurisdictional Amounts:** | | | |
| 22 | NC Retail Factor "All - Rate Base x CWC" Allocation Factor | | | 68.1442% |
| 23 | | | | |
| 24 | Total Company Cash Working Capital Requirements (L19 / L22) | | | $ 260,829,438 |

/A

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital for NC Retail Operations - Lead Lag Summary**
**For the Test Year Ended December 31, 2018**

L

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2018 | NC Retail Jurisdictional Amount | Lead \ Lag Days | |
|---|---|---|---|---|---|---|---|
| | 1 | **OPERATING REVENUES:** | | | | | |
| | 2 | | | | | | |
| | 3 | CBIS & MBAS Billing System | | | | | |
| Calc | 4 | Service Lag | | | | 15.21 | A |
| | 5 | Billing Lag | | | | | |
| | 6 | Total Retail Sales | | (6,617,355,082) | (4,886,228,916) | | |
| | 7 | Cycle & Non-Cycle Read Customers | | (6,579,977,534) | (4,855,121,776) | | |
| | 8 | Hourly Pricing (HP, HPX, HPF) | | (33,609,940) | (9,036,798) | | |
| | 9 | Parallel Generation (PG) - NCR | | (1,425,423) | (603,536) | | |
| | 10 | Governmental Lighting (PL) | | (37,377,549) | (31,107,140) | | |
| 1 | 11 | Total Billing Lag | | (6,652,390,445) | (4,895,869,251) | 1.74 | A |
| | 12 | | | | | | |
| | 13 | Unbilled Revenue | | 32,577,374 | 27,354,997 | | |
| | 14 | | | | | | |
| 2 | 15 | Collection Lag | | | | 22.63 | A |
| | 16 | | | | | | |
| | 17 | Total Revenue Lag Elec Delivery Rate Schedule (L11 / L13) | | (6,619,813,071) | (4,868,514,254) | 39.58 | A |
| | 18 | | | | | | |
| | 19 | BPM Billing System | | | | | |
| 3 | 20 | Total Revenue Lag Sales for Resale BPM | | (612,313,814) | (61,599,694) | 35.44 | A |
| | 21 | | | | | | |
| | 22 | Total Miscellaneous Rider Revenue | 0456500 - 0456570 | 45,795,105 | 38,868,996 | 0.00 | A |
| | 23 | | | | | | |
| | 24 | Provisions For Rate Refunds | 0449100 | 184,514,676 | 117,321,050 | 39.58 | A |
| | 25 | | | | | | |
| | 26 | Forfeited Discounts | 0450100, 0450200 | (20,000,193) | (15,256,492) | 70.00 | A |
| | 27 | | | | | | |
| | 28 | Miscellaneous Revenues | 0451100, 0451200 | (12,508,218) | (9,541,484) | 76.00 | A |
| | 29 | | | | | | |
| | 30 | Rent - Joint Use | 0454004 | (104,523) | (103,360) | 45.21 | A |
| | 31 | | | | | | |
| | 32 | Rent from Electric Property | | | | | |
| | 33 | Total Acct 0454.1 Extra Facilities | 0454100/0454110 | (32,846,750) | (25,058,426) | 30.13 | B |
| | 34 | | | | | | |
| 5 | 35 | Pole & Line Attachments | 0454200 | (35,152,691) | (27,655,060) | 143.39 | A |
| | 36 | | | | | | |
| 5 | 37 | 0454300 - Tower Lease Revenues | 0454300 | (11,698,937) | (6,161,063) | (93.97) | A |
| | 38 | 0454400 - Other Electric Rents | 0454400 | (4,366,722) | (2,957,123) | 45.21 | A |
| | 39 | 0454500 - Leased Facilities Fee - Catawba (NCWHL & SCWHL) | 0454500 | (661,663) | 0 | | |
| | 40 | 0454510 - Return and Dep - Catawba Gen Plt | 0454510 | (16,633,684) | (11,264,251) | (15.21) | A |
| | 41 | 0454600 - Lease Revenue - CERT | 0454600 | 0 | 0 | | |
| | 42 | 0454601 -Other Miscellaneous Revenue | 0454720 | 4,041 | 2,737 | 0.00 | A |
| | 43 | Total Acct 454 (L30 through L42) | | (101,460,929) | (73,196,547) | | |
| | 44 | | | | | | |
| | 45 | Subsidiary Cost of Capital | 0455000 | 0 | 0 | 0.00 | A |

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital for NC Retail Operations - Lead Lag Summary**
**For the Test Year Ended December 31, 2018**

L

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2018 | NC Retail Jurisdictional Amount | Lead \ Lag Days | |
|---|---|---|---|---|---|---|---|
| | 46 | | | | | | |
| | 47 | Other Electric Revenues | 0456100 | 1,738 | 1,196 | 0.00 | A |
| | 48 | | | | | | |
| | 49 | Distribution Charge - Network | | | | | |
| | 50 | North Carolina | 0456102 | (1,993,462) | 0 | 0.00 | A |
| | 51 | South Carolina | 0456102 | (1,541,297) | 0 | 0.00 | A |
| | 52 | Total Acct 456.102 (L50 + L51) | | (3,534,759) | 0 | | |
| | 53 | | | | | | |
| | 54 | Metering - Network NCWHL | 0456103 | (18,384) | 0 | 0.00 | A |
| | 55 | Metering - Network SCWHL | 0456103 | (48,823) | 0 | 0.00 | A |
| | 56 | Comp For Serv To Other (Catawba) | 0456300 | (17,988,996) | (12,182,062) | (15.21) | A |
| | 57 | | | | | | |
| | 58 | Other Electric Revenues | 0456610 | (5,374,341) | (3,639,478) | 36.03 | A |
| | 59 | | | | | | |
| | 60 | Gross Up-Contr in Aid of Const | 0456630 | (1,413,537) | (1,045,394) | (15.21) | A |
| | 61 | | | | | | |
| | 62 | Deferred Dsm Costs - NC | 0456640 | 377,472 | 377,472 | 0.00 | A |
| | 63 | Deferred Dsm Costs - SC | 0456650 | 0 | 0 | 0.00 | A |
| 8 | 64 | Other Revenue Affiliate | 0456949 | (12,890,259) | (8,729,222) | 40.21 | A |
| | 65 | Other Transmission Revenues | 0456111 | (1,915,987) | (1,915,987) | 0.00 | A |
| | 66 | | | | | | |
| | 67 | Revenues from Transmission of Electricity to Others | | | | | |
| | 68 | Other Variable Revenues-Reg | 0456001 | (566,153) | (373,000) | 40.41 | A |
| | 69 | I/C Joint Disp - Trans NW Rev | 0456016 | 228,224 | 150,361 | 40.41 | A |
| | 70 | Transmission Study Revenue | 0456050 | (1,738) | (1,145) | 40.41 | A |
| | 71 | Trans of Elec to Others-NCWHL | | (63,177,874) | 0 | 40.41 | A |
| | 72 | Trans of Elec to Others-SCWHL | | (26,446,167) | 0 | 40.41 | A |
| | 73 | Trans Charge PTP-Non-Firm-BPM & WO Sharing | | (4,808,507) | (4,808,507) | 40.41 | A |
| | 74 | Total Revenues from Transm of Electricity to Others (L68 through L73) | | (94,772,216) | (5,032,291) | | |
| | 75 | Total Acct 456 (L47 + L52 through L65 + L74) | | (137,578,092) | (32,165,765) | | |
| | 76 | **Utility Oper Revenues (L17 + L20 + L22 + L24 + L26 + L28 + L43 + L45 + L75)** | | (7,273,364,536) | (4,904,084,190) | 40.09 | |
| | 77 | | | | | | |
| 5 | 78 | **OPERATION AND MAINTENANCE EXPENSE:** | | | | | |
| | 79 | | | | | | |
| | 80 | **Fuel Used in Electric Generation** | | | | | |
| | 81 | | | | | | |
| | 82 | Fossil | | | | | |
| 6 | 83 | Beneficial Reuse - Coal Ash | 0501007 | 69,033,482 | 45,325,026 | 20.79 | A |
| | 84 | Contra Fuel Exp BR Ash - SC | 0501008 | (16,395,042) | 0 | | |
| | 85 | Contra Fuel Exp BR Ash - WS | 0501009 | (115,964) | 0 | | |
| | 86 | Contra Fuel Exp BR Ash - NC | 0501009 | (41,063,333) | (41,063,333) | 20.79 | A |
| 6 | 87 | Coal Consumed Fossil Steam | 0501110 | 676,787,906 | 444,355,827 | 20.79 | A |
| 6 | 88 | Oil Consumed - Fossil Steam | 0501310 | 8,586,389 | 5,637,530 | 10.00 | A |
| 6 | 89 | Oil Light-Off - Fossil Steam | 0501330 | 7,287,851 | 4,784,954 | 10.00 | A |
| | 90 | Emission Allowances | 0509000 | 4,202 | 2,768 | 0.00 | A |
| | 91 | NOx Emission Expense | 0509210 | 0 | 0 | 0.00 | A |

/A

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**Sep 30 2019**

## Duke Energy Carolinas, LLC
## Docket No. E-7, Sub 1214
## Cash Working Capital for NC Retail Operations - Lead Lag Summary
## For the Test Year Ended December 31, 2018

L

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2018 | NC Retail Jurisdictional Amount | Lead \ Lag Days | |
|---|---|---|---|---|---|---|---|
| | 92 | RECS Consumption Expense | 0509213 | 17,165,794 | 15,895,665 | 0.00 | A |
| | 93 | Commissions/Brokerage Expense | 0557450 | 11,250 | 7,412 | 26.80 | A |
| | 94 | EA & Coal Broker Fees | 0557451 | 4,883 | 3,217 | 0.00 | A |
| | 95 | | | | | | |
| | 96 | Nuclear | | | | | |
| | 97 | Burnup of Owned Fuel | 0518100 | 275,311,826 | 180,760,343 | 0.00 | A |
| | 98 | Canister Design Expense | 0518620 | 813,802 | 536,159 | 0.00 | A |
| | 99 | | | | | | |
| | 100 | Other Production | | | | | |
| 7 | 101 | Natural Gas | 0547100 | 98,356,933 | 64,577,804 | 38.00 | A |
| | 102 | Natural Gas - CC | 0547101 | 373,047,230 | 244,930,071 | 38.00 | A |
| | 103 | Biogas Expense | 0547106 | 3,466,205 | 3,000,967 | 38.00 | A |
| | 104 | REC Biogas Contra Expense | 0547107 | (1,879,688) | (1,879,688) | 38.00 | A |
| | 105 | IC Gas Purchases | 0547124 | 8,437,660 | 5,539,880 | 38.00 | A |
| | 106 | Oil | 0547200 | 25,830,495 | 16,959,421 | 38.00 | A |
| | 107 | **Fuel Used in Elec Gen (HFM Greenbook I/S)** | F_FUEL_USED_ELEC_GEN | **1,504,691,880** | **989,374,021** | **22.33** | |
| | 108 | | | | | | |
| 8 | 109 | **Purchased Power less Retail Deferred Fuel Exp** | 0555XXX | **501,354,859** | **331,394,103** | **39.00** | A |
| | 110 | **Retail Deferred Fuel Exp - NCR** | 0557980 | (137,045,952) | (137,045,952) | 22.33 | C |
| | 111 | **Retail Deferred Fuel Exp - SCR** | 0557980 | (46,511,149) | 0 | 22.33 | C |
| | 112 | | | | | | |
| | 113 | **Total Other O&M Excluding Fuel and Purchased Power** | | | | | |
| | 114 | | | | | | |
| | 115 | Labor | | | | | |
| 10 | 116 | Payroll Net of Deductions | | 510,909,555 | 345,985,506 | 40.43 | A |
| 10 | 117 | Payroll Deductions | | 332,314,665 | 225,041,901 | 9.78 | A |
| | 118 | Total Labor (L116 + L117) | | 843,224,220 | 571,027,406 | 28.35 | |
| | 119 | | | | | | |
| 11 | 120 | Pension and Benefits | 0926XXX | 102,239,981 | 69,020,859 | 12.36 | A |
| | 121 | | | | | | |
| 12 | 122 | Regulatory Commission Expense | 0928000 | 11,414,339 | 8,163,068 | 72.31 | A |
| | 123 | | | | | | |
| 17 | 124 | Property Insurance | 0924XXX | 7,787,752 | 5,273,828 | (212.16) | A |
| | 125 | | | | | | |
| 19 | 126 | Injuries & Damages - Workman's Compensation | 0925980 | 7,787,752 | 5,273,828 | (145.50) | A |
| | 127 | | | | | | |
| | 128 | Remaining Other Oper & Maint Expense | | 1,057,146,635 | 717,179,865 | 36.54 | D |
| | 129 | | | | | | |
| | 130 | Total O&M Excl. Fuel and Purch. Power | | 2,029,600,678 | 1,375,938,855 | 30.49 | |
| | 131 | | | | | | |
| | 132 | **Total Operation and Maintenance Expense (L107 + L109 + L110 + L111 + L130)** | | **3,852,090,316** | **2,559,661,028** | **28.87** | |
| | 133 | | | | | | |
| | 134 | Total Depreciation & Amortization & Property Loss | | 1,193,761,593 | 838,804,844 | 0.00 | A |
| | 135 | | | | | | |
| | 136 | Taxes Other Than Income Taxes | | | | | |
| 10 | 137 | Payroll Taxes | | 50,894,055 | 34,411,149 | 9.33 | A |

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital for NC Retail Operations - Lead Lag Summary**
**For the Test Year Ended December 31, 2018**

L

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2018 | NC Retail Jurisdictional Amount | Lead \ Lag Days | |
|---|---|---|---|---|---|---|---|
| 14 | 138 | North Carolina Property Tax | | 110,393,390 | 80,656,645 | 186.50 | A |
| 14 | 139 | South Carolina Property Tax | | 132,977,337 | 81,207,616 | 196.50 | A |
| 14 | 140 | Other Non-Income Taxes | | (2,435,362) | (1,594,450) | 21.04 | A |
| | 141 | Taxes Other Than Income Taxes | | 291,829,421 | 194,680,961 | 160.71 | |
| | 142 | | | | | | |
| 18 | 143 | Total Interest on Customer Deposits | | 8,168,669 | 7,129,673 | 218.40 | A |
| | 144 | | | | | | |
| | 145 | Net Income Taxes | | | | | |
| | 146 | Federal Income Tax | | (3,506,659) | (2,366,363) | 44.75 | A |
| | 147 | State Income Tax | | 7,058,710 | 4,763,357 | 44.75 | A |
| | 148 | Federal Income Tax - Deferred | | 323,074,085 | 218,016,793 | 0.00 | A |
| | 149 | State Income Tax - Deferred | | 14,087,968 | 4,583,701 | 0.00 | A |
| 16 | 150 | Net Income Taxes | | 340,714,105 | 224,997,489 | 0.48 | |
| | 151 | | | | | | |
| | 152 | Investment of Tax Credit Adj Net | 04114XX | (5,258,630) | (3,525,573) | 0.00 | A |
| | 153 | | | | | | |
| | 154 | **Total Utility Operating Expenses (L132 + L134 + L141 + L143 + L150 + L152)** | | 5,681,305,473 | 3,821,748,421 | 27.96 | |
| | 155 | | | | | | |
| | 156 | Interest Expense for Electric Operations | | 465,481,098 | 317,198,554 | 85.20 | E |
| | 157 | | | | | | |
| | 158 | Net Utility Operating Income | | 1,592,059,063 | 1,082,335,768 | 0.00 | A |
| | 159 | | | | | | |
| | 160 | Total Requirements (L154 + L158) | | 7,273,364,536 | 4,904,084,190 | | |
| | 161 | | | | | | |
| | 162 | | | | | | |
| COS 923 | 163 | Cash Working Capital Related to NC Sales Tax | | 5,870,792 | | | F |

**APPENDIX A**
**.ead Lag Details**
**E-1 Item 14**



| Weighted Amount |
|---|
| (192,687,679,965) |
| (2,183,093,169) |
| - |
| 4,643,567,162 |
| (1,067,954,434) |
| (725,152,776) |
| (4,672,921) |
| (754,946,400) |
| (3,965,458,982) |
| 578,955,117 |
| (133,691,545) |
| 171,329,263 |
| - |
| (4,108,485,468) |
| - |

**APPENDIX A**
**.ead Lag Details**
**E-1 Item 14**

| Weighted Amount |
|---|
| - |
| - |
| - |
| 0 |
| 185,289,162 |
| (131,130,393) |
| 15,900,436 |
| - |
| - |
| (351,001,998) |
| - |
| (15,072,930) |
| 6,076,092 |
| (46,272) |
| - |
| - |
| (194,311,776) |
| (203,354,887) |
| (484,297,679) |
| (196,613,096,329) |
| 942,307,301 |
| - |
| - |
| (853,706,688) |
| 9,238,157,634 |
| 56,375,299 |
| 47,849,541 |
| - |
| - |

**APPENDIX A**
**.ead Lag Details**
**E-1 Item 14**

| Weighted Amount |
|---|
| - |
| 198,638 |
| - |
| - |
| - |
| 2,453,956,534 |
| 9,307,342,714 |
| 114,036,742 |
| (71,428,158) |
| 210,515,422 |
| 644,457,986 |
| **22,090,062,965** |
| **12,924,370,029** |
| (3,059,867,799) |
| - |
| 13,988,193,991 |
| 2,200,909,791 |
| 16,189,103,782 |
| 853,097,816 |
| 590,271,464 |
| (1,118,895,363) |
| (767,341,984) |
| 26,202,975,372 |
| 41,949,211,087 |
| **73,903,776,282** |
| - |
| 321,056,020 |

**APPENDIX A**
**.ead Lag Details**
**E-1 Item 14**

| Weighted Amount |
|---|
| 15,042,464,362 |
| 15,957,296,579 |
| (33,547,221) |
| 31,287,269,740 |
| 1,557,120,627 |
| (105,894,729) |
| 213,160,243 |
| - |
| - |
| 107,265,513 |
| - |
| 106,855,432,162 |
| 27,025,316,831 |
| 133,880,748,992 |

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Calculation of (Lead) Lag**
**Interest on Long Term Debt**
**12 Months Ended December 31, 2018**

| Line No. | Long Term Debt Account and Account Description | Amount O/S 31-Dec-18 | Interest Rate | Annualized Interest 31-Dec-18 | (Lead) Lag Days | Weighted Dollar Days |
|---|---|---|---|---|---|---|
| 1 | 0221005 - 6.05% FMB due 4/15/2038 | $ 600,000,000 | 6.050% | $ 36,300,000 | 91.25 | $ 3,312,375,000 |
| 2 | 0221055 - $500M 3.90% FMB due 6/15/21 | 500,000,000 | 3.900% | 19,500,000 | 91.25 | 1,779,375,000 |
| 3 | 0221062 - $650M 4% FMB due 09/30/2042 | 650,000,000 | 4.000% | 26,000,000 | 91.25 | 2,372,500,000 |
| 4 | 0221094 - $550M 3.7% FMB due 12/1/2047 | 550,000,000 | 3.700% | 20,350,000 | 91.25 | 1,856,937,500 |
| 5 | 0221096 - $500M 3.05% FMB due 3/15/2023 | 500,000,000 | 3.050% | 15,250,000 | 91.25 | 1,391,562,500 |
| 6 | 0221097 - $500M 3.95% FMB due 3/15/2048 | 500,000,000 | 3.950% | 19,750,000 | 91.25 | 1,802,187,500 |
| 7 | 0221160 - 8.95% Grnsboro Transit Due2027 | 9,011,177 | 8.950% | 744,432 | 182.50 | 135,858,857 |
| 8 | 0221240 - Sr Unsecured Bds Due 10/15/32 | 350,000,000 | 6.450% | 22,575,000 | 91.25 | 2,059,968,750 |
| 9 | 0221284 - $650M 4.25% FMB due 12/15/41 | 650,000,000 | 4.250% | 27,625,000 | 91.25 | 2,520,781,250 |
| 10 | 0221285 - $750M 5.3% FMB due 2/15/2040 | 750,000,000 | 5.300% | 39,750,000 | 91.25 | 3,627,187,500 |
| 11 | 0221286 - $450M 4.3% FMB due 6/15/2020 | 450,000,000 | 4.300% | 19,350,000 | 91.25 | 1,765,687,500 |
| 12 | 0221287 - $350M 3.35% FMB due 5/15/2022 | 350,000,000 | 3.350% | 11,725,000 | 91.25 | 1,069,906,250 |
| 13 | 0221288 - $650M 3.95% FMB due 11/15/2028 | 650,000,000 | 3.950% | 25,675,000 | 91.25 | 2,342,843,750 |
| 14 | 0221380 - Series A 6% Snr Notes Due 2028 | 300,000,000 | 6.000% | 18,000,000 | 91.25 | 1,642,500,000 |
| 15 | 0221801 - $500M 6.1% Sr Nte due 6/1/37-L | 500,000,000 | 6.100% | 30,500,000 | 91.25 | 2,783,125,000 |
| 16 | 0221803 - $500M 6.0% FMB due 1/15/38 | 500,000,000 | 6.000% | 30,000,000 | 91.25 | 2,737,500,000 |
| 17 | 0221856 - $500M 3.75% FMB due 6/1/2045 | 500,000,000 | 3.750% | 18,750,000 | 91.25 | 1,710,937,500 |
| 18 | 0221857 - $500M 2.5% FMB due 3/15/23 | 500,000,000 | 2.500% | 12,500,000 | 91.25 | 1,140,625,000 |
| 19 | 0221858 - $500M 3.875% FMB due 3/15/2046 | 500,000,000 | 3.875% | 19,375,000 | 91.25 | 1,767,968,750 |
| 20 | 0221859 - $600M 2.95% FMB due 12/1/26 | 600,000,000 | 2.950% | 17,700,000 | 91.25 | 1,615,125,000 |
| 21 | 0223306 - Intercompany Notes Payable LT | 300,000,000 | | 8,382,000 | 0.00 | - |
| 22 | 0224560 - Long-Term Debt Derf Due 9/5/06 | 450,000,000 | | 15,573,000 | 15.21 | 236,865,330 |
| 23 | 0224610 - Pollution Control Fin Due 2017 | 71,605,000 | 4.375% | 3,132,719 | 91.25 | 285,860,609 |
| 24 | 0224620 - PC Bonds 2006B 10-1-2031 | 71,595,000 | 4.375% | 3,132,281 | 91.25 | 285,820,641 |
| 25 | 0224804 - PC Bonds 2007A 11/01/2040 | 50,000,000 | 4.625% | 2,312,500 | 91.25 | 211,015,625 |
| 26 | 0224805 - PC Bonds 2007B 11/01/2040 | 50,000,000 | 4.625% | 2,312,500 | 91.25 | 211,015,625 |
| 27 | Capital Lease - Buck Pipeline | 8,264,547 | 12.132% | 525,615 | 15.21 | 7,994,602 |
| 28 | Capital Lease - Cliffside PSNC Pipeline | 51,896,720 | 12.089% | 6,193,050 | 15.21 | 94,196,283 |
| 29 | Capital Lease - Dan River Pipeline | 6,488,507 | 16.791% | 1,065,819 | 15.21 | 16,211,105 |
| 30 | Capital Lease - Dan River Water Heaters | 1,842,289 | 10.446% | 188,948 | 15.21 | 2,873,900 |
| 31 | Capital Lease - Lee CC | 40,778,312 | 13.550% | 5,453,632 | 15.21 | 82,949,741 |
| 32 | | | | | | |
| 33 | Total | $ 11,011,481,552 | | $ 479,691,495 | 85.20 | $ 40,869,756,068 |
| 34 | | | | | | |
| 35 | | | | | | |
| 36 | Total Long Term Debt included in Lead Calculation | $ 11,011,481,552 | | | | |
| 37 | Fair Value Hedge - g/l on cancelled swaps | 5,061,570 | | | | |
| 38 | Unamortized Debt Discount/Premium | (23,479,383) | | | | |
| 39 | Unamortized Debt Issuance Costs | (53,940,186) | | | | |
| 40 | Tie to E-1 #34b | $ 10,939,123,553 | | | | |

**E-1 Item 14**

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital for NC Retail Operations - Summary of Exhibits**
**For the test period ended December 31, 2017**
**Summer CP Demand Allocation with MINIMUM SYSTEM**

| Schedule # | Exhibit Name |
|---|---|
| 1 | Billing Statistics |
| 2 | Collection Lag AR Turnover |
| 3 | Sales for Resale |
| 4 | Misc Revenue |
| 5 | Coal Oil Biomass |
| 6 | Gas Purchase and Costs |
| 7 | Purchased Power |
| 8 | Nuclear Fees |
| 9 | Payroll |
| 10 | Pension and Benefits |
| 11 | Regulatory Expense |
| 12 | Limestone |
| 13 | Taxes Other Than Income |
| 14 | Income Taxes |
| 15 | Property Insurance |
| 16 | Interest on Customer Deposits |
| 17 | Workers Comp |
| 18 | Cash Working Capital Related to NC Sales Tax |

# Duke Energy Carolinas, LLC

# Lead-Lag Study

May 2019

Building a better working world

EY
Building a better working world

Ernst & Young LLP
100 N Tryon St
Charlotte, NC 28202

Tel: +1 704 372 6300
ey.com

May 22, 2019

Abbe Greenfield
Rate Case Planning & Execution, Duke Energy Carolinas, LLC
526 South Church Street
Charlotte, NC 28202

Mrs. Greenfield:

We have completed our procedures with respect to analyzing a detailed lead-lag study for Duke Energy Carolinas, LLC ("the Company" or "DEC") focused on retail operations in the state of North Carolina. Our procedures were performed in accordance with our Statement of Work, dated April 19, 2018. Our report consists of three parts. We summarize our scope, approach and findings in a narrative executive summary; we present our detailed findings in a schedule that provides the lag and lead days by revenue and expense component used by DEC in its cost of service filings; and we provide an appendix that provides the company's summary calculations with a reference to 19 underlying detail schedules.

The information provided in this report is intended to be used to support the Company's request for a cash working capital allowance to be included in the Company's requested rate base to be authorized by the North Carolina Utility Commission. The report is not intended to be, and should not be, used without our prior written consent by any other party or for any other purpose. Our calculations relied on underlying accounting information provided by the Company. We did not audit that underlying accounting information.

We value the opportunity to work with you and appreciate the cooperation and assistance provided. We would be pleased to discuss any aspect of our work or this report with you or other members of management at your convenience. If you have questions, please call Jake Van Reen at (617) 375-2446.

Thank you,

Jake Van Reen

# Executive Summary

## 1.1. Organization of Report

This report is composed of three parts: Executive Summary, Detailed Findings, and Appendix.

The Executive Summary provides background on the engagement, the purpose and scope of the lead-lag study, the standards applied and the relation to previous studies, and a discussion of key findings.

The Detailed Findings are provided in a DEC Lead-Lag Summary schedule contained within E-1 Item 14. This schedule provides the lag and lead days by revenue and expense component used by the Company in its cost of service filings. The summary was agreed to the underlying supporting schedules.

## 1.2. Background

Duke Energy Company, LLC ("Duke") engaged Ernst & Young ("EY") to support the preparation of a lead-lag study for Duke's retail operations in the state of North Carolina. The study will be used to support the Company's request for a cash working capital allowance to be included in the requested rate base. This report presents the methodology and approach used in the study and the results covering the twelve-month period ending December 31, 2017, subject to known changes.

The Company last presented a lead-lag study to the North Carolina Utility Commission ("NCUC" or the "Commission") for the twelve-month period ending December 31, 2009. This report presents the lead-lag study in the same general format and applies the same methodologies where applicable. Since that time, there are assumed to have been no significant changes in the operating and regulatory environments that would materially affect the calculation of the cash working capital requirements. To confirm this assumption, EY interviewed Duke personnel and a contractor responsible for compiling the study. EY also analyzed certain of the Company's financial statements and riders to DEC's regulatory requirements for the same purpose.

## 1.3. Cash Working Capital

### 1.3.1. Purpose of lead-lag study

The lead-lag study is designed to measure the average amount of capital, over and above the investments in plant, and other separately identified rate base items, provided by investors to bridge the gap between the time expenditures are required to provide service and the time collections of revenues are received for the service. This quantity is referred to as cash working capital. Cash working capital is more comprehensive than simply financing the lag between Company payments and receipts, as investor capital is required to finance the lag in the recovery of the entire cost of service, including depreciation and cost of capital.

### 1.3.2. Cash working capital requirement

A requirement for cash working capital represents the amount necessary to provide the utility with an opportunity to appropriately earn an authorized return on all capital invested in utility operations. Unless all capital supplied by investors has that opportunity, investors will not be fully compensated for the capital supplied and the objective of the cash working capital requirement will not be met. Consequently, the key test of the adequacy of the cash working capital requirement should be whether the inclusion of such an amount when added to net utility plant and other items includible in the rate base will produce a fair representation of the capital on which there should be an opportunity to earn a return.

### 1.3.3. Lead-lag study methodology

To the extent applicable, this study tracks the methodology used in the previous rate filings of the Company and decisions of the NCUC.

The lead-lag study measures the difference in time frames between: (1) when service is rendered and the revenue for that service is received ("revenue lag"); and (2) when the costs of providing service are incurred (including costs of fuel and purchased power, labor, materials, services, etc.) and the time for which those costs are paid ("expense lead"). The difference between these lag periods is expressed in terms of days. The calculated number of days multiplied by the average daily operating revenues or cost of service produces the cash working capital required by the Company.

To fully identify cash working capital requirements, there are additions and deductions to the amount calculated in the lead-lag study. This is done to adjust for items not accounted for in rate base. For example, we must add operational cash requirements and add or deduct any other requirements for, or sources of, cash working capital (such as prepayments, reserves, and items capitalized prior to payment). In previous rate case proceedings, these adjustments have been considered separately from the lead-lag study, so they are not considered in this report.

#### 1.3.4. Results of lead-lag study for DEC retail electric operations

The following section provides a summary of the most significant revenue lags and expense leads calculated. Additional detailed identification of the calculated revenue lags and expense leads is included in the attached schedule entitled E-1 Item 14 ("the summary schedule").

### 1.4. Revenue Lag

The revenue lag measures the time between service delivery to customers and the collection of revenue for service from customers. For the year ending December 31, 2017, approximately 99% of North Carolina retail jurisdictional revenue was received from cycle billed customers (customers billed on a periodic basis) and the large customer billing group, DEC's Customer Billing Information System (CBIS) and Lodestar Billing Expert systems, respectively.

The revenue lag for these services is the sum of three components: (i) service lag, (ii) billing lag and (iii) collection lag.

The first component is service lag. The Company reads the meters on a monthly basis; therefore the average time between meter reads is 30.42 days (365 days in a year divided by 12 monthly meter reads). Dividing by two provides the midpoint in time, or the average time between when service is provided and the meter read, for a service lag of 15.21 days. (See summary schedule line 4.)

The second component of the total revenue lag is billing lag, the time from the meter reading to when the customer is billed and the bill is posted in the Company's accounts receivable system. Most customers are billed the next business day after the meter is read. Taking into account weekends and holidays, the calculation of the total billing lag is 1.74 days. (See summary schedule line 11.) This amount differs from the previous study, which deemed the billing lag to be at approximately half a day, as the previous study did not account for weekends and holidays.

The third component of the total revenue lag is the collection lag, the period from the billing date to the time the customer pays their bill (i.e., the date cash payments are credited on the accounts receivable records). This component of the revenue lag is measured by dividing average daily accounts receivable (based on a thirteen-month average) by average daily sales. Collection policies for retail operations in North Carolina are governed by NCUC rules. We calculated the collection lag to be 22.63 days. (See summary schedule line 15.)

Adding these three components together produced a total lag of 39.58 days in the collection of revenues for services provided to cycle-read and large customer billing group customers on electric delivery rate schedules. (See summary schedule line 17.)

EY did not factor in the potential impact of float. The Company experiences two float periods - the time from when funds are received from customers until the funds clear the banks, and the time between when the Company sends a check to pay for services and when those checks are deposited. In the first instance, the Company's cash requirements are increased by the float (i.e. funds are not actually available until after the deposits clear). However, in the second instance, the Company's cash requirements are reduced by the float. Given the relative levels of electronic funds transfers in the Company's payments versus in its receipts, we are confident that the float for revenue is larger than the float for expense. Accordingly, excluding float in this instance is a conservative assumption that would not harm the ratepayer.

In addition to the above, the Company records a variety of additional and miscellaneous revenues which are also applicable to the North Carolina retail jurisdiction. These include intersystem sales for resale, miscellaneous riders (unbilled fuel and deferred revenue), provisions for refunds, forfeited discounts, rental income, pole and line attachment, and revenue from the transmission of electricity to others. To calculate the overall average revenue lag, we calculated the revenue lags for each of the additional and miscellaneous revenues. The total revenue lag for DEC is 38.01 days. (See summary schedule line 80.)

## 1.5. Expense lead

There are several major categories of expense including:

- O&M Fuel
- O&M Purchased Power
- Labor and Benefits
- Other specifically identified O&M
- Other O&M sampled
- Depreciation and Amortization
- Taxes other than Income
- Interest on Customer Deposits
- Income Taxes
- Net Operating Income

Each of the above are described in more detail below.

### 1.5.1. O&M Fuel

O&M Fuel costs consist of coal, oil, and natural gas purchases. Fuel is the largest cost category, accounting for approximately 20% of the cost of service for the year ending December 31, 2017. Coal costs include two major components: coal commodity purchases and coal transportation costs. The cost of coal purchases and transportation are inventoried and, by NCUC precedent, coal fuel inventories are included in rate base. However, the cash working capital requirement must recognize the cash available to the Company stemming from the time between receipt of coal and the subsequent payment of the fuel or transportation invoice.

DEC receives thousands of coal deliveries at its coal generating stations each year. DEC employs the following coal payment terms: (i) contract deliveries made between the $1^{st}$ and $15^{th}$ of the current month are paid by the $30^{th}$ of the current month or contract deliveries made between the $16^{th}$ and $31^{st}$ of the current month are paid by the $15^{th}$ of the following month (22.5 days); (ii) contract deliveries made between the $1^{st}$ and $15^{th}$ of the current month are paid by the $15^{th}$ of the following month or contract deliveries made between the $16^{th}$ and $31^{st}$ of the current month are paid by the $30^{th}$ of the following month (37.5 days); (iii) contract deliveries made between the $1^{st}$ and $31^{st}$ of the current month are paid by the $30^{th}$ of the following month (45 days); (iv) contract deliveries made between the $1^{st}$ and $15^{th}$ of the current month are paid by the 25th of the current month or contract deliveries made between the 16th and 31st of the current month are paid by the 10th of the following month (17.5 days); (v) contract deliveries made between the 1st and 31st of the current month are paid by the 20th of the following month (35 days); and (vi) contract deliveries paid 10 days after ship date (10 days). Vendor contracts require DEC payments to be received by the vendor by the noted due date.

DEC employs the following vendor coal transportation contract terms: (i) coal freight payments 15 days after the ship date (15 days); (ii) coal freight received between the 1st and 15th of the current month are paid by the 30th of the current month or coal freight received between the 16th and 31st of the current month are paid by the 15th of the following month (22.5 days). The weighted average coal and coal freight expense lead is 20.79 days. (See summary schedule line 93.)

Nuclear fees have a calculated expense lead of (34.15) days. (See summary schedule line 119.)

Small amounts of oil and natural gas are also used as a fuel for generation. Unlike coal or oil, natural gas is not stored and inventoried, rather it is purchased as it is used to generate electricity. Therefore, the expense lag for natural gas is computed conventionally as the difference between the service period and the date of payment. Since Duke is not storing natural gas to be used for generation, the service period is considered to be the mid-point of the billing period from the gas supplier, and the payment date is simply the date of payment. We calculated the natural gas invoices and their computed expense leads as 38.00 days. (See summary schedule line 107.)

### 1.5.2. O&M Purchased Power

DEC provided listings of all transactions for each of the purchased power accounts for our analysis. We weighted the individual invoices by dollar amount, resulting in an overall expense lead of 39.00 days. (See summary schedule line 115.)

### 1.5.3. O&M Labor and Benefits

Labor and benefits comprised approximately 12% of the cost of service for the year ending December 31, 2017. Labor costs fall into three categories: net payroll, deductions from payroll, and taxes. In turn, the Company's payroll consists of two primary categories, semi-monthly payroll and bi-weekly payroll, with lesser amounts of incentive pay. We identified each pay period and the payment dates corresponding to that pay period. For payroll related deductions (income taxes, social security, etc.) we identified each deduction and when the payments for each deduction were made.

#### 1.5.4. Other Specifically Identified O&M

Other specifically identified O&M categories include the following accounts:

- Uncollectible accounts
- Regulatory expenses
- Insurance expenses
- Injuries and damages – workers compensation

Uncollectible accounts expenses result from the timing of the write-off of customer accounts receivable as uncollectible. By NCUC practice, these expenses are valued at zero days expense lead.

We calculated expense lead days for regulatory expenses, insurance expenses and injuries and damages expenses by analyzing service periods, payment amounts and payment patterns. Insurance expenses and injuries and damages are payments for insurance policies. By their nature, insurance policies are paid prior to the service period for coverage; both have negative expense leads. (See summary schedule lines 130 and 132.)

#### 1.5.5. Other O&M Sampled

To determine the expense lead for other O&M not specifically analyzed (summary schedule line 134), the Company provided EY with a listing of cash disbursements for the twelve-month period ending December 31, 2017. We removed records for capital costs, non-electric O&M costs, and any costs already analyzed, resulting in a sample population consisting of $757,657,609 and 38,262 rolled vouchers (Note: there were over 510,000 records, but multiple disbursements were made on the same voucher; since the voucher was the unit sampled, the records were rolled up to the voucher level). From that population, a stratified random sample in nine strata, based on the invoice dollar amount, was selected (274 total selections) for sample testing. For each item sampled, the supporting documentation was obtained and analyzed. For purposes of the analysis, service period information was either provided by Duke based on the supporting documentation or, in instances where the service period was not available, the invoice date was provided. The paid dates utilized in the analysis were taken from the Company's payables ledger.

The estimated weighted average expense lead calculated from the sample was 39.98 days, plus or minus 5.85 days with 90% confidence. This contrasts to the 25.72 days calculated for the other O&M sample from the previous lead-lag study. When asked about the increase in days, the client informed us that Duke has 45-day payment terms, and has been following these more closely than previously. EY used statisticians to sample the Other O&M population.

In addition, approximately 2% of the other O&M were employee expenses. These were included in our sample, and the client selected large dollar amounts and filled in the service period and payment date. For the remainder, we calculated the average lead lag days based on the credit card payment dates; this made up 63% of the sample. All credit cards have the same cut off dates for service periods and the same payment dates. As a result, these were not sampled. Rather the expense lead was calculated as the average time from the midpoint of the service period to the payment date.

### 1.5.6. Depreciation and Amortization

Expenses for depreciation and amortization are the result of prior cash transactions that are not initially charged to expense. A zero lag is applied because the expense is deducted from rate base when the expense is recorded. By way of example, investors supply cash for capital investments such as plant assets. A cash transaction occurs when a plant asset is acquired. The plant asset is included in rate base and the cash investment earns a return until depreciation expense is recorded. When depreciation expense is recorded, the amount of the expense is removed from rate base and the expense becomes recoverable in cost of service. However, the cash is not recovered until revenues are collected (*e.g.*, after the revenue lag). Thus, depreciation expense is included in the lead-lag study with a zero expense lead to provide a return for the period from when the depreciation expense is booked and removed from rate base until it is recovered from revenues.

### 1.5.7. Taxes Other than Income

Expense leads for taxes other than income taxes consider the timing between when the taxes are assessed, and the related service period. Some taxes are assessed and paid prior to the start of the service period and others are paid after a significant portion of the service period has occurred. Overall the average expense lead on taxes other than income for the period ending December 31, 2017 was 164.74 days. (See summary schedule line 147.) Per the 2009 lead-lag study, the average expense lead on taxes other than income was 83.21. The increase in the number of lead lag days is the result of tax reform occurring in 2014, which significantly reduced the franchise tax (historically paid soon after each billing cycle). This had previously offset the impact of property taxes, which are paid nearly a year after the service period begins. Additionally, there was a considerable increase in the level of property taxes between 2009 and 2017.

### 1.5.8. Interest on Customer Deposits

Interest is credited to customers who are required to maintain deposits, and the interest is paid either when the deposit is returned or at periodic intervals. The expense lead on customer deposits is 218.40 days. (See summary schedule line 149.)

### 1.5.9. Income Taxes

Income taxes has two major components, current and deferred income taxes. In turn, current income taxes include taxes for the current year and taxes for prior periods. The expense lead for current income taxes for the current year is the result of the statutory payment dates. Similar to the rationale for depreciation expense, the deferred tax expense lead is zero days because net deferred tax liabilities are deducted from rate base when the expense is recorded. The expense lead on Net Income Taxes is 16.76 days. (See summary schedule line 156.)

### 1.5.10. Net Operating Income

Net operating income is the return on invested capital, just as depreciation expense is a return on invested capital. Like depreciation expense, a zero lag was assigned to net operating income in recognition of the fact that the return is earned when the service is provided. Because the return is earned when the service is provided, it would be inappropriate to consider subsequent below the line treatment of net operating income. Therefore we did not further analyze the subsequent use of net operating income for interest, dividends or reinvestment.

### 1.5.11. Cash Working Capital Impacts of Pass Through Items

As noted, to fully identify the cash working capital requirements, to the amount calculated in the lead lag study we must add operational cash requirements and add or deduct any other requirements for or sources of cash working capital. One item the Company has not included elsewhere and is therefore considered here is pass through taxes. Pass through taxes are similar to taxes other than income except the payment is due from customers not the company. The primary pass through tax is the North Carolina utility sales tax. The Company collects these pass-through taxes from customers in their bills and pays the tax to the State. The tax is not a Company expense because the Company is merely a conduit of the payments from customers to the state. But, to the extent the Company pays the tax before the funds are received from customers, investors in the Company need to provide the cash to finance the time between payment and recovery. The impact on total DEC cash working capital requirements due to the NC sales pass through tax is $6,694,345. (See summary schedule line 167.)

## Conclusion

We have calculated the revenue lag days and expense lead days documented in the schedule described above. We have also tested the reasonableness of the results based on both a logical review of the revenue and expense items using business operating parameters, and on a comparison to historical results. Based on our analyses, we conclude that these revenue lag days and expense lead days are reasonable and calculated properly.

## Detailed Findings

The revenue lag and expense lead calculations developed in this study are overall quite similar when compared to the 2009 calculations, indicating there have been no significant changes in the operating and regulatory environments that would materially affect the overall calculation of the cash working capital requirements. The calculated overall revenue lag is 38.01 days versus 38.62 days in the prior study, reflecting a stable revenue lag.

On the expense side there appears to be more variability in the calculated expense leads among individual expense line items. However, the overall expense lead of 21.61 days is fairly consistent with the 19.48 days in the prior study.

Among individual expense items, the expense lead for Taxes Other than Income was considerably different. The current study calculated this lead at 164.74 days, versus 83.21 days previously. This is driven by the 2014 tax reform, which significantly reduced the amount of franchise tax paid. This tax, which was historically paid soon after each billing cycle, had previously offset the long lead of property taxes. Since this account has dwindled by over $100 million from the 2009 study, there is no item to balance the long lead of property taxes.

As previously noted, the expense lead for other O&M not separately analyzed increased to 39.98 days, due to stricter adherence to DEC's 45-day payment terms.

The cash working capital requirement is currently calculated at $223.6 million. When factoring in NC Sales Tax, this amount increases to $230.3 million, representing an approximately $25.3 million increase from the previous study. This appears to be predominantly driven by a higher daily requirement, representing normal growth and inflation from the time of the previous study. Items like Other Income Taxes had a minimizing effect by expanding the Requirement Lead Days, but normal growth and inflation still requires a larger Cash Working Capital Requirement.

## Appendix

**Duke Energy Carolinas, LLC**
**Cash Working Capital Requirements for NC Retail Operations**
**Revenue and Expense Lead-Lag Summary**
**For the Test Year Ended December 31, 2017**

| Line No. | | NC Retail Jurisdictional Amount | Lead \Lag Days | Weighted Amount |
|---|---|---|---|---|
| 1 | Total Revenue Lag | (4,979,947,688) | 38.01 | (189,265,107,983) |
| 2 | Operation and Maintenance Expense | 2,554,282,983 | 26.80 | 68,446,810,371 |
| 3 | Depreciation and Amortization | 781,791,508 | 0.00 | 0 |
| 4 | Taxes Other Than Income Taxes | 185,453,667 | 164.74 | 30,552,113,886 |
| 5 | Interest on Customer Deposits | 7,471,530 | 218.40 | 1,631,782,152 |
| 6 | Income Taxes | 418,227,583 | 16.76 | 7,010,730,021 |
| 7 | Investment of Tax Credit | (3,551,995) | 0.00 | 0 |
| 8 | Net Operating Income | 1,036,272,412 | 0.00 | 0 |
| 10 | **Total Requirements** | 4,979,947,688 | 21.61 | 107,641,436,430 |
| 11 | Revenue Lag Days | | 38.01 | |
| 12 | Requirement Lead Days | | 21.61 | |
| 13 | **Net Lag Days** | | 16.39 | |
| 14 | Daily Requirements | | | 13,643,692 |
| 15 | Cash Working Capital Requirements | | | 223,626,497 |
| 16 | Working Capital Related to NC Sales Tax | | | 6,694,345 |
| 17 | Total Cash Working Capital Requirements | | | 230,320,842 |

**Duke Energy Carolinas, LLC**
**Cash Working Capital Requirements for NC Retail Operations**
**Revenue and Expense Lead-Lag Summary**
**For the Test Year Ended December 31, 2017**

| Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|
| 1 | **OPERATING REVENUES:** | | | | | |
| 2 | | | | | | |
| 3 | CBIS & MBAS Billing System | | | | | |
| 4 | Service Lag | | | | 15.21 | |
| 5 | Billing Lag | | | | | |
| 6 | Total Retail Sales | | (6,190,731,044) | | | |
| 7 | Cycle & Non-Cycle Read Customers | | (6,153,742,033) | | | |
| 8 | Hourly Pricing (HP, HPX, HPF) | | (17,239,443) | | | |
| 9 | Parallel Generation (PG) | | (1,481,690) | | | |
| 10 | Governmental Lighting (PL) | | (36,989,011) | | | |
| 11 | Total Billing Lag | | (6,209,452,177) | (4,601,261,829) | 1.74 | |
| 12 | | | | | | |
| 13 | Unbilled Revenue | 0440.99, 0442.19, 0442.29, 0444.99 | (20,628,546) | (14,921,709) | | |
| 14 | | | | | | |
| 15 | Collection Lag | | | | 22.63 | |
| 16 | | | | | | |
| 17 | Total Revenue Lag Elec Delivery Rate Schedule (Ln 11 + 17) | | (6,230,080,723) | (4,616,183,538) | 39.58 | (182,700,850,795) |
| 18 | | | | | | |
| 19 | BPM Billing System | | | | | |
| 20 | Total Revenue Lag Sales for Resale BPM | | (555,060,872) | (36,446,619) | 35.44 | (1,291,668,177) |
| 21 | | | | | | |
| 22 | Total Miscellaneous Rider Revenue | 0456500 - 0456570 | (287,755,803) | (216,904,840) | 0.00 | - |
| 23 | | | | | | |
| 24 | Provisions For Rate Refunds | 0449100 | 13,034,471 | 13,034,471 | 39.58 | 515,882,638 |
| 25 | | | | | | |
| 26 | Forfeited Discounts | 0450100, 0450200 | (18,368,585) | (14,012,496) | 70.00 | (980,874,720) |
| 27 | | | | | | |
| 28 | Miscellaneous Revenues | 0451100, 0451200 | (10,801,723) | (8,240,106) | 76.00 | (626,248,056) |
| 29 | | | | | | |
| 30 | Rent - Joint Use | 0454004 | (133,305) | (97,798) | 45.21 | (4,421,448) |
| 31 | | | | | | |
| 32 | Rent from Electric Property | | | | | |
| 33 | Extra Facilities - Depreciation | 0454100 | (7,930,359) | (6,150,488) | 0.00 | - |
| 34 | Extra Facilities - Other | 0454100 | (23,215,514) | (18,005,078) | 39.58 | (712,610,979) |
| 35 | Interconnection Cogeneration | 0454110 | (2,064,812) | (1,601,391) | 39.58 | (63,380,387) |
| 36 | Total Acct 0454.1 (Ln 33 through Ln 35) | | (33,210,686) | (25,756,957) | | (775,991,366) |
| 37 | | | | | | |
| 38 | Pole & Line Attachments | 0454200 | (33,120,695) | (25,735,528) | 143.39 | (3,690,217,290) |
| 39 | | | | | | |
| 40 | 0454300 - Tower Lease Revenues | 0454300 | (13,042,761) | (6,826,747) | (93.97) | 641,499,431 |
| 41 | 0454400 - Other Electric Rents | 0454400 | (4,180,486) | (2,861,893) | 45.21 | (129,386,183) |
| 42 | 0454500 - Leased Facilities Fee - Catawba (NCWHL) | 0454500 | (564,717) | 0 | | |
| 43 | 0454500 - Leased Facilities Fee - Catawba (SCWHL) | 0454500 | (112,069) | 0 | | |
| 44 | 0454510 - Return and Dep - Catawba Gen Plt | 0454510 | (14,020,857) | (9,598,451) | (15.21) | 145,992,432 |
| 45 | 0454600 - Lease Revenue - CERT | 0454600 | 0 | 0 | | |
| 46 | 0454601 -Other Miscellaneous Revenue - Timber Sales | 0454720 | (32,619) | (22,330) | 0.00 | - |
| 47 | Total Acct 454 (L30 + L36 through L46) | | (98,418,195) | (70,899,703) | | (3,812,524,422) |
| 48 | | | | | | |
| 49 | Subsidiary Cost of Capital | 0455000 | 0 | 0 | 0.00 | - |
| 50 | | | | | | |

| Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|
| 51 | Other Electric Revenues | 0456100 | (2,779) | (1,904) | 0.00 | - |
| 52 | | | | | | |
| 53 | Distribution Charge - Network | | | | | |
| 54 | North Carolina | 0456102 | (2,583,893) | 0 | 0.00 | - |
| 55 | South Carolina | 0456102 | (1,547,711) | 0 | 0.00 | - |
| 56 | Total Acct 456.102 (L54 + L55) | | (4,131,604) | 0 | | - |
| 57 | | | | | | |
| 58 | Metering - Network NCWHL | 0456103 | (18,340) | 0 | 0.00 | |
| 59 | Metering - Network SCWHL | 0456103 | (48,823) | 0 | 0.00 | |
| 60 | Comp For Serv To Other (Catawba) | 0456300 | (18,226,583) | (12,477,622) | (15.21) | 189,784,631 |
| 61 | | | | | | |
| 62 | Other Electric Revenues | 0456610 | (1,601,984) | (1,096,692) | 36.03 | (39,513,813) |
| 63 | | | | | | |
| 64 | Gross Up-Contr in Aid of Const | 0456630 | (1,540,650) | (1,137,770) | (15.21) | 17,305,482 |
| 65 | | | | | | |
| 66 | Deferred Dsm Costs - NC | 0456640 | (170,147) | (170,147) | 0.00 | - |
| 67 | Deferred Dsm Costs - SC | 0456650 | 0 | 0 | 0.00 | - |
| 68 | Other Revenue Affiliate | 0456949 | (13,703,408) | (9,381,130) | 40.21 | (377,215,253) |
| 69 | Other Transmission Revenues | 0456111 | (2,090,331) | (2,090,331) | 0.00 | - |
| 70 | | | | | | |
| 71 | Revenues from Transmission of Electricity to Others | | | | | |
| 72 | Other Variable Revenues-Reg | 0456001 | (153,765) | (101,448) | 40.41 | (4,099,514) |
| 73 | I/C Joint Disp - Trans NW Rev | 0456016 | (55,075) | (36,336) | 40.41 | (1,468,338) |
| 74 | Transmission Study Revenue | 0456050 | (11,401) | (7,522) | 40.41 | (303,964) |
| 75 | Trans of Elec to Others-NCWHL | | (56,918,760) | 0 | 40.41 | - |
| 76 | Trans of Elec to Others-SCWHL | | (25,311,998) | 0 | 40.41 | - |
| 77 | Trans Charge PTP-Non-Firm-BPM & WO Sharing | | (3,793,954) | (3,793,954) | 40.41 | (153,313,681) |
| 78 | Total Revenues from Transm of Electricity to Others (L72 through L77) | | (86,244,953) | (3,939,260) | | (159,185,497) |
| 79 | Total Acct 456 (L51 + L56 + L58 through L69 + L78) | | (127,779,602) | (30,294,857) | | (368,824,450) |
| 80 | **Utility Oper Revenues (L17 + L20+ L22 +L24 + L26 + L47 +L49 + L79)** | | (7,315,231,033) | (4,979,947,688) | 38.01 | (189,265,107,983) |
| 81 | ELECTRIC OPERATING REVENUE | | (7,315,231,033) | (4,979,947,688) | | |
| 84 | | | | | | |
| 85 | **OPERATION AND MAINTENANCE EXPENSE:** | | | | | |
| 86 | | | | | | |
| 87 | **Fuel Used in Electric Generation** | | | | | |
| 88 | | | | | | |
| 89 | Fossil | | | | | |
| 90 | Beneficial Reuse - Coal Ash | 0501007 | 120,481,185 | 79,423,035 | 20.79 | 1,651,204,908 |
| 91 | Contra Fuel Exp BR Ash - SC | 0501008 | (28,538,740) | - | | - |
| 92 | Contra Fuel Exp BR Ash - WS | 0501009 | 0 | - | | - |
| 93 | Coal Consumed Fossil Steam | 0501110 | 747,365,798 | 492,674,936 | 20.79 | 10,242,711,930 |
| 94 | Oil Consumed - Fossil Steam | 0501310 | 5,771,526 | 3,804,678 | 10.00 | 38,046,780 |
| 95 | Oil Light-Off - Fossil Steam | 0501330 | 7,542,632 | 4,972,218 | 10.00 | 49,722,180 |
| 96 | Emission Allowances | 0509000 | 5,450 | 3,596 | 0.00 | - |
| 97 | NOx Emission Expense | 0509210 | (30) | (20) | 0.00 | - |
| 98 | RECS Consumption Expense | 0509213 | 13,635,107 | 12,630,118 | 0.00 | - |
| 99 | Commissions/Brokerage Expense | 0557450 | 21,600 | 14,251 | 26.80 | 381,880 |
| 100 | EA & Coal Broker Fees | 0557451 | 4,625 | 3,051 | 0.00 | - |
| 101 | | | | | | |
| 102 | Nuclear | | | | | |
| 103 | Burnup of Owned Fuel | 0518100 | 307,787,905 | 202,898,483 | 0.00 | - |
| 104 | Canister Design Expense | 0518620 | 338,622 | 223,409 | 0.00 | - |
| 105 | | | | | | |

| Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|
| | | | | | | |
| 106 | Other Production | | | | | |
| 107 | Natural Gas | 0547100 | 23,821,600 | 15,703,562 | 38.00 | 596,735,356 |
| 108 | Natural Gas - CC | 0547101 | 259,880,254 | 171,317,028 | 38.00 | 6,510,047,064 |
| 109 | Biogas Expense | 0547106 | 996,324 | 656,792 | 38.00 | 24,958,096 |
| 110 | REC Biogas Contra Expense | 0547107 | (404,508) | (266,658) | 38.00 | (10,133,004) |
| 111 | IC Gas Purchases | 0547124 | 11,387,785 | 7,507,002 | 38.00 | 285,266,076 |
| 112 | Oil | 0547200 | 3,711,900 | 2,446,941 | 38.00 | 92,983,758 |
| 113 | **Fuel Used in Elec Gen (HFM Greenbook I/S)** | F_FUEL_USED_ELEC_GEN | **1,473,809,036** | **994,012,423** | **19.60** | **19,481,925,024** |
| 114 | | | | | | |
| 115 | **Purchased Power** | 0555XXX | **348,770,283** | **231,120,265** | **39.00** | **9,013,690,335** |
| 116 | | | | | | |
| 117 | **Total Other O&M Excluding Fuel and Purchased Power** | | | | | |
| 118 | | | | | | |
| 119 | Nuclear Fees in Acct 524 | 0524000 | 51,817,979 | 34,187,378 | (34.15) | (1,167,498,959) |
| 120 | | | | | | |
| 121 | Labor | | | | | |
| 122 | Payroll Net of Deductions | | 427,972,177 | 292,982,787 | 40.43 | 11,845,294,078 |
| 123 | Payroll Deductions | | 278,369,096 | 190,566,952 | 9.78 | 1,863,744,791 |
| 124 | Total Labor (Ln 149+150) | | 706,341,273 | 483,549,739 | 28.35 | 13,709,038,869 |
| 125 | | | | | | |
| 126 | Pension and Benefits | 0926XXX | 130,547,562 | 89,254,582 | 12.36 | 1,103,186,634 |
| 127 | | | | | | |
| 128 | Regulatory Commission Expense | 0928000 | 11,375,477 | 7,901,083 | 72.31 | 571,327,312 |
| 129 | | | | | | |
| 130 | Property Insurance | 0924XXX | 10,862,755 | 7,383,136 | (212.16) | (1,566,406,134) |
| 131 | | | | | | |
| 132 | Injuries & Damages - Workman's Compensation | 0925980 | 7,400,514 | 5,171,934 | (145.50) | (752,516,397) |
| 133 | | | | | | |
| 134 | Remaining Other Oper & Maint Expense | | 1,001,879,049 | 701,702,443 | 39.98 | 28,054,063,688 |
| 135 | | | | | | |
| 136 | Total O&M Excl. Fuel and Purch. Power | | 1,920,224,610 | 1,329,150,295 | 30.06 | 39,951,195,012 |
| 137 | | | | | | |
| 138 | **Total Operation and Maintenance Expense (L113 + L115 + L136)** | | **3,742,803,929** | **2,554,282,983** | **26.80** | **68,446,810,371** |
| 139 | | | | | | |
| 140 | Total Depreciation & Amortization & Property Loss | | 1,134,170,294 | 781,791,508 | 0.00 | - |
| 141 | | | | | | |
| 142 | Taxes Other Than Income Taxes | | | | | |
| 143 | Payroll Taxes | | 46,582,702 | 31,853,838 | 9.33 | 297,196,309 |
| 144 | North Carolina Property Tax | | 106,165,393 | 78,521,714 | 186.50 | 14,644,299,661 |
| 145 | South Carolina Property Tax | | 132,014,761 | 79,966,798 | 196.50 | 15,713,475,807 |
| 146 | Other Non-Income Taxes | | (7,441,533) | (4,888,683) | 21.04 | (102,857,890) |
| 147 | Taxes Other Than Income Taxes | | 277,321,324 | 185,453,667 | 164.74 | 30,552,113,886 |
| 148 | | | | | | |
| 149 | Total Interest on Customer Deposits | | 8,499,601 | 7,471,530 | 218.40 | 1,631,782,152 |
| 150 | | | | | | |
| 151 | Net Income Taxes | | | | | |
| 152 | Federal Income Tax | | 212,429,582 | 143,446,030 | 44.75 | 6,419,209,843 |
| 153 | State Income Tax | | 19,575,054 | 13,218,328 | 44.75 | 591,520,178 |
| 154 | Federal Income Tax - Deferred | | 352,901,899 | 238,872,663 | 0.00 | - |
| 155 | State Income Tax - Deferred | | 33,602,511 | 22,690,562 | 0.00 | - |
| 156 | Net Income Taxes | | 618,509,046 | 418,227,583 | 16.76 | 7,010,730,021 |
| 157 | | | | | | |

| Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|
| 158 | Investment of Tax Credit Adj Net | 04114XX | (5,298,340) | (3,551,995) | 0.00 | - |
| 159 | | | | | | |
| 160 | **Total Utility Operating Expenses (L138 + L140 + L147 + L149 + L151 + L153)** | | 5,776,005,853 | 3,943,675,276 | 27.29 | 107,641,436,430 |
| 161 | | | | | | |
| 162 | Net Utility Operating Income | | 1,539,225,180 | 1,036,272,412 | 0.00 | - |
| 163 | | | | | | |
| 164 | Total Requirements (Ln 269+273) | | 7,315,231,033 | 4,979,947,688 | | 107,641,436,430 |
| 165 | | | | | | |
| 166 | | | | | | |
| 167 | Cash Working Capital Related to NC Sales Tax | | 6,694,345 | | | |

## Appendix





| | | | | |
|---|---|---|---|---|
| Duke Energy Carolinas, LLC | | | | |
| Docket No. E-7, Sub 1214 | | | | |
| Cash Working Capital Requirements for NC Retail Operations | | | | |
| Revenue and Expense Lead-Lag Summary | | | | |
| For the Test Year Ended December 31, 2017 | | | | |
| Line No. | | NC Retail Jurisdictional Amount | Lead \Lag Days | Weighted Amount |
| 1 | Total Revenue Lag | (4,979,947,688) | 38.01 | (189,265,107,983) |
| 2 | Operation and Maintenance Expense | 2,554,282,983 | 26.80 | 68,446,810,371 |
| 3 | Depreciation and Amortization | 781,791,508 | 0.00 | 0 |
| 4 | Taxes Other Than Income Taxes | 185,453,667 | 164.74 | 30,552,113,886 |
| 5 | Interest on Customer Deposits | 7,471,530 | 218.40 | 1,631,782,152 |
| 6 | Income Taxes | 418,227,583 | 16.76 | 7,010,730,021 |
| 7 | Investment of Tax Credit | (3,551,995) | 0.00 | 0 |
| 8 | Net Operating Income | 1,036,272,412 | 0.00 | 0 |
| 10 | **Total Requirements** | 4,979,947,688 | 21.61 | 107,641,436,430 |
| 11 | Revenue Lag Days | | 38.01 | |
| 12 | Requirement Lead Days | | 21.61 | |
| 13 | **Net Lag Days** | | 16.39 | |
| 14 | Daily Requirements | | | 13,643,692 |
| 15 | Cash Working Capital Requirements | | | 223,626,497 |
| 16 | Working Capital Related to NC Sales Tax | | | 6,694,345 |
| 17 | Total Cash Working Capital Requirements | | | 230,320,842 |

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**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital Requirements for NC Retail Operations**
**Revenue and Expense Lead-Lag Summary**
**For the Test Year Ended December 31, 2017**

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| | 1 | **OPERATING REVENUES:** | | | | | |
| | 2 | | | | | | |
| | 3 | CBIS & MBAS Billing System | | | | | |
| Calc | 4 | Service Lag | | | | 15.21 | |
| | 5 | Billing Lag | | | | | |
| | 6 | Total Retail Sales | | (6,190,731,044) | | | |
| | 7 | Cycle & Non-Cycle Read Customers | | (6,153,742,033) | | | |
| | 8 | Hourly Pricing (HP, HPX, HPF) | | (17,239,443) | | | |
| | 9 | Parallel Generation (PG) | | (1,481,690) | | | |
| | 10 | Governmental Lighting (PL) | | (36,989,011) | | | |
| 1 | 11 | Total Billing Lag | | (6,209,452,177) | (4,601,261,829) | 1.74 | |
| | 12 | | | | | | |
| | 13 | Unbilled Revenue | 0440.99, 0442.19, 0442.29, 0444.99 | (20,628,546) | (14,921,709) | | |
| | 14 | | | | | | |
| 2 | 15 | Collection Lag | | | | 22.63 | |
| | 16 | | | | | | |
| | 17 | Total Revenue Lag Elec Delivery Rate Schedule (Ln 11 + 17) | | (6,230,080,723) | (4,616,183,538) | 39.58 | (182,700,850,795) |
| | 18 | | | | | | |
| | 19 | BPM Billing System | | | | | |
| 3 | 20 | Total Revenue Lag Sales for Resale BPM | | (555,060,872) | (36,446,619) | 35.44 | (1,291,668,177) |
| | 21 | | | | | | |
| | 22 | Total Miscellaneous Rider Revenue | 0456500 - 0456570 | (287,755,803) | (216,904,840) | 0.00 | - |
| | 23 | | | | | | |
| | 24 | Provisions For Rate Refunds | 0449100 | 13,034,471 | 13,034,471 | 39.58 | 515,882,638 |
| | 25 | | | | | | |
| | 26 | Forfeited Discounts | 0450100, 0450200 | (18,368,585) | (14,012,496) | 70.00 | (980,874,720) |
| | 27 | | | | | | |
| | 28 | Miscellaneous Revenues | 0451100, 0451200 | (10,801,723) | (8,240,106) | 76.00 | (626,248,056) |
| | 29 | | | | | | |
| | 30 | Rent - Joint Use | 0454004 | (133,305) | (97,798) | 45.21 | (4,421,448) |
| | 31 | | | | | | |
| | 32 | Rent from Electric Property | | | | | |
| | 33 | Extra Facilities - Depreciation | 0454100 | (7,930,359) | (6,150,488) | 0.00 | - |
| | 34 | Extra Facilities - Other | 0454100 | (23,215,514) | (18,005,078) | 39.58 | (712,610,979) |
| | 35 | Interconnection Cogeneration | 0454110 | (2,064,812) | (1,601,391) | 39.58 | (63,380,387) |
| | 36 | Total Acct 0454.1 (Ln 33 through Ln 35) | | (33,210,686) | (25,756,957) | | (775,991,366) |
| | 37 | | | | | | |
| 4 | 38 | Pole & Line Attachments | 0454200 | (33,120,695) | (25,735,528) | 143.39 | (3,690,217,290) |
| | 39 | | | | | | |
| 4 | 40 | 0454300 - Tower Lease Revenues | 0454300 | (13,042,761) | (6,826,747) | (93.97) | 641,499,431 |
| 4 | 41 | 0454400 - Other Electric Rents | 0454400 | (4,180,486) | (2,861,893) | 45.21 | (129,386,183) |
| | 42 | 0454500 - Leased Facilities Fee - Catawba (NCWHL) | 0454500 | (564,717) | 0 | | |
| | 43 | 0454500 - Leased Facilities Fee - Catawba (SCWHL) | 0454500 | (112,069) | 0 | | |
| | 44 | 0454510 - Return and Dep - Catawba Gen Plt | 0454510 | (14,020,857) | (9,598,451) | (15.21) | 145,992,432 |
| | 45 | 0454600 - Lease Revenue - CERT | 0454600 | 0 | 0 | | |
| | 46 | 0454601 -Other Miscellaneous Revenue - Timber Sales | 0454720 | (32,619) | (22,330) | 0.00 | - |
| | 47 | Total Acct 454 (L30 + L36 through L46) | | (98,418,195) | (70,899,703) | | (3,812,524,422) |
| | 48 | | | | | | |
| | 49 | Subsidiary Cost of Capital | 0455000 | 0 | 0 | 0.00 | - |
| | 50 | | | | | | |
| | 51 | Other Electric Revenues | 0456100 | (2,779) | (1,904) | 0.00 | - |
| | 52 | | | | | | |
| | 53 | Distribution Charge - Network | | | | | |
| | 54 | North Carolina | 0456102 | (2,583,893) | 0 | 0.00 | - |
| | 55 | South Carolina | 0456102 | (1,547,711) | 0 | 0.00 | - |
| | 56 | Total Acct 456.102 (L54 + L55) | | (4,131,604) | 0 | | - |
| | 57 | | | | | | |
| | 58 | Metering - Network NCWHL | 0456103 | (18,340) | 0 | 0.00 | |
| | 59 | Metering - Network SCWHL | 0456103 | (48,823) | 0 | 0.00 | |

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**Duke Energy Carolinas, LLC**

**Docket No. E-7, Sub 1214**

**Cash Working Capital Requirements for NC Retail Operations**

**Revenue and Expense Lead-Lag Summary**

**For the Test Year Ended December 31, 2017**

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| | 60 | Comp For Serv To Other (Catawba) | 0456300 | (18,226,583) | (12,477,622) | (15.21) | 189,784,631 |
| | 61 | | | | | | |
| | 62 | Other Electric Revenues | 0456610 | (1,601,984) | (1,096,692) | 36.03 | (39,513,813) |
| | 63 | | | | | | |
| | 64 | Gross Up-Contr in Aid of Const | 0456630 | (1,540,650) | (1,137,770) | (15.21) | 17,305,482 |
| | 65 | | | | | | |
| | 66 | Deferred Dsm Costs - NC | 0456640 | (170,147) | (170,147) | 0.00 | - |
| | 67 | Deferred Dsm Costs - SC | 0456650 | 0 | 0 | 0.00 | - |
| | 68 | Other Revenue Affiliate | 0456949 | (13,703,408) | (9,381,130) | 40.21 | (377,215,253) |
| | 69 | Other Transmission Revenues | 0456111 | (2,090,331) | (2,090,331) | 0.00 | - |
| | 70 | | | | | | |
| | 71 | Revenues from Transmission of Electricity to Others | | | | | |
| | 72 | Other Variable Revenues-Reg | 0456001 | (153,765) | (101,448) | 40.41 | (4,099,514) |
| | 73 | I/C Joint Disp - Trans NW Rev | 0456016 | (55,075) | (36,336) | 40.41 | (1,468,338) |
| | 74 | Transmission Study Revenue | 0456050 | (11,401) | (7,522) | 40.41 | (303,964) |
| | 75 | Trans of Elec to Others-NCWHL | | (56,918,760) | 0 | 40.41 | - |
| | 76 | Trans of Elec to Others-SCWHL | | (25,311,998) | 0 | 40.41 | - |
| | 77 | Trans Charge PTP-Non-Firm-BPM & WO Sharing | | (3,793,954) | (3,793,954) | 40.41 | (153,313,681) |
| | 78 | Total Revenues from Transm of Electricity to Others (L72 through L77) | | (86,244,953) | (3,939,260) | | (159,185,497) |
| | 79 | Total Acct 456 (L51 + L56 + L58 through L69 + L78) | | (127,779,602) | (30,294,857) | | (368,824,450) |
| | 80 | **Utility Oper Revenues (L17 + L20+ L22 +L24 + L26 + L47 +L49 + L79)** | | (7,315,231,033) | (4,979,947,688) | 38.01 | (189,265,107,983) |
| | 81 | ELECTRIC OPERATING REVENUE | | (7,315,231,033) | (4,979,947,688) | | |
| | 84 | | | | | | |
| | 85 | **OPERATION AND MAINTENANCE EXPENSE:** | | | | | |
| | 86 | | | | | | |
| | 87 | **Fuel Used in Electric Generation** | | | | | |
| | 88 | | | | | | |
| | 89 | Fossil | | | | | |
| 5 | 90 | Beneficial Reuse - Coal Ash | 0501007 | 120,481,185 | 79,423,035 | 20.79 | 1,651,204,908 |
| | 91 | Contra Fuel Exp BR Ash - SC | 0501008 | (28,538,740) | - | | - |
| | 92 | Contra Fuel Exp BR Ash - WS | 0501009 | 0 | - | | - |
| 5 | 93 | Coal Consumed Fossil Steam | 0501110 | 747,365,798 | 492,674,936 | 20.79 | 10,242,711,930 |
| 5 | 94 | Oil Consumed - Fossil Steam | 0501310 | 5,771,526 | 3,804,678 | 10.00 | 38,046,780 |
| 5 | 95 | Oil Light-Off - Fossil Steam | 0501330 | 7,542,632 | 4,972,218 | 10.00 | 49,722,180 |
| | 96 | Emission Allowances | 0509000 | 5,450 | 3,596 | 0.00 | - |
| | 97 | NOx Emission Expense | 0509210 | (30) | (20) | 0.00 | - |
| | 98 | RECS Consumption Expense | 0509213 | 13,635,107 | 12,630,118 | 0.00 | - |
| | 99 | Commissions/Brokerage Expense | 0557450 | 21,600 | 14,251 | 26.80 | 381,880 |
| | 100 | EA & Coal Broker Fees | 0557451 | 4,625 | 3,051 | 0.00 | - |
| | 101 | | | | | | |
| | 102 | Nuclear | | | | | |
| | 103 | Burnup of Owned Fuel | 0518100 | 307,787,905 | 202,898,483 | 0.00 | - |
| | 104 | Canister Design Expense | 0518620 | 338,622 | 223,409 | 0.00 | - |
| | 105 | | | | | | |
| | 106 | Other Production | | | | | |
| 6 | 107 | Natural Gas | 0547100 | 23,821,600 | 15,703,562 | 38.00 | 596,735,356 |
| | 108 | Natural Gas - CC | 0547101 | 259,880,254 | 171,317,028 | 38.00 | 6,510,047,064 |
| | 109 | Biogas Expense | 0547106 | 996,324 | 656,792 | 38.00 | 24,958,096 |
| | 110 | REC Biogas Contra Expense | 0547107 | (404,508) | (266,658) | 38.00 | (10,133,004) |
| | 111 | IC Gas Purchases | 0547124 | 11,387,785 | 7,507,002 | 38.00 | 285,266,076 |
| | 112 | Oil | 0547200 | 3,711,900 | 2,446,941 | 38.00 | 92,983,758 |
| | 113 | **Fuel Used in Elec Gen (HFM Greenbook I/S)** | F_FUEL_USED_ELEC_GEN | **1,473,809,036** | **994,012,423** | **19.60** | **19,481,925,024** |
| | 114 | | | | | | |
| 7 | 115 | **Purchased Power** | 0555XXX | **348,770,283** | **231,120,265** | **39.00** | **9,013,690,335** |
| | 116 | | | | | | |
| | 117 | **Total Other O&M Excluding Fuel and Purchased Power** | | | | | |
| | 118 | | | | | | |
| 8 | 119 | Nuclear Fees in Acct 524 | 0524000 | 51,817,979 | 34,187,378 | (34.15) | (1,167,498,959) |
| | 120 | | | | | | |
| | 121 | Labor | | | | | |

/A



**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Cash Working Capital Requirements for NC Retail Operations**
**Revenue and Expense Lead-Lag Summary**
**For the Test Year Ended December 31, 2017**

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| 9 | 122 | Payroll Net of Deductions | | 427,972,177 | 292,982,787 | 40.43 | 11,845,294,078 |
| 9 | 123 | Payroll Deductions | | 278,369,096 | 190,566,952 | 9.78 | 1,863,744,791 |
| | 124 | Total Labor (Ln 149+150) | | 706,341,273 | 483,549,739 | 28.35 | 13,709,038,869 |
| | 125 | | | | | | |
| 10 | 126 | Pension and Benefits | 0926XXX | 130,547,562 | 89,254,582 | 12.36 | 1,103,186,634 |
| | 127 | | | | | | |
| 11 | 128 | Regulatory Commission Expense | 0928000 | 11,375,477 | 7,901,083 | 72.31 | 571,327,312 |
| | 129 | | | | | | |
| 15 | 130 | Property Insurance | 0924XXX | 10,862,755 | 7,383,136 | (212.16) | (1,566,406,134) |
| | 131 | | | | | | |
| 17 | 132 | Injuries & Damages - Workman's Compensation | 0925980 | 7,400,514 | 5,171,934 | (145.50) | (752,516,397) |
| | 133 | | | | | | |
| | 134 | Remaining Other Oper & Maint Expense | | 1,001,879,049 | 701,702,443 | 39.98 | 28,054,063,688 |
| | 135 | | | | | | |
| | 136 | Total O&M Excl. Fuel and Purch. Power | | 1,920,224,610 | 1,329,150,295 | 30.06 | 39,951,195,012 |
| | 137 | | | | | | |
| | 138 | **Total Operation and Maintenance Expense (L113 + L115 + L136)** | | **3,742,803,929** | **2,554,282,983** | **26.80** | **68,446,810,371** |
| | 139 | | | | | | |
| | 140 | Total Depreciation & Amortization & Property Loss | | 1,134,170,294 | 781,791,508 | 0.00 | - |
| | 141 | | | | | | |
| | 142 | Taxes Other Than Income Taxes | | | | | |
| 9 | 143 | Payroll Taxes | | 46,582,702 | 31,853,838 | 9.33 | 297,196,309 |
| 13 | 144 | North Carolina Property Tax | | 106,165,393 | 78,521,714 | 186.50 | 14,644,299,661 |
| 13 | 145 | South Carolina Property Tax | | 132,014,761 | 79,966,798 | 196.50 | 15,713,475,807 |
| 13 | 146 | Other Non-Income Taxes | | (7,441,533) | (4,888,683) | 21.04 | (102,857,890) |
| | 147 | Taxes Other Than Income Taxes | | 277,321,324 | 185,453,667 | 164.74 | 30,552,113,886 |
| | 148 | | | | | | |
| 16 | 149 | Total Interest on Customer Deposits | | 8,499,601 | 7,471,530 | 218.40 | 1,631,782,152 |
| | 150 | | | | | | |

| Support Sch # | Line No. | Total Utility Operating Revenue and Expense Line Description | Account | Total YTD Dec 2017 | NC Retail Jurisdictional Amount | Lead \ Lag Days | Weighted Amount |
|---|---|---|---|---|---|---|---|
| | | **Duke Energy Carolinas, LLC** | | | | | |
| | | **Docket No. E-7, Sub 1214** | | | | | |
| | | **Cash Working Capital Requirements for NC Retail Operations** | | | | | |
| | | **Revenue and Expense Lead-Lag Summary** | | | | | |
| | | **For the Test Year Ended December 31, 2017** | | | | | |
| | 151 | Net Income Taxes | | | | | |
| 14 | 152 | Federal Income Tax | | 212,429,582 | 143,446,030 | 44.75 | 6,419,209,843 |
| 14 | 153 | State Income Tax | | 19,575,054 | 13,218,328 | 44.75 | 591,520,178 |
| | 154 | Federal Income Tax - Deferred | | 352,901,899 | 238,872,663 | 0.00 | - |
| | 155 | State Income Tax - Deferred | | 33,602,511 | 22,690,562 | 0.00 | - |
| | 156 | Net Income Taxes | | 618,509,046 | 418,227,583 | 16.76 | 7,010,730,021 |
| | 157 | | | | | | |
| | 158 | Investment of Tax Credit Adj Net | 04114XX | (5,298,340) | (3,551,995) | 0.00 | - |
| | 159 | | | | | | |
| | 160 | **Total Utility Operating Expenses (L138 + L140 + L147 + L149 + L151 + L153)** | | 5,776,005,853 | 3,943,675,276 | 27.29 | 107,641,436,430 |
| | 161 | | | | | | |
| | 162 | Net Utility Operating Income | | 1,539,225,180 | 1,036,272,412 | 0.00 | - |
| | 163 | | | | | | |
| | 164 | Total Requirements (Ln 269+273) | | 7,315,231,033 | 4,979,947,688 | | 107,641,436,430 |
| | 165 | | | | | | |
| | 166 | | | | | | |
| COS 923 | 167 | Cash Working Capital Related to NC Sales Tax | | 6,694,345 | | | |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 15**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**
None

**Response:**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 16**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**[X] CONFIDENTIAL**

**[ ] NOT CONFIDENTIAL**

**<u>Request:</u>**

a. Provide an analysis of Account 930 - Miscellaneous General Expenses, Account 913 - Advertising Expenses, and Account 426 - Other Income Deductions for the test year. This data should be presented as shown in Format 16 attached. Provide detailed workpapers in support of the analyses. As a minimum, the workpapers should show the date, vendor, reference (i.e., voucher no., etc.) dollar amount and brief description of each expenditure. With regard to Account 913, Advertising Expense, the purpose of each expenditure should be shown. Detailed analyses of Accounts 930, 913, and 426 are not required for amounts of less than $1,000 provided the items are grouped by classes as shown in Format 16 attached.
b. With regard to association dues charged to Account 930 Miscellaneous General Expense provide the following:

1. Justification for inclusion of said dues in the company's cost of service.
2. Explanation of the use of said dues by the association receiving the dues.
3. Explanation of purpose and objectives of the association receiving dues from the company.
4. Current annual budget of the association receiving dues from the company by major category of activity, e.g., research, education, administration, lobbying, etc.

c. List all dues and contributions charged to operating and/or nonoperating expense accounts during the test year which have not been specifically identified elsewhere herein.

**<u>Confidential Response:</u>**

See attached the following files for responses to item E1-16:

CONFIDENTIAL DEC Rate Case E1-16b General Expense Details.xlsx

CONFIDENTIAL DEC
Rate Case E1-16b Ge

DEC Rate Case E1-16a Miscellaneous General Expenses Final.xlsx

DEC Rate Case
E1-16a Miscellaneo

DEC Rate Case E1-16c Dues and Contributions.xlsx

DEC Rate Case
E1-16c Dues and Co

**DUKE ENERGY CAROLINAS, LLC**
**Docket E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 16b**
**Industry Association Dues**

**CONFIDENTIAL**

**Account 0930210 - Industry Association Dues Summary**

[redacted]

**DUKE ENERGY CAROLINAS, LLC**
**Docket E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 16b**
**Industry Association Dues**

**CONFIDENTIAL**

Edison Electric Institute (EEI)
2019 Budget ($ Millions)

[redacted]

**DUKE ENERGY CAROLINAS, LLC** | **Item No. 16a**
**Docket E-7, Sub 1214** | **Miscellaneous General Expenses**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Analysis of Account 930 - Miscellaneous General Expenses**

| | | | | |
|---|---|---|---|---|
| 0930150 | Miscellaneous Advertising Exp | $ | 5,346,453 | |
| 0930200 | Misc General Expenses | | (34,056,191) | |
| 0930210 | Industry Assoc Dues | | 1,037,568 | (a) |
| 0930220 | Exp of Servicing Securities | | 107,541 | |
| 0930230 | Dues to Various Organizations | | 433,016 | |
| 0930240 | Director's Expenses | | 1,814,682 | |
| 0930250 | Buy/Sell Transf Employee Homes | | 1,495,583 | |
| 0930600 | Leased Circuit Charges - Other | | 4,787 | |
| 0930700 | Research & Development | | 756,998 | |
| 0930800 | R&D - Alternative Energy | | 2,121,677 | |
| 0930940 | General Expenses | | 224,376 | |
| | **Total** | **$** | **(20,713,510)** | |

**Analysis of Account 913 - Advertising Expenses**

| | | | |
|---|---|---|---|
| 0913001 | Advertising Expense | | 565,426 |
| | **Total** | **$** | **565,426** |

**Analysis of Account 426 - Other Income Deductions**

| | | | |
|---|---|---|---|
| 0426100 | Donations | $ | 9,085,955 |
| 0426101 | BPM Donations | | 439,205 |
| 0426200 | Life Insurance Expense | | (60,141) |
| 0426300 | Penalties | | 1,830,590 |
| 0426400 | Exp/Civic & Political Activity | | 4,083,343 |
| 0426510 | Other | | 6,003,156 |
| 0426540 | Employee Service Club Dues | | 802 |
| 0426553 | PP&E Impairment | | 191,963,296 |
| | **Total** | **$** | **213,346,206** |
| | | | |
| | **Grand Total** | **$** | **193,198,122** |

Notes:
(a) see detail in Item No. 16b

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**Item No. 16c**
**Dues and Contributions**

| Account | Recipient | Amount |
|---|---|---|
| 0524000 | INSTITUTE OF NUCLEAR POWER OPERATIONS | 5,389,891 |
| 0524000 | NUCLEAR ENERGY INSTITUTE | 3,062,234 |
| 0557000 | CONSORTIUM FOR ENERGY EFFICIENCY | 71,390 |
| 0921100 | CORPORATE EXECUTIVE BOARD | 61,766 |
| 0912000 | BAIN & COMPANY INC | 50,000 |
| 0921100 | ENERGY STORAGE ASSOCIATION | 47,875 |
| 0921200 | GREENTECH MEDIA | 42,492 |
| 0501180 | AMERICAN COAL ASH ASSOCIATION | 15,000 |
| 0921100 | BUSINESS FOR SOCIAL RESPONSIBILITY | 11,685 |
| 0921100 | WOLTERS KLUWER FINANCIAL SERVICES INC | 9,858 |
| 0921100 | NAATBATT INTERNATIONAL | 7,800 |
| 0921100 | THE CONFERENCE BOARD INC | 7,596 |
| 0511000 | CONSTRUCTION USERS ROUNDTABLE | 7,500 |
| 0921100 | ASSOCIATION OF CORPORATE COUNSEL | 5,719 |
| 0511000 | ISH INC | 5,000 |
| 0912000 | NORTH CAROLINA CHAMBER | 3,250 |
| 0524000 | JUNIOR ACHIEVEMENT | 3,100 |
| 0921100 | THE VICTOR FIRM LLC | 2,479 |
| 0921100 | NATIONAL ASSOCIATION FOR ENVIRONMENTAL MANAGEMENT | 2,302 |
| 0921100 | FURMAN UNIVERSITY | 2,280 |
| 0524000 | OCONEE MEDICAL HOSPITAL FOUNDATION | 1,500 |
| 0524000 | PAYPAL STEMDEVELOP | 1,500 |
| 0524000 | BB HABITAT FOR HUMANITY YORK COUNTY | 1,000 |
| 0535000 | INT IN JB ADVERTISING | 1,000 |
| VARIOUS | YORK COUNTY REGIONAL CHAMBER OF COMMERCE | 1,340 |
| 0921100 | ASSOCIATION OF CORPORATE CONTRIBUTIONS | (6,250) |
| | **Total Dues Identified by Vendor and > $1,000 that are not reported in E-1 Item No. 16a** | **8,809,307** |
| | | |
| VARIOUS | RECIPIENTS < $1,000 | 5,292 |
| VARIOUS | ALL OTHER (MOSTLY ALLOCATIONS FROM SERVICE COMPANY) | 506,907 |
| | **Total Dues NOT Identified by Vendor or < $1,000 that are not reported in E-1 Item No. 16a*** | **512,199** |
| | | |
| | **TOTAL DUES AND CONTRIBUTIONS (NOT REPORTED IN E-1 ITEM NO. 16A)** | **9,321,506** |

***The General Ledger does not provide detail at the vendor level for employee expense reports, certain service company allocations, and other miscellaneous journal entries that were booked outside of the accounts payable subledger.**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 17**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

The amount of contributions for political purposes (in cash or services) if any.

**Response:**

See the attached file for response to item E1-17.

DEC Rate Case
E1-17 Political Cont

/A



| **DUKE ENERGY CAROLINAS, LLC** | | | | **Item no. 17** |
|---|---|---|---|---|
| **Docket No. E-7, Sub 1214** | | | | |
| **NCUC Form E-1 Data Request** | | | | |
| **For the test year ended December 31, 2018** | | | | |
| | | | | |
| **Jurisdiction** | **ORGANIZATION** | **Invoice Amount** | **Amount Allocated to Duke Energy Carolinas, LLC** | **Purpose** |
| South Carolina | RAYMOND ANTHONY DENNY III | 78,000 | 39,000 | Consulting and Lobbying Services |
| | KELLEY MCCAIN & SMITH OWENS LLC | 66,000 | 33,000 | Legal Services |
| | CAMPBELL CONSULTING GROUP LLC | 48,000 | 24,000 | Lobbying and Political Consulting |
| | SOUTHERN STRATEGY GROUP OF SOUTH CAROLINA | 48,000 | 24,000 | Consulting |
| | SOUTH CAROLINA SENATE REPUBLICAN CAUCUS | 25,000 | 12,500 | Event Sponsorship/Membership |
| | SOUTH CAROLINA MANUFACTURERS ALLIANCE | 15,347 | 13,073 | Lobbying, Sponsorship, and Legislative Event |
| | 2019 SC INAUGURAL COMMITTEE | 15,000 | 10,500 | Sponsorship |
| | GREENVILLE CHAMBER OF COMMERCE | 10,000 | 300 | Lobbying portion of investment |
| | SC BUSINESS & INDUSTRY POLITICAL EDUCATION COMMITTEE | 10,000 | 5,000 | Membership investment |
| | SC REPUBLICAN HOUSE CAUCUS | 10,000 | 5,000 | Sponsorship/Membership |
| | SOUTH CAROLINA HOUSE DEMOCRATIC CAUCUS | 10,000 | 5,000 | Contribution |
| | SOUTH CAROLINA SENATE DEMOCRATIC CAUCUS | 10,000 | 5,000 | Event Sponsorship/Membership |
| | SPARTANBURG AREA CHAMBER OF COMMERCE | 7,727 | 232 | Portion of Membership dues related to lobbying |
| | CAPITOL INFORMATION AFFILIATES | 7,500 | 3,750 | Legislative Monitoring Services |
| | GREER CHAMBER OF COMMERCE | 4,545 | 227 | Sponsorship & Dues lobbying portion |
| | MCLEOD CONSULTANTS LLC | 4,000 | 2,000 | Consulting Services |
| | ANDERSON AREA CHAMBER OF COMMERCE | 2,562 | 69 | Portion of Membership dues related to lobbying |
| | CITY OF COLUMBIA | 2,520 | 630 | Parking Rental |
| | CONGRESSIONAL SPORTMENS FOUNDATION | 2,500 | 1,250 | Sponsorship |
| | FURMAN UNIVERSITY | 2,500 | 1,250 | Sponsorship at Legislative and Civic Award Dinner |
| | SOUTH CAROLINA LEGISLATIVE BLACK CAUCUS | 2,500 | 1,250 | 2018 Retreat Sponsorship |
| | SOUTH CAROLINA REPUBLICAN PARTY | 2,500 | 1,250 | Sponsorship |
| | COLLINS HOME & FAMILY MINISTRIES | 1,500 | 1,500 | Sponsorship in fund raiser for Children's Home |
| | NATIONAL CONFERENCE OF STATE LEGISLATURES | 500 | 250 | Professional training session |
| | GREENWOOD SCHOOL DISTRICT 50 | 400 | 400 | Sponsorship of Mentoring for Success program |
| | THE SUNNIE HARMON & JOHN DEWORKEN GROUP | 250 | 125 | Legislative reception |
| | STATE OF SOUTH CAROLINA | 10 | 5 | SC Department of Health and Environmental Control fee |
| | **Total South Carolina Political Donations** | **$386,861** | **$190,561** | |
| | | | | |
| | | | | |
| North Carolina | CAROLINA PARTNERSHIP FOR REFORM INC | 400,000 | 200,000 | Contribution |
| | CAROLINA LEADERSHIP COALITION INC | 300,000 | 92,000 | Annual Membership |
| | NORTH CAROLINA CHAMBER | 160,000 | 38,200 | Lobbying activities |
| | SMITH ANDERSON BLOUNT DORSETT | 125,504 | 62,752 | Legislative Representation Services |
| | PARKER POE ADAMS & BERNSTEIN LLP | 100,595 | 50,297 | Lobbying Services |
| | LAW OFFICE OF ROBERT W KAYLOR PA | 27,752 | 13,876 | Lobbying Services |
| | VOTE YES FOR BONDS COMMITTEE | 20,000 | 20,000 | Pledge for 2018 Vote Yes for Bonds Committee |
| | GREATER DURHAM CHAMBER OF COMMERCE | 16,300 | 6,200 | Legislative Forum and Sponsorship |
| | NORTH CAROLINA LEGISLATIVE BLACK CAUCUS | 15,000 | 7,500 | Education Scholarship Event |
| | NORTH CAROLINA ECONOMIC DEVELOPERS ASSOCIATION | 10,325 | 5,000 | Fall Conference |
| | MOVING NC FORWARD | 10,000 | 5,000 | Sponsorship |
| | NORTH CAROLINA FREEENTERPRISES | 10,000 | 5,000 | Membership renewal |
| | CHAPEL HILL CARRBORO CHAMBER | 9,900 | 1,000 | Membership and Sponsorship |
| | THE NEWS & OBSERVER PUBLISHING COMPANY | 6,823 | 3,840 | Subscription to political publication |
| | ROWAN COUNTY CHAMBER OF COMMERCE | 6,634 | 100 | Lobbying portion of membership dues |
| | WORLD AFFAIRS COUNCIL OF CHARLOTTE | 6,000 | 2,125 | Sponsorship |
| | HENDERSON COUNTY PARTNERSHIP FOR ECONOMIC DEVELOPMENT | 5,000 | 33 | Annual Investment |
| | NORTH CAROLINA PROFESSIONAL LOBBYISTS | 3,500 | 1,750 | Annual meeting sponsorship |
| | ALLIANCE OF NORTH CAROLINA BLACK ELECTED | 2,500 | 1,250 | NC Black Summit Sponsorship |
| | NORTH CAROLINA JUSTICE CENTER | 2,500 | 1,000 | Sponsorship |
| | SOUTHWESTERN COMMISSION | 1,000 | 1,000 | Sponsorship of Annual Dinner event |
| | AMERICAN LEGISLATIVE EXCHANGE COUNCIL | 683 | 341 | NC State Sponsorship |
| | CAROLINA TELEPHONE & TELEGRAPH | 282 | 141 | Sponsorship |
| | NORTH CAROLINA GENERAL ASSEMBLY | 53 | 26 | Copies for legislative session |
| | **Total North Carolina Political Donations** | **1,240,350** | **$518,431** | |
| | | | | |
| | | | | |
| Federal | EDISON ELECTRIC INSTITUTE INC | 4,951,610 | 261,742 | Membership Dues |
| | NUCLEAR ENERGY INSTITUTE | 4,780,434 | 88,569 | Lobbying expenses & sponsorship |
| | THE DUBERSTEIN GROUP INC | 500,000 | 177,050 | Consulting, advisory services |
| | CHAMBER OF COMMERCE OF THE USA | 350,000 | 57,541 | Membership / Sponsorship |
| | THE BUSINESS ROUNDTABLE | 300,000 | 90,296 | Membership dues |
| | ATLANTIC MEDIA INC | 295,000 | 104,460 | Ballast research |
| | ERNST & YOUNG LLP | 290,000 | 102,689 | Professional services |
| | POLITICO LLC | 251,367 | 89,009 | Political journalism |
| | THE ALPINE GROUP INC | 240,000 | 84,984 | Tax and environmental legislative consulting services |
| | BRACEWELL & GIULIANI LLP | 197,405 | 69,901 | Law and governmental relations firm |
| | CLEARVIEW ENERGY PARTNERS LLC | 180,000 | 63,738 | Macro economic and policy research services |
| | HOBART HALLAWAY & QUAYLE VENTURES LLC | 180,000 | 63,738 | Lobbying services |
| | REPUBLICAN GOVERNORS ASSOCIATION | 170,000 | 60,197 | Membership contribution |
| | DEMOCRATIC GOVERNORS ASSOCIATION | 135,000 | 47,804 | Contribution |
| | CGCN GROUP LLC | 120,000 | 42,492 | Consulting services for legislative and regulatory issues |
| | POLARIS CONSULTING LLC | 104,000 | 36,826 | Consulting services |
| | ONE NATION | 100,000 | 35,410 | Contribution |
| | COAL UTILIZATION RESEARCH COUNCIL | 60,000 | 10,623 | 2018 Steering Committee membership dues (lobbying portion) |
| | TRANSSOURCE INC | 60,000 | 21,246 | Consulting |
| | RIPON SOCIETY | 58,500 | 20,715 | Membership/conference |
| | FTI CONSULTING SC INC | 55,000 | 19,476 | Research project support |
| | AMERICA NEXT | 50,000 | 17,705 | Contribution |
| | CITIZENS FOR A WORKING AMERICA INC | 50,000 | 17,705 | Contribution |
| | ELECTRIC DRIVE TRANSPORTATION ASSOCIATION | 40,000 | 10,800 | Membership - board |
| | IMAGINE TENNESSEE BETTER | 40,000 | 14,164 | Contribution |
| | THE VOGEL GROUP LLC | 30,000 | 10,623 | Consulting |
| | PUBLIC AFFAIRS COUNCIL | 25,800 | 9,136 | Membership dues |
| | AMERICAN ACTION NETWORK INC | 25,000 | 8,853 | Contribution |
| | GOPAC | 25,000 | 8,853 | Membership dues |
| | MOVING NC FORWARD | 25,000 | 8,853 | Contribution |
| | THE KEYSTONE CENTER | 25,000 | 3,541 | Sponsorship |
| | NATIONAL JOURNAL GROUP INC | 20,686 | 7,325 | Membership |
| | INDIANA SOCIETY OF WASHINGTON | 20,000 | 7,082 | Pence Tribute gala sponsorship |
| | THE COUNCIL OF STATE GOVERNMENTS | 20,000 | 7,082 | Conference |
| | THE GRIDWISE ALLIANCE INC | 20,000 | 1,584 | Membership dues |
| | LAZ KARP ASSOCIATES LLC | 16,800 | 2,603 | Lobbying parking expenses |
| | AMERICA WORKS USA | 10,000 | 3,541 | Contribution |
| | ARISTOTLE INTERNATIONAL INC | 10,000 | 3,541 | Website services |

/A

| DUKE ENERGY CAROLINAS, LLC | | | | Item no. 17 |
|---|---|---|---|---|
| Docket No. E-7, Sub 1214 | | | | |
| NCUC Form E-1 Data Request | | | | |
| For the test year ended December 31, 2018 | | | | |
| Jurisdiction | ORGANIZATION | Invoice Amount | Amount Allocated to Duke Energy Carolinas, LLC | Purpose |
| | NUCLEAR WASTE STRATEGY COALITION | 10,000 | 354 | Membership |
| | SOUTHERN STATES ENERGY BOARD | 10,000 | 3,541 | Membership/sponsorship |
| | NATIONAL ENERGY RESOURCES ORGANIZATION | 5,000 | 1,771 | Membership |
| | REPUBLICAN ATTORNEYS GENERAL ASSOCIATION | 5,000 | 1,771 | Membership dues |
| | CONGRESSIONAL BLACK CAUCUS FOUNDATION | 3,620 | 1,282 | Legislative conference support |
| | BUFFALO BILL MEMORIAL ASSOCIATION | 2,500 | 885 | Sponsorship |
| | LIBERTY PLACE OWNER LP | 590 | 209 | Leased space |
| | WOMENS ENERGY RESOURCE COUNCIL | 280 | 99 | Membership |
| | JONATHAN KAPPLER | 155 | 55 | Speaker expenses |
| | DAVID MCLENNAN | 125 | 44 | Speaker expenses |
| | OLD NORTH STATE MAGAZINE | (2,500) | (1,600) | Correction of 2017 sponsorship; moved to 0426100 |
| | **Total Federal Political Donations** | **$13,866,372** | **$1,699,903** | |
| | | | | |
| | | | | |
| | **Grand Total** | **$15,493,583** | **$2,408,896** | |
| | | | | |
| | | | | |

**Note 1:** Invoice Amount may include charges that are not related to political activity. Only the portion of the amount that is political in nature and allocated to DEC, LLC is shown in the amount allocated column.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 18**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**[X] CONFIDENTIAL**

**[ ] NOT CONFIDENTIAL**

**<u>Request:</u>**

a. A statement describing the applicant's lobbying activities and a schedule showing the name of the individual, his salary, and all company-paid or reimbursed expenses or allowances and the account charged for all personnel whose principal function is that of 1obbying, whether it be 1obbying on the 1ocal, state, or national level. The total expenses of registered lobbyist should show the portions allocated both above and below the line.
b. A schedule showing the following information regarding the applicant's investments in subsidiaries and joint ventures for the test year and the year preceding the test year with each year shown separately:

1. Name of subsidiary or joint venture
2. Date of initial investment
3. Amount and type of investment made for each of the two (2) years included in this report
4. Balance sheet and income statement for the test year and the year preceding the test year. (Where only internal statements are prepared, furnish copies of these.)
5. Show on a separate schedule all dividends or income of any type received by applicant from its subsidiaries or joint ventures for each of the two (2) year report periods and indicate how this income is reflected in the stockholder reports.
6. Name of officers of each of the subsidiaries or joint ventures, officer's annual compensation, and portion of compensation charged to the subsidiary or joint venture. Also, indicate the position each officer holds with the applicant and the compensation received from the applicant.

**<u>Confidential Response:</u>**

For part (a), see attached DEC E1-18 Submission CONFIDENTIAL.xlsx.
For part (b), see attached DEC Rate Case E1-18b 1-6 Invest in Subs.

DEC Rate Case
E1-18b 1-6 Invest in

/A





CONFIDENTIAL

**Lobbying Schedule - Labor & Employee Expenses**

Expenditures relate to company employees who are registered lobbyists that are for the purpose of influencing public opinion with respect to the election or appointment of public officials, referenda, legislation, or ordinances (either respect to possible adoption of new referenda, legislation or ordinances or repeal of modification of existing referenda, legislation or ordinances) or approval, modification or revocation of franchises; or the purpose of influencing the decisions of public officials.

[redacted]

/A

[redacted]

/A



**DUKE ENERGY CAROLINAS, LLC** **Item No. 19**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**
None

**Response:**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 20**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide the following information with regard to uncollectible accounts for the test year and the five preceding calendar years (taxable year acceptable) for electric operations only:
a. Reserve account balance at the beginning of year.
b. Charges to reserve account (accounts charged off).
c. Credits to reserve account.
d. Current year provision.
e. Reserve account balance at the end of the year.
f. Percent of provision to total revenue.
g. An explanation of the method used to calculate the annual uncollectible provision.

**Response:**

Please see attachment for response to request E1-20.

DEC Rate Case
E1-20 Uncollectible

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test period ended December 31, 2018**

**Item No. 20**
**Analysis of Uncollectible Accounts**

| | Items A - G | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|
| a) | Retail reserve account balance - Beginning of year | $ 8,000,000 | $ 8,000,000 | $ 8,000,000 | $ 9,000,000 | $ 9,000,000 | $ 9,000,000 |
| b) | Charges to reserve account | (24,620,305) | (28,002,985) | (26,068,602) | (23,807,281) | (25,181,444) | (26,439,891) |
| c) | Credits to reserve account | 11,179,538 | 11,502,615 | 11,488,417 | 10,725,399 | 12,347,372 | 9,844,885 |
| d) | Current Year Provision | 13,440,768 | 16,500,370 | 15,580,185 | 13,081,881 | 12,834,072 | 16,595,137 |
| e) | Ending Retail Uncollectibles Balance | 8,000,000 | 8,000,000 | 9,000,000 | 9,000,000 | 9,000,000 | 9,000,131 |
| | Total Billed Revenues | $ 6,122,648,130 | $ 6,533,754,535 | $ 6,631,826,473 | $ 6,564,620,260 | $ 6,209,452,176 | $ 6,652,390,446 |
| f) | Percent of Provision to total Billed Revenues | 0.131% | 0.122% | 0.136% | 0.137% | 0.145% | 0.135% |

g)

- DE Carolinas analyzes the loss reserves for customer accounts receivable on a monthly basis. The methodology is based on a historical 6 months average percentage of receivables and projected 4 months write-offs from the billing system which is then used to calculate an expected loss reserve. DE Carolinas utilizes historical and forecasted data to calculate the loss reserves and to test for reasonableness. DEC has historical balances of receivables, write-offs, and loss reserves as well as a model of forecasted write-offs and reserves to analyze for the calculation. On a quarterly basis DE Carolinas reviews the aging schedules and work with A/R Operations team to determine any unusual changes or fluctuations in collections and write-offs. Based on these reviews DE Carolinas determines if the balance in the loss reserve is reasonable as stated or if an adjustment is required. The summary aging information, balance of the loss reserve, and current write-offs compared to forecasted year over year are then summarized in a quarterly data request that is reviewed by management.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 21**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide the most recent annual report to stockholders, latest 10 year statistical supplement (if available), and subsequent quarterly reports to stockholders, or all such reports since the last general rate case filing.

**Response:**

See the most recent annual report to shareholders (for 2018) attached. Note that beginning in 2018, information previously included in the Statistical Supplement is now included in the quarterly Earnings Release. As such, please see the quarterly earnings release and form 10-Q filings provided to investors, which are attached.

Please also find attached and described in the table below the 10 year statistical supplements and quarterly reports to stockholders since the last general rate case filing. These files are listed by year and attached as follows:

| | |
|---|---|
| **2019** | |
| Q1 2019 10Q.pdf<br>Q2 2019 10Q.pdf | Q1 2019 Stat Supplement.pdf<br>Q2 2019 Stat Supplement.pdf |
| **2018** | |
| Q1 2018 10Q.pdf<br>Q2 2018 10Q.pdf<br>Q3 2018 10Q.pdf | Q1 2018 Stat Supplement.pdf<br>Q2 2018 Stat Supplement.pdf<br>Q3 2018 Stat Supplement.pdf<br>Q4 2018 Stat Supplement.pdf |
| **2017** | |
| Q1 2017 10Q.pdf<br>Q2 2017 10Q.pdf<br>Q3 2017 10Q.pdf | Q1 2017 Stat Supplement.pdf<br>Q2 2017 Stat Supplement.pdf<br>Q3 2017 Stat Supplement.pdf<br>Q4 2017 Stat Supplement.pdf |

Copies of annual reports, statistical supplements and Form 10-Qs and 10-Ks can be viewed and / or printed from the Duke Energy website within the Investors section.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 22**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

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**Request:**
None

**Response:**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 23**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

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**Request:**

a. Provide the financial forecast for the next three (3) years (may be two (2) years if first year in forecast is test year and a more recent forecast does not exist). Include major data and assumptions necessary to arrive at forecast (except earned return and net income). The forecast should include the following information;

1. Capital requirements:
   a. Construction costs:
      i. Production facilities
      ii. Transmission facilities
      iii. Distribution facilities
      iv. General facilities
   b. Nuclear fuel costs
   c. Equity component of AFUDC
   d. Net change in working capital
   e. Maturities, sinking funds and other requirements
2. Sources of Capital:
   a. Internal cash generation - please categorize by major source if possible
   b. Outside financing program:
      i. Long-term debt
      ii. Preferred stock
      iii. Common stock, and
      iv. Net change in short-term debt
3. Capital structure
4. Monthly operating budgets

Note: Nantahala may omit 23a.

b. Provide a three year annual construction budget (according to the format shown under 23-1a above) for the test year and the next three (3) years after the test year if not included in Item 23a.

**Response:**

Please see the attached file: "DEC NC E1_23.xlsx".

DEC NC E1_23.xlsx

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Financial and Capital Budget Forecast**
**Current Long Term Forecast**

**E-1 Items 23, 33d & 38**

## Financial Data

(Notes A, F)

| Line | | Projected (Dollars in Millions) 2019 | 2020 | 2021 | 2022 | 2023 | 2019-2023 Totals |
|---|---|---|---|---|---|---|---|
| | **Capital Requirements** | | | | | | |
| | Construction Costs | | | | | | |
| | Production Facilities | $ 689 | $ 690 | $ 696 | $ 632 | $ 1,110 | $ 3,817 |
| | Transmission Facilities | $ 341 | $ 335 | $ 340 | $ 382 | $ 382 | $ 1,780 |
| | Distribution Facilities | $ 817 | $ 927 | $ 962 | $ 1,045 | $ 1,112 | $ 4,861 |
| | General Facilities | $ 267 | $ 375 | $ 252 | $ 90 | $ 296 | $ 1,279 |
| 1 | Construction Costs (Note B) | $ 2,113 | $ 2,327 | $ 2,249 | $ 2,149 | $ 2,899 | $ 11,738 |
| 2 | Nuclear Fuel Costs (Note B) | $ 303 | $ 315 | $ 227 | $ 255 | $ 257 | $ 1,355 |
| 3 | Equity Component of AFUDC | $ 72 | $ 89 | $ 100 | $ 83 | $ 83 | $ 426 |
| 4 | Long-Term Debt, Capital Stock Retired or Reacquired (Note C) | $ 6 | $ 457 | $ 503 | $ 359 | $ 1,000 | $ 2,324 |
| 5 | Changes in Working Capital | $ 142 | $ 24 | $ 277 | $ 275 | $ 274 | $ 993 |
| 6 | Other, Including Dividends | $ (1) | $ 6 | $ (0) | $ (0) | $ (0) | $ 4 |
| 7 | Total Capital Requirements | $ 2,635 | $ 3,217 | $ 3,355 | $ 3,121 | $ 4,512 | $ 16,840 |
| 8 | Provided by Internal Cash | 117% | 99% | 98% | 123% | 84% | 102% |
| | **Sources of Capital** | | | | | | |
| | Internal Cash | | | | | | |
| 9 | Depreciation and Amortization | $ 1,633 | $ 1,830 | $ 2,057 | $ 2,151 | $ 2,229 | $ 9,899 |
| 10 | Other (Note E) | $ 1,459 | $ 1,362 | $ 1,222 | $ 1,673 | $ 1,571 | $ 7,287 |
| 11 | Total Internal Cash | $ 3,091 | $ 3,192 | $ 3,279 | $ 3,824 | $ 3,800 | $ 17,186 |
| 12 | Outside Financing (Note C) | $ (389) | $ 25 | $ (475) | $ (362) | $ (838) | $ (2,039) |
| 13 | Total Sources of Capital | $ 2,702 | $ 3,217 | $ 2,804 | $ 3,462 | $ 2,962 | $ 15,147 |
| | **Tentative Financing Program** | | | | | | |
| 14 | Long-Term Debt (Note C) | $ 600 | $ 900 | $ 450 | $ 750 | $ 300 | $ 3,000 |
| 15 | Preferred Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 16 | Common Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 17 | Infusion From/(To) Parent | $ (550) | $ (875) | $ (925) | $ (1,200) | $ (1,050) | $ (4,600) |
| 18 | Net Change in Short-Term Debt | $ (439) | $ (0) | $ - | $ 88 | $ (88) | $ (439) |
| 19 | Total | $ (389) | $ 25 | $ (475) | $ (362) | $ (838) | $ (2,039) |
| | **Capital Structure (Note D)** | | | | | | |
| 20 | Capitalization | $ 24,064 | $ 25,040 | $ 26,131 | $ 26,507 | $ 28,009 | |
| | **Ratios** | | | | | | |
| 21 | Long-Term Debt | 48% | 48% | 48% | 47% | 48% | |
| 22 | Preferred Stock | 0% | 0% | 0% | 0% | 0% | |
| 23 | Common Stock | 52% | 52% | 52% | 53% | 52% | |

A The Company, the North Carolina Municipal Power Agency Number 1 (NCMPA), the North Carolina Electric Membership Corporation (NCEMC), and the Piedmont Municipal Power Agency (PMPA) are joint owners of the 2,258,000-kilowatt Catawba Nuclear Station. The Company currently owns 19.2% of the plant. The Company and the North Carolina Membership Corporation are joint owners of the 786,000-kilowatt Lee Combined Cycle Station. The Company currently owns 87 3% (686,000 kilowatts) of the Lee CC plant.

B Only the debt component of AFUDC is included in these costs.

C Includes current maturities related to long-term debt and the principal portions of payments on capitalized leases. Current maturities at year end are, $457 in 2019, $503 in 2020, $360 in 2021, $1,000 in 2022 and $1 in 2023.

D "Capitalization" and "Ratios" exclude short-term debt.

E "Other" includes earnings, net deferred taxes and investment tax credits and other miscellaneous items.

F Totals may not foot due to rounding

**DUKE ENERGY CAROLINAS, LLC** **Item No. 24**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

a. Provide a calculation of the rate or rates used to capitalize the allowance for funds used during construction (AFUDC) for the test year and the two (2) preceding calendar years. Provide a brief description of each item entering into the calculation of this rate.
b. Provide an explanation of the mechanics of the AFUDC accrual procedures, including the items to which the rate is applied.

**Response:**

Please see the attached file.

DEC Rate Case E1
24a and 24b AFUDC

**DUKE ENERGY CAROLINAS, LLC** **Item No. 24a**
**Docket No. E 7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31,2018**

**Allowance of Funds Used During Construction**
**Calculation of rate for test year 2018**

**Duke Energy Carolinas**
**Computation of AFUDC Rate**
**2nd Half (August December)**
**FERC METHOD**

| | AMOUNT (1) | CAPITALIZATION RATIO (2) | | COST RATES (3) | | S/W (4) | WEIGHTED COST RATES FOR GROSS AFUDC RATE (5) | RATE TO BE USED GROSS % | RATIO |
|---|---|---|---|---|---|---|---|---|---|
| Short-Term Debt(S) Sch. A | 518,178,167 | | | 1.77% | x | 18.69% | 0.00332 | | |
| Long-Term Debt Sch. B | 10,149,744,612 | 47.16% | x | 4.94% | x | 81.31% | 0.0189395 | **2.22** | 34.35 |
| Preferred Stock Sch. C | 0 | 0.00% | x | 0.00 | x | 81.31% | 0.00000 | | |
| Common Equity Sch. D | 11 372 966 525 | 52.84% | x | 9.90% | x | 81.31% | 0.0425359 | **4.25** | 65.65 |
| Total Capitalization | 21 522 711 137 | 100.00% | | | | | | | |
| AFUDC Rates | | | | Pre-Tax Rate | | | 0.0647954 | **6.47** | 100.00 |
| CWIP (W) Sch. E | 2,772,620,457 | | | | | | | | |

**Duke Energy Carolinas**
**Computation of AFUDC Rate**
**2nd Half (July)**
**FERC METHOD**

| | AMOUNT (1) | CAPITALIZATION RATIO (2) | | COST RATES (3) | | S/W (4) | WEIGHTED COST RATES FOR GROSS AFUDC RATE (5) | RATE TO BE USED GROSS % | RATIO |
|---|---|---|---|---|---|---|---|---|---|
| Short-Term Debt(S) Sch. A | 518,178,167 | | | 1.77% | x | 18.69% | 0.00332 | | |
| Long-Term Debt Sch. B | 10,149,744,612 | 47.16% | x | 4.94% | x | 81.31% | 0.0189496 | **2.22** | 33.69 |
| Preferred Stock Sch. C | 0 | 0.00% | x | 0.00 | x | 81.31% | 0.00000 | | |
| Common Equity Sch. D | 11 372 966 525 | 52.84% | x | 10.20% | x | 81.31% | 0.0438249 | **4.38** | 66.31 |
| Total Capitalization | 21 522 711 137 | 100.00% | | | | | | | |
| AFUDC Rates | | | | Pre-Tax Rate | | | 0.0660945 | **6.60** | 100.00 |
| CWIP (W) Sch. E | 2 772 620 457 | | | | | **After-tax Rate** | 0.0578111 | | |

**Duke Energy Carolinas**
**Computation of AFUDC Rate**
**1st Half Calc (January June)**
**NCUC METHOD**

| | AMOUNT (1) | CAPITALIZATION RATIO (2) | | COST RATES (3) | | S/W (4) | WEIGHTED COST RATES FOR GROSS AFUDC RATE (5) | RATE TO BE USED GROSS % | RATIO |
|---|---|---|---|---|---|---|---|---|---|
| Short-Term Debt(S) Sch. A | 392,847,531 | | | 0.26% | x | 14.63% | 0.00038 | | |
| Long-Term Debt Sch. B | 9,858,753,878 | 46.90% | x | 5.01% | x | 85.37% | 0.02008 | **2.04** | 30.67 |
| Preferred Stock Sch. C | 0 | 0.00% | x | 0.00% | x | 85.37% | 0.00000 | | |
| Common Equity Sch. D | 11,161,896,911 | 53.10% | x | 10.20% | x | 85.37% | 0.04624 | **4.62** | 69.33 |
| Total Capitalization | 21,020,650,789 | 100.00% | | | | | | | |
| AFUDC Rates | | | | Pretax Rate | | | 0.0666930 | **6.66** | 100.00 |
| CWIP (W) Sch. E | 2,685,396,416 | | | | | **After-tax Rate** | 0.061561453 | | |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 24a**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31,2017**

**Allowance of Funds Used During Construction**
**Calculation of rate for test year 2017**

**Duke Energy Carolinas**
**Computation of AFUDC Rate**
**2nd Half (July - December)**
**FERC METHOD**

| | AMOUNT (1) | CAPITALIZATION RATIO (2) | | COST RATES (3) | | S/W (4) | | WEIGHTED COST RATES FOR GROSS AFUDC RATE (5) | RATE TO BE USED GROSS % | RATIO |
|---|---|---|---|---|---|---|---|---|---|---|
| Short-Term Debt(S) Sch. A | 302,278,417 | 2.80% | | 0.01% | x | 11.48% | = | 0.00001 | | |
| Long-Term Debt Sch. B | 9,647,857,887 | 47.22% | x | 4.90% | x | 88.52% | = | 0.0204829 | **2.04** | 29.96 |
| Preferred Stock Sch. C | 0 | 0.00% | x | 0.00% | x | 88.52% | = | 0.00000 | | |
| Common Equity Sch. D | 10,783,219,404 | 52.78% | x | 10.20% | x | 88.52% | = | 0.0476539 | **4.77** | 70.04 |
| Total Capitalization | 20,431,077,291 | 100.00% | | | | | | | | |
| AFUDC Rates | | | | | | Pre-Tax Rate | | 0.0681468 | **6.81** | 100.00 |
| | | | | | | **After-tax Rate** | | 0.0604282 | | |
| CWIP (W) Sch. E | 2,633,172,171 | | | | | | | | | |

**Duke Energy Carolinas**
**Computation of AFUDC Rate**
**1st Half Calc (January - June)**
**FERC METHOD**

| | AMOUNT (1) | CAPITALIZATION RATIO (2) | | COST RATES (3) | | S/W (4) | | WEIGHTED COST RATES FOR GROSS AFUDC RATE (5) | RATE TO BE USED GROSS % | RATIO |
|---|---|---|---|---|---|---|---|---|---|---|
| Short-Term Debt(S) Sch. A | 132,460 | | | 0.01% | x | 0.01% | = | 0.00000 | | |
| Long-Term Debt Sch. B | 9,647,857,887 | 47.22% | x | 4.90% | x | 99.99% | = | 0.02314 | **2.31** | 30.06 |
| Preferred Stock Sch. C | 0 | 0.00% | x | 0.00% | x | 99.99% | = | 0.00000 | | |
| Common Equity Sch. D | 10,783,219,404 | 52.78% | x | 10.20% | x | 99.99% | = | 0.05383 | **5.38** | 69.94 |
| Total Capitalization | 20,431,077,291 | 100.00% | | | | | | | | |
| AFUDC Rates | | | | | | Pretax Rate | | 0.0769656 | **7.69** | 100.00 |
| | | | | | | **After-tax Rate** | | 0.0682582 | | |
| CWIP (W) Sch. E | 2,590,931,731 | | | | | | | | | |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 24a**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31,2016**

**Allowance of Funds Used During Construction**
**Calculation of rate for test year 2016**

**Duke Energy Carolinas**
**Computation of AFUDC Rate**
**2nd Half (July - December)**
**NCUC Method**

| | AMOUNT (1) | CAPITALIZATION RATIO (2) | | COST RATES (3) | | S/W (4) | | WEIGHTED COST RATES FOR GROSS AFUDC RATE (5) | RATE TO BE USED GROSS % | RATIO |
|---|---|---|---|---|---|---|---|---|---|---|
| Short-Term Debt(S) Sch. A | 0 | | | 0.00% | x | 0.00% | = | 0.00000 | | |
| Long-Term Debt Sch. B | 8,904,682,027 | 44.11% | x | 4.89% | x | 100.00% | = | 0.0215528 | **2.15** | 27.39 |
| Preferred Stock Sch. C | 0 | 0.00% | x | 0.00% | x | 100.00% | = | 0.00000 | | |
| Common Equity Sch. D | 11,283,428,244 | 55.89% | x | 10.20% | x | 100.00% | = | 0.0570078 | **5.70** | 72.61 |
| Total Capitalization | 20,188,110,271 | 100.00% | | | | | | | | |
| AFUDC Rates | | | | | | | **Pre-Tax Rate** | 0.0785606 | **7.85** | 100.00 |
| CWIP (W) Sch. E | 2,542,779,603 | | | | | | **After-tax Rate** | 0.0704732 | | |

**Duke Energy Carolinas**
**Computation of AFUDC Rate**
**1st Half Calc (January - June)**
**NCUC METHOD**

| | AMOUNT (1) | CAPITALIZATION RATIO (2) | | COST RATES (3) | | S/W (4) | | WEIGHTED COST RATES FOR GROSS AFUDC RATE (5) | RATE TO BE USED GROSS % | RATIO |
|---|---|---|---|---|---|---|---|---|---|---|
| Short-Term Debt(S) Sch. A | 6,474 | | | 0.01% | x | 0.00% | = | 0.00000 | | |
| Long-Term Debt Sch. B | 8,645,654,374 | 42.90% | x | 5.11% | x | 100.00% | = | 0.02191 | **2.19** | 27.34 |
| Preferred Stock Sch. C | 0 | 0.00% | x | 0.00% | x | 100.00% | = | 0.00000 | | |
| Common Equity Sch. D | 11,508,828,621 | 57.10% | x | 10.20% | x | 100.00% | = | 0.05825 | **5.82** | 72.66 |
| Total Capitalization | 20,154,482,995 | 100.00% | | | | | | | | |
| AFUDC Rates | | | | | | Pretax Rate | | 0.0801574 | **8.01** | 100.00 |
| CWIP (W) Sch. E | 2,264,135,064 | | | | | | **After-tax Rate** | 0.071935159 | | |

**DUKE ENERGY CAROLINAS, LLC**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31,2018**

**Item No. 24a**

Duke Energy Carolinas calculates the AFUDC rate based on formulas described in the FERC guidance and by NCUC Order.
The allowance for funds rate is calculated semi-annually (June 30 and December 31).

Both FERC and NCUC formulas compute the maximum allowable rate. The lower of the two calculated rates is applied to AFUDC eligible projects.

NCUC formula is the same as FERC, except for the differences in the components of rate calculation as described below for Duke Energy Carolinas.

| COMPONENT | FERC | NCUC |
|---|---|---|
| Short Term Debt | Twelve month average (6 actuals and 6 estimates) | Six month average (estimates) |
| Long Term Debt | Balance as of the end of prior year | Average of book balances for the last 2 six-month periods |
| Equity | Balance as of the end of prior year | Average of book balances for the last 2 six-month periods |
| CWIP | Thirteen month average (7 actuals and 6 estimates) | Seven month average (6 estimates and 1 actual) |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 24b**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31,2018**

Allowance for funds used during construction (AFUDC) is accrued on special capital projects from the first construction charge and continues on a progressive basis until the project is placed into service. For all construction projects, AFUDC will be recorded to the day before the in-service day. If charges cease for 6 months, AFUDC accruals will be stopped until construction continues, unless the project is classified as "major construction" or Nuclear Fuel Batches. AFUDC will be stopped on "major construction" if official decision has been made to stop or delay all work.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 25**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

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**Request:**
The information, as soon as it is known, which would have a material effect on net operating income, rate base, and cost of capital which occurred after the test year and was not incorporated in the prefiled testimony.

**Response:**
There is no information which would have a material effect on net operating income, rate base, or cost of capital which occurred after the test year that is not incorporated in the pre-filed testimony.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 26**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

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**Request:**

None

**Response:**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 27**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

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**Request:**

None

**Response:**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 28**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

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**Request:**

None

**Response:**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 29**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

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**Request:**

None

**Response:**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 30**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

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**Request:**

None

**Response:**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 31**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

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**Request:**

None

**Response:**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 32**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

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**Request:**

None

**Response:**

**DUKE ENERGY CAROLINAS, LLC** **Item No. 33**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

a. Capital structure at end of each calendar year for the previous ten (10) years if not included in the statistical supplement in Item 21
b. Capital structure at end of latest available quarter
c. Provide the balances in long-term debt, preferred stock, and common equity capital for each month of the test year. See Format 33c.
d. Capital structure forecasted 12 and 24 months beyond latest available year end (include all data and assumptions necessary to arrive at forecast). This may be omitted if the information is included in Item 23. Items 33a-d should include the following information:

1. Class of capital
2. Amount of each class ($)
3. Ratio of each class to total
4. Total capitalization ($)

**Response:**

Please see attached file "DEC Rate Case E-1 33 a-d.xlsx_Q2 2019".

DEC Rate Case E-1
33a-d_Q2 2019.xlsx

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Capital Structure**
**For the test period ended December 31, 2018**
(Dollars in 000's)

**E-1 Items 33A and 33B**

| Year | Long-Term Debt [1] | Adjustments [2] | Adjusted Long-Term Debt | Preferred Stock | Members' Equity | Adjustments [3] | Adjusted Members' Equity | Total Unadjusted | Total Adjusted |
|---|---|---|---|---|---|---|---|---|---|
| 2008 | 7,068,802 | - | 7,068,802 | - | 7,316,077 | - | 7,316,077 | 14,384,879 | 14,384,879 |
| 2009 | 7,156,613 | - | 7,156,613 | - | 8,270,590 | - | 8,270,590 | 15,427,203 | 15,427,203 |
| 2010 | 7,762,308 | 1,399 | 7,763,707 | - | 8,915,950 | - | 8,915,950 | 16,678,258 | 16,679,657 |
| 2011 | 8,096,249 | 2,226 | 8,098,475 | - | 9,453,626 | - | 9,453,626 | 17,549,875 | 17,552,101 |
| 2012 | 8,334,857 | 2,361 | 8,337,218 | - | 9,872,283 | - | 9,872,283 | 18,207,140 | 18,209,501 |
| 2013 | 8,433,526 | 2,531 | 8,436,057 | - | 10,349,877 | - | 10,349,877 | 18,783,403 | 18,785,934 |
| 2014 | 8,387,926 | 2,723 | 8,390,649 | - | 10,995,579 | - | 10,995,579 | 19,383,505 | 19,386,228 |
| 2015 | 8,403,210 | 2,941 | 8,406,151 | - | 11,606,097 | (2,729) | 11,603,368 | 20,009,307 | 20,009,518 |
| 2016 | 9,644,668 | 3,190 | 9,647,858 | - | 10,773,721 | (2,729) | 10,770,992 | 20,418,389 | 20,418,849 |
| 2017 | 8,949,745 | - | 8,949,745 | - | 11,365,886 | (3,017) | 11,362,869 | 20,315,631 | 20,312,614 |
| 2018 | 10,993,064 | - | 10,993,064 | - | 11,687,177 | (4,810) | 11,682,367 | 22,680,241 | 22,675,431 |
| Jun 2019 | 10,565,983 | - | 10,565,983 | - | 12,273,783 | (4,810) | 12,268,973 | 22,839,766 | 22,834,956 |

**Notes:**

[1] Years 2008 - 2016 reflect capitalization per DE Carolinas, LLC Statement of Capitalization. 2017 – 2018 from E-1 Item 34b.
[2] Adjusted to include account 243 Obligations Under Capital Leases - Current
[3] Remove account 216.1 Unappropriated Undistributed Subsidiary Earnings

Ratio of Capitalization

| Year | Long-Term Debt | Adjustments [2] | Adjusted Long-Term Debt [3] | Preferred Stock | Members' Equity | Adjustments [2] | Adjusted Members' Equity [3] | Total Unadjusted | Total Adjusted |
|---|---|---|---|---|---|---|---|---|---|
| 2008 | 49.14% | 0.00% | 49.14% | 0.00% | 50.86% | 0.00% | 50.86% | 100.00% | 100.00% |
| 2009 | 46.39% | 0.00% | 46.39% | 0.00% | 53.61% | 0.00% | 53.61% | 100.00% | 100.00% |
| 2010 | 46.54% | 0.01% | 46.55% | 0.00% | 53.46% | 0.00% | 53.45% | 100.00% | 100.00% |
| 2011 | 46.13% | 0.01% | 46.14% | 0.00% | 53.87% | 0.00% | 53.86% | 100.00% | 100.00% |
| 2012 | 45.78% | 0.01% | 45.78% | 0.00% | 54.22% | 0.00% | 54.22% | 100.00% | 100.00% |
| 2013 | 44.90% | 0.01% | 44.91% | 0.00% | 55.10% | 0.00% | 55.09% | 100.00% | 100.00% |
| 2014 | 43.27% | 0.01% | 43.28% | 0.00% | 56.73% | 0.00% | 56.72% | 100.00% | 100.00% |
| 2015 | 42.00% | 0.01% | 42.01% | 0.00% | 58.00% | -0.01% | 57.99% | 100.00% | 100.00% |
| 2016 | 47.24% | 0.02% | 47.25% | 0.00% | 52.76% | -0.01% | 52.75% | 100.00% | 100.00% |
| 2017 | 44.05% | 0.00% | 44.06% | 0.00% | 55.95% | -0.01% | 55.94% | 100.00% | 100.00% |
| 2018 | 48.47% | 0.00% | 48.48% | 0.00% | 51.53% | -0.02% | 51.52% | 100.00% | 100.00% |
| Jun 2019 | 46.26% | 0.00% | 46.27% | 0.00% | 53.74% | -0.02% | 53.73% | 100.00% | 100.00% |

**Duke Energy Carolinas, LLC** **E-1 Item 33C**
**Docket No. E-7, Sub 1214**
**Monthly Capital Structure**
**For the test period ended December 31, 2018**
(Dollars in 000's)

| Month-Year | Total Capital | Long-term Debt | Preferred Stock | Members' Equity |
|---|---|---|---|---|
| Jun-18 | 21,737,934 | 10,445,241 | - | 11,292,693 |
| Jul-18 | 21,936,384 | 10,444,347 | - | 11,492,037 |
| Aug-18 | 22,114,187 | 10,444,369 | - | 11,669,818 |
| Sep-18 | 21,983,820 | 10,444,118 | - | 11,539,702 |
| Oct-18 | 22,078,141 | 10,443,859 | - | 11,634,283 |
| Nov-18 | 22,667,477 | 10,993,048 | - | 11,674,428 |
| Dec-18 | 22,675,431 | 10,993,064 | - | 11,682,367 |
| Jan-19 | 22,822,492 | 10,992,716 | - | 11,829,776 |
| Feb-19 | 22,861,766 | 10,992,372 | - | 11,869,394 |
| Mar-19 | 22,982,417 | 11,017,024 | - | 11,965,393 |
| Apr-19 | 23,039,106 | 11,016,677 | - | 12,022,429 |
| May-19 | 23,170,030 | 11,016,329 | - | 12,153,701 |
| Jun-19 | 22,834,956 | 10,565,983 | - | 12,268,973 |
| Total | 292,904,141 | 139,809,147 | - | 153,094,994 |
| Average | 22,531,088 | 10,754,550 | - | 11,776,538 |
| Average Capital Ratio | | 47.73% | 0.00% | 52.27% |
| Period End Capital Ratio | | 46.27% | 0.00% | 53.73% |

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Financial and Capital Budget Forecast**
**Current Long Term Forecast**

**E-1 Items 33d**

## Financial Data

(Notes A, F)

| Line | | Projected (Dollars in Millions) 2019 | 2020 | 2021 | 2022 | 2023 | 2019-2023 Totals |
|---|---|---|---|---|---|---|---|
| | **Capital Requirements** | | | | | | |
| | Construction Costs | | | | | | |
| | Production Facilities | $ 689 | $ 690 | $ 696 | $ 632 | $ 1,110 | $ 3,817 |
| | Transmission Facilities | $ 341 | $ 335 | $ 340 | $ 382 | $ 382 | $ 1,780 |
| | Distribution Facilities | $ 817 | $ 927 | $ 962 | $ 1,045 | $ 1,112 | $ 4,861 |
| | General Facilities | $ 267 | $ 375 | $ 252 | $ 90 | $ 296 | $ 1,279 |
| 1 | Construction Costs (Note B) | $ 2,113 | $ 2,327 | $ 2,249 | $ 2,149 | $ 2,899 | $ 11,738 |
| 2 | Nuclear Fuel Costs (Note B) | $ 303 | $ 315 | $ 227 | $ 255 | $ 257 | $ 1,355 |
| 3 | Equity Component of AFUDC | $ 72 | $ 89 | $ 100 | $ 83 | $ 83 | $ 426 |
| 4 | Long-Term Debt, Capital Stock Retired or Reacquired (Note C) | $ 6 | $ 457 | $ 503 | $ 359 | $ 1,000 | $ 2,324 |
| 5 | Changes in Working Capital | $ 142 | $ 24 | $ 277 | $ 275 | $ 274 | $ 993 |
| 6 | Other, Including Dividends | $ (1) | $ 6 | $ (0) | $ (0) | $ (0) | $ 4 |
| 7 | Total Capital Requirements | $ 2,635 | $ 3,217 | $ 3,355 | $ 3,121 | $ 4,512 | $ 16,840 |
| 8 | Provided by Internal Cash | 117% | 99% | 98% | 123% | 84% | 102% |
| | **Sources of Capital** | | | | | | |
| | Internal Cash | | | | | | |
| 9 | Depreciation and Amortization | $ 1,633 | $ 1,830 | $ 2,057 | $ 2,151 | $ 2,229 | $ 9,899 |
| 10 | Other (Note E) | $ 1,459 | $ 1,362 | $ 1,222 | $ 1,673 | $ 1,571 | $ 7,287 |
| 11 | Total Internal Cash | $ 3,091 | $ 3,192 | $ 3,279 | $ 3,824 | $ 3,800 | $ 17,186 |
| 12 | Outside Financing (Note C) | $ (389) | $ 25 | $ (475) | $ (362) | $ (838) | $ (2,039) |
| 13 | Total Sources of Capital | $ 2,702 | $ 3,217 | $ 2,804 | $ 3,462 | $ 2,962 | $ 15,147 |
| | **Tentative Financing Program** | | | | | | |
| 14 | Long-Term Debt (Note C) | $ 600 | $ 900 | $ 450 | $ 750 | $ 300 | $ 3,000 |
| 15 | Preferred Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 16 | Common Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 17 | Infusion From/(To) Parent | $ (550) | $ (875) | $ (925) | $ (1,200) | $ (1,050) | $ (4,600) |
| 18 | Net Change in Short-Term Debt | $ (439) | $ (0) | $ - | $ 88 | $ (88) | $ (439) |
| 19 | Total | $ (389) | $ 25 | $ (475) | $ (362) | $ (838) | $ (2,039) |
| | **Capital Structure (Note D)** | | | | | | |
| 20 | Capitalization | $ 24,064 | $ 25,040 | $ 26,131 | $ 26,507 | $ 28,009 | |
| | **Ratios** | | | | | | |
| 21 | Long-Term Debt | 48% | 48% | 48% | 47% | 48% | |
| 22 | Preferred Stock | 0% | 0% | 0% | 0% | 0% | |
| 23 | Common Stock | 52% | 52% | 52% | 53% | 52% | |

A The Company, the North Carolina Municipal Power Agency Number 1 (NCMPA), the North Carolina Electric Membership Corporation (NCEMC), and the Piedmont Municipal Power Agency (PMPA) are joint owners of the 2,258,000-kilowatt Catawba Nuclear Station. The Company currently owns 19.2% of the plant.

B Only the debt component of AFUDC is included in these costs.

C Includes current maturities related to long-term debt and the principal portions of payments on capitalized leases. Current maturities at year end are, $457 in 2019, $503 in 2020, $360 in 2021, $1,000 in 2022 and $1 in 2023.

D "Capitalization" and "Ratios" exclude short-term debt.

E "Other" includes earnings, net deferred taxes and investment tax credits and other miscellaneous items.

F Totals may not foot due to rounding

/A



**DUKE ENERGY CAROLINAS, LLC** **Item No. 34**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

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**Request:**

a. List all outstanding issues of long-term debt as of end of the latest calendar year and at the end of the test period in accordance with format 34-a.
b. Provide calculations of embedded cost of long-term debt at the end of each of the previous two (2) years. Also, provide this calculation for the end of the test period. Provide underlying details supporting the calculations.
c. Project expected issues of long-term debt for the 12-month period beyond most recently available year end data, also provide approximate dates and amounts of planned issues.

**Response:**

a. See attachment DEC Rate Case E-1 #34a Outstanding Long-Term Debt.xlsx

DEC Rate Case E-1
34a Outstanding Lo

b. See attachment DEC Rate Case E-1 #34b Embedded Cost of Long-Term Debt.xlsx

DEC Rate Case E-1
34b Embedded Long

c. Duke Energy Carolinas issued $800 million of First and Refunding Mortgage bonds in August 2019 and does not expect to issue any more debt at Duke Energy Carolinas during 2019.

/A



**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Outstanding Long-Term Debt**
**For the test year ended December 31, 2018**
(Dollars in 000's)

**E-1 Item 34A**

| Line No. | Type Obligation (Bonds, Debentures, Notes, etc.) | Issue Date | Maturity Date | Amount O/S (in thousands) | Coupon Rate | **12/31/2018** Cost Rate to Maturity % | **Net Proceeds to Duke Cost Rate*** Cost Rate At Issue % | Bond Rating @ Issue Date Moody's | S & P |
|---|---|---|---|---|---|---|---|---|---|
| 1 | First Mortgage Bond Taxable | 07/01/91 | 07/01/27 | $ 9,011 | 8.950% | 8.950% | 8.950% | n/a | n/a |
| 2 | First Mortgage Bond Taxable | 01/10/08 | 01/15/38 | $ 500,000 | 6.000% | 6.000% | 6.060% | A2 | A |
| 3 | First Mortgage Bond Taxable | 04/14/08 | 04/15/38 | $ 600,000 | 6.050% | 6.050% | 6.125% | A2 | A |
| 4 | First Mortgage Bond Taxable | 11/19/09 | 02/15/40 | $ 750,000 | 5.300% | 5.300% | 5.379% | A1 | A |
| 5 | First Mortgage Bond Taxable | 06/02/10 | 06/15/20 | $ 450,000 | 4.300% | 4.300% | 4.384% | A1 | A |
| 6 | First Mortgage Bond Taxable | 05/19/11 | 06/15/21 | $ 500,000 | 3.900% | 3.900% | 3.966% | A1 | A |
| 7 | First Mortgage Bond Taxable | 12/08/11 | 12/15/41 | $ 650,000 | 4.250% | 4.250% | 4.304% | A1 | A |
| 8 | First Mortgage Bond Taxable | 09/21/12 | 09/30/42 | $ 650,000 | 4.000% | 4.000% | 4.089% | A1 | A |
| 9 | First Mortgage Bond Taxable | 03/12/15 | 06/01/45 | $ 500,000 | 3.750% | 3.750% | 3.839% | Aa2 | A |
| 10 | First Mortgage Bond Taxable | 03/11/16 | 03/15/23 | $ 500,000 | 2.500% | 2.500% | 2.569% | Aa2 | A |
| 11 | First Mortgage Bond Taxable | 03/11/16 | 03/15/46 | $ 500,000 | 3.875% | 3.875% | 3.938% | Aa2 | A |
| 12 | First Mortgage Bond Taxable | 11/17/16 | 12/01/26 | $ 600,000 | 2.950% | 2.950% | 3.030% | Aa2 | A |
| 13 | First Mortgage Bond Taxable | 11/14/17 | 12/01/47 | $ 550,000 | 3.700% | 3.700% | 3.750% | Aa2 | A |
| 14 | First Mortgage Bond Taxable | 03/01/18 | 03/15/48 | $ 500,000 | 3.950% | 3.950% | 4.020% | Aa2 | A |
| 15 | First Mortgage Bond Taxable | 03/01/18 | 03/15/23 | $ 500,000 | 3.050% | 3.050% | 3.151% | Aa2 | A |
| 16 | First Mortgage Bond Taxable | 11/08/18 | 05/15/22 | $ 350,000 | 3.350% | 3.350% | 3.445% | Aa2 | A |
| 17 | First Mortgage Bond Taxable | 11/08/18 | 11/15/28 | $ 650,000 | 3.950% | 3.950% | 4.050% | Aa2 | A |
| 18 | Other PCB bkd by FMB | 09/01/10 | 11/01/40 | $ 50,000 | 4.625% | 4.625% | 4.665% | A1 | A |
| 19 | Other PCB bkd by FMB | 09/01/10 | 11/01/40 | $ 50,000 | 4.625% | 4.625% | 4.665% | A1 | A |
| 20 | Other PCB bkd by FMB | 09/01/10 | 10/01/31 | $ 71,595 | 4.375% | 4.375% | 4.423% | A1 | A |
| 21 | Other PCB bkd by FMB | 09/01/10 | 10/01/31 | $ 71,605 | 4.375% | 4.375% | 4.423% | A1 | A |
| 22 | Accounts Receivable Securitization | 12/15/17 | 12/15/20 | $ 275,000 | floating | 3.463% | Variable | n/a | n/a |
| 23 | Accounts Receivable Securitization | 12/15/17 | 12/15/20 | $ 175,000 | floating | 3.457% | Variable | n/a | n/a |
| 24 | Unsecured | 12/04/98 | 12/01/28 | $ 300,000 | 6.000% | 6.000% | 6.124% | A1 | A |
| 25 | Unsecured | 10/08/02 | 10/15/32 | $ 350,000 | 6.450% | 6.450% | 6.552% | A1 | A |
| 26 | Unsecured | 06/05/07 | 06/01/37 | $ 500,000 | 6.100% | 6.100% | 6.156% | A3 | A- |
| 27 | Commercial Paper LTD | n/a | 03/16/23 | $ 300,000 | market | 2.794% | Variable | n/a | n/a |
| 28 | Capital Lease - Buck Pipeline | 11/01/10 | 11/30/30 | $ 8,265 | 12.132% | 12.132% | 12.132% | n/a | n/a |
| 29 | Capital Lease - Cliffside PSNC Pipeline | 10/22/18 | 11/30/38 | $ 51,897 | 12.089% | 12.089% | 12.089% | n/a | n/a |
| 30 | Capital Lease - Dan River Pipeline | 12/19/11 | 11/30/41 | $ 6,489 | 16.791% | 16.791% | 16.791% | n/a | n/a |
| 31 | Capital Lease - Dan River Water Heaters | 10/01/17 | 09/30/37 | $ 1,842 | 10.446% | 10.446% | 10.446% | n/a | n/a |
| 32 | Capital Lease - Lee CC | 04/26/17 | 04/25/37 | $ 40,778 | 13.550% | 13.550% | 13.550% | n/a | n/a |
| 33 | Fair Value Hedge - g/l on cancelled swaps | n/a | n/a | $ 5,062 | n/a | n/a | n/a | n/a | n/a |
| 34 | Unamortized Debt Discount/Premium | n/a | n/a | $ (23,479) | n/a | n/a | n/a | n/a | n/a |
| 35 | Unamortized Debt Issuance Costs | n/a | n/a | $ (53,940) | n/a | n/a | n/a | n/a | n/a |
| 36 | | | | | | | | | |
| 37 | Less: Current portion of LTD | | | (6,457) | | n/a | n/a | n/a | n/a |
| 38 | Long-Term Portion of Debt | | | $ 10,932,667 | | | | | |
| 39 | Long-Term Debt (including current maturities) | | | $ 10,939,124 | | | | | |

Note: Totals may not foot due to rounding.

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Embedded Cost of Long Term Debt**
**For the Test Year ended December 31, 2018**
**(Dollars in 000's)**

**E-1 Item 34b**

## Duke Energy Carolinas Debt Detail - LTD Schedule
**Debt as of: December 31, 2017**

| Line Number | Entity | Type of Obligation (A) | Rate (B) | Interest Type (C) | Issue Date (D) | Maturity Date (E) | Interest (F) | Issue Amt (G) | Outstanding Balance (H) | Current Portion (I) | LTD Outstanding (J) | Annualized Interest Expense (K) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Duke Energy Carolinas | First Mortgage Bond Taxable | 8.950% | Fixed | 07/01/91 | 07/01/27 | 863 | | 9,648 | 637 | 9,011 | 807 |
| 2 | Duke Energy Carolinas | First Mortgage Bond Taxable | 5.250% | Fixed | 01/10/08 | 01/15/18 | 21,000 | 400,000 | 400,000 | 400,000 | - | - |
| 3 | Duke Energy Carolinas | First Mortgage Bond Taxable | 6.000% | Fixed | 01/10/08 | 01/15/38 | 30,000 | 500,000 | 500,000 | - | 500,000 | 30,000 |
| 4 | Duke Energy Carolinas | First Mortgage Bond Taxable | 5.100% | Fixed | 04/14/08 | 04/15/18 | 15,300 | 300,000 | 300,000 | 300,000 | - | - |
| 5 | Duke Energy Carolinas | First Mortgage Bond Taxable | 6.050% | Fixed | 04/14/08 | 04/15/38 | 36,300 | 600,000 | 600,000 | - | 600,000 | 36,300 |
| 6 | Duke Energy Carolinas | First Mortgage Bond Taxable | 7.000% | Fixed | 11/17/08 | 11/15/18 | 35,000 | 500,000 | 500,000 | 500,000 | - | - |
| 7 | Duke Energy Carolinas | First Mortgage Bond Taxable | 5.300% | Fixed | 11/19/09 | 02/15/40 | 39,750 | 750,000 | 750,000 | - | 750,000 | 39,750 |
| 8 | Duke Energy Carolinas | First Mortgage Bond Taxable | 4.300% | Fixed | 06/02/10 | 06/15/20 | 19,350 | 450,000 | 450,000 | - | 450,000 | 19,350 |
| 9 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.900% | Fixed | 05/19/11 | 06/15/21 | 19,500 | 500,000 | 500,000 | - | 500,000 | 19,500 |
| 10 | Duke Energy Carolinas | First Mortgage Bond Taxable | 4.250% | Fixed | 12/08/11 | 12/15/41 | 27,625 | 650,000 | 650,000 | - | 650,000 | 27,625 |
| 11 | Duke Energy Carolinas | First Mortgage Bond Taxable | 4.000% | Fixed | 09/21/12 | 09/30/42 | 26,000 | 650,000 | 650,000 | - | 650,000 | 26,000 |
| 12 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.750% | Fixed | 03/12/15 | 06/01/45 | 18,750 | 500,000 | 500,000 | - | 500,000 | 18,750 |
| 13 | Duke Energy Carolinas | First Mortgage Bond Taxable | 2.500% | Fixed | 03/11/16 | 03/15/23 | 12,500 | 500,000 | 500,000 | - | 500,000 | 12,500 |
| 14 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.875% | Fixed | 03/11/16 | 03/15/46 | 19,375 | 500,000 | 500,000 | - | 500,000 | 19,375 |
| 15 | Duke Energy Carolinas | First Mortgage Bond Taxable | 2.950% | Fixed | 11/17/16 | 12/01/26 | 17,700 | 600,000 | 600,000 | - | 600,000 | 17,700 |
| 16 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.700% | Fixed | 11/14/17 | 12/01/47 | 20,350 | 550,000 | 550,000 | - | 550,000 | 20,350 |
| 17 | Duke Energy Carolinas | Other PCB bkd by FMB | 4.625% | Fixed | 09/01/10 | 11/01/40 | 2,313 | 50,000 | 50,000 | - | 50,000 | 2,313 |
| 18 | Duke Energy Carolinas | Other PCB bkd by FMB | 4.625% | Fixed | 09/01/10 | 11/01/40 | 2,313 | 50,000 | 50,000 | - | 50,000 | 2,313 |
| 19 | Duke Energy Carolinas | Other PCB bkd by FMB | 4.375% | Fixed | 09/01/10 | 10/01/31 | 3,132 | 71,595 | 71,595 | - | 71,595 | 3,132 |
| 20 | Duke Energy Carolinas | Other PCB bkd by FMB | 4.375% | Fixed | 09/01/10 | 10/01/31 | 3,133 | 71,605 | 71,605 | - | 71,605 | 3,133 |
| 21 | Duke Energy Carolinas | Secured - Accounts Receivable Securitization (2) | 2.313% | Floating | 12/15/17 | 12/15/20 | 6,361 | 275,000 | 275,000 | - | 275,000 | 6,361 |
| 22 | Duke Energy Carolinas | Secured - Accounts Receivable Securitization | 2.177% | Floating | 12/15/17 | 12/15/20 | 3,810 | 175,000 | 175,000 | - | 175,000 | 3,810 |
| 23 | Duke Energy Carolinas | Unsecured | 6.000% | Fixed | 12/04/98 | 12/01/28 | 18,000 | 300,000 | 300,000 | - | 300,000 | 18,000 |
| 24 | Duke Energy Carolinas | Unsecured | 6.450% | Fixed | 10/08/02 | 10/15/32 | 22,575 | 350,000 | 350,000 | - | 350,000 | 22,575 |
| 25 | Duke Energy Carolinas | Unsecured | 6.100% | Fixed | 06/05/07 | 06/01/37 | 30,500 | 500,000 | 500,000 | - | 500,000 | 30,500 |
| 26 | Duke Energy Carolinas | Commercial Paper LTD | 1.664% | Floating | - | 03/16/22 | 4,992 | 300,000 | 300,000 | - | 300,000 | 4,992 |
| 27 | Duke Energy Carolinas | Capital Lease - Buck Pipeline | 12.132% | Fixed | 11/01/10 | 11/30/30 | 1,425 | - | 11,750 | 3,485 | 8,265 | 1,003 |
| 28 | Duke Energy Carolinas | Capital Lease - Dan River Pipeline | 16.791% | Fixed | 12/19/11 | 11/30/41 | 1,110 | - | 6,608 | 119 | 6,489 | 1,089 |
| 29 | Duke Energy Carolinas | Capital Lease - Dan River Water Heaters | 10.446% | Fixed | 10/01/17 | 09/30/37 | 160 | - | 1,534 | 25 | 1,509 | 158 |
| 30 | Duke Energy Carolinas | Capital Lease - Lee CC | 13.550% | Fixed | 04/26/17 | 04/25/37 | 5,550 | - | 40,960 | 460 | 40,500 | 5,488 |
| 31 | Duke Energy Carolinas | Fair Value Hedge - g/l on cancelled swaps | - | - | - | - | - | - | 5,521 | 459 | 5,062 | - |
| 32 | Duke Energy Carolinas | Unamortized Debt Discount/Premium | - | - | - | - | - | - | (19,476) | (145) | (19,331) | - |
| 33 | Duke Energy Carolinas | Unamortized Debt Issuance Costs | - | - | - | - | - | - | (46,608) | (260) | (46,348) | - |
| 34 | Balance per SEC Reports | | | | | | 464,736 | | 10,103,137 | 1,204,780 | 8,898,356 | 392,872 |
| 35 | | | | | | | | | | | | |
| 36 | **Reconciliation to Debt in Regulatory Capital Structure** | | | | | | | | | | | |
| 37 | Plus: | | | | | | | | | | | |
| 38 | Duke Energy Carolinas | Amortization of Realized Gains or Loss on Interest Rate Hedges | | | | | | | | | | 5,626 |
| 39 | Duke Energy Carolinas | Amortization of Debt Discount and Loss (Accounts 428 & 428.1) | | | | | | | | | | 12,506 |
| 40 | Duke Energy Carolinas | Less: Unamortized Debt Issuance Costs | | | | | | | | | 46,348 | |
| 41 | Duke Energy Carolinas | Add: Current portion of Capital Leases and Other Debt | | | | | | | | | 5,040 | 565 |
| 42 | | | | | | | | | | | | |
| 43 | Duke Energy Carolinas | Regulatory Debt Balance | | | | | | | | | 8,949,745 | 411,569 |
| 44 | | | | | | | | | | | | |
| 45 | **Embedded Cost of Debt** | *Annualized Interest Expense / LTD Outstanding* | | | | | | | | | | **4.60%** |
| 46 | | | | | | | | | | | | |
| 47 | **Regulatory Common Equity** | | | | | | | | | | | |
| 48 | Total Proprietary Capital | | | | | | | | | | **11,365,886** | |
| 49 | Less: 0216100 - Unappr Undistr Subsid Earnings | | | | | | | | | | **3,017** | |
| 50 | Regulated Equity Balance | | | | | | | | | | **11,362,869** | |
| 51 | | | | | | | | | | | | |
| 52 | **Total Regulated Capitalization** | | | | | | | | | | **20,312,613** | |
| 53 | Debt Ratio | | | | | | | | | | **44.06%** | |
| 54 | Equity Ratio | | | | | | | | | | **55.94%** | |
| 55 | | | | | | | | | | | | |
| 56 | Notes: | Unamortized Debt Issuance Costs are not included in Regulatory Capital Structure, instead they are included in rate base | | | | | | | | | | |
| 57 | | Amortization of Unamortized Debt Expense, Discount and Premium is included in Regulatory Cost of Debt | | | | | | | | | | |
| 58 | | Amortization of realized gains or losses on interest rate hedges is included in Regulatory Cost of Debt | | | | | | | | | | |
| 59 | | | | | | | | | | | | |

**Duke Energy Carolinas, LLC**
**Docket no. E-7, Sub 1214**
**Embedded Cost of Long Term Debt**
**For the Test Year ended December 31, 2018**
**(Dollars in 000's)**

**E-1 Item 34b**

## Duke Energy Carolinas Debt Detail - LTD Schedule

**Debt as of: December 31, 2018**

| | | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Line Number | Entity | Type of Obligation | Rate | Interest Type | Issue Date | Maturity Date | Interest | Issue Amt | Outstanding Balance | Current Portion | LTD Outstanding | Annualized Interest Expense |
| 1 | Duke Energy Carolinas | First Mortgage Bond Taxable | 8.950% | Fixed | 07/01/91 | 07/01/27 | 807 | | 9,011 | 694 | 8,318 | 744 |
| 2 | Duke Energy Carolinas | First Mortgage Bond Taxable | 6.000% | Fixed | 01/10/08 | 01/15/38 | 30,000 | 500,000 | 500,000 | - | 500,000 | 30,000 |
| 3 | Duke Energy Carolinas | First Mortgage Bond Taxable | 6.050% | Fixed | 04/14/08 | 04/15/38 | 36,300 | 600,000 | 600,000 | - | 600,000 | 36,300 |
| 4 | Duke Energy Carolinas | First Mortgage Bond Taxable | 5.300% | Fixed | 11/19/09 | 02/15/40 | 39,750 | 750,000 | 750,000 | - | 750,000 | 39,750 |
| 5 | Duke Energy Carolinas | First Mortgage Bond Taxable | 4.300% | Fixed | 06/02/10 | 06/15/20 | 19,350 | 450,000 | 450,000 | - | 450,000 | 19,350 |
| 6 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.900% | Fixed | 05/19/11 | 06/15/21 | 19,500 | 500,000 | 500,000 | - | 500,000 | 19,500 |
| 7 | Duke Energy Carolinas | First Mortgage Bond Taxable | 4.250% | Fixed | 12/08/11 | 12/15/41 | 27,625 | 650,000 | 650,000 | - | 650,000 | 27,625 |
| 8 | Duke Energy Carolinas | First Mortgage Bond Taxable | 4.000% | Fixed | 09/21/12 | 09/30/42 | 26,000 | 650,000 | 650,000 | - | 650,000 | 26,000 |
| 9 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.750% | Fixed | 03/12/15 | 06/01/45 | 18,750 | 500,000 | 500,000 | - | 500,000 | 18,750 |
| 10 | Duke Energy Carolinas | First Mortgage Bond Taxable | 2.500% | Fixed | 03/11/16 | 03/15/23 | 12,500 | 500,000 | 500,000 | - | 500,000 | 12,500 |
| 11 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.875% | Fixed | 03/11/16 | 03/15/46 | 19,375 | 500,000 | 500,000 | - | 500,000 | 19,375 |
| 12 | Duke Energy Carolinas | First Mortgage Bond Taxable | 2.950% | Fixed | 11/17/16 | 12/01/26 | 17,700 | 600,000 | 600,000 | - | 600,000 | 17,700 |
| 13 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.700% | Fixed | 11/14/17 | 12/01/47 | 20,350 | 550,000 | 550,000 | - | 550,000 | 20,350 |
| 14 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.950% | Fixed | 03/01/18 | 03/15/48 | 19,750 | 500,000 | 500,000 | - | 500,000 | 19,750 |
| 15 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.050% | Fixed | 03/01/18 | 03/15/23 | 15,250 | 500,000 | 500,000 | - | 500,000 | 15,250 |
| 16 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.350% | Fixed | 11/08/18 | 05/15/22 | 11,725 | 350,000 | 350,000 | - | 350,000 | 11,725 |
| 17 | Duke Energy Carolinas | First Mortgage Bond Taxable | 3.950% | Fixed | 11/08/18 | 11/15/28 | 25,675 | 650,000 | 650,000 | - | 650,000 | 25,675 |
| 18 | Duke Energy Carolinas | Other PCB bkd by FMB | 4.625% | Fixed | 09/01/10 | 11/01/40 | 2,313 | 50,000 | 50,000 | - | 50,000 | 2,313 |
| 19 | Duke Energy Carolinas | Other PCB bkd by FMB | 4.625% | Fixed | 09/01/10 | 11/01/40 | 2,313 | 50,000 | 50,000 | - | 50,000 | 2,313 |
| 20 | Duke Energy Carolinas | Other PCB bkd by FMB | 4.375% | Fixed | 09/01/10 | 10/01/31 | 3,132 | 71,595 | 71,595 | - | 71,595 | 3,132 |
| 21 | Duke Energy Carolinas | Other PCB bkd by FMB | 4.375% | Fixed | 09/01/10 | 10/01/31 | 3,133 | 71,605 | 71,605 | - | 71,605 | 3,133 |
| 22 | Duke Energy Carolinas | Secured - Accounts Receivable Securitization (2) | 3.463% | Floating | 12/15/17 | 12/15/20 | 9,523 | 275,000 | 275,000 | - | 275,000 | 9,523 |
| 23 | Duke Energy Carolinas | Secured - Accounts Receivable Securitization | 3.457% | Floating | 12/15/17 | 12/15/20 | 6,050 | 175,000 | 175,000 | - | 175,000 | 6,050 |
| 24 | Duke Energy Carolinas | Unsecured | 6.000% | Fixed | 12/04/98 | 12/01/28 | 18,000 | 300,000 | 300,000 | - | 300,000 | 18,000 |
| 25 | Duke Energy Carolinas | Unsecured | 6.450% | Fixed | 10/08/02 | 10/15/32 | 22,575 | 350,000 | 350,000 | - | 350,000 | 22,575 |
| 26 | Duke Energy Carolinas | Unsecured | 6.100% | Fixed | 06/05/07 | 06/01/37 | 30,500 | 500,000 | 500,000 | - | 500,000 | 30,500 |
| 27 | Duke Energy Carolinas | Commercial Paper LTD | 2.794% | Floating | - | 03/16/22 | 8,382 | 300,000 | 300,000 | - | 300,000 | 8,382 |
| 28 | Duke Energy Carolinas | Capital Lease - Buck Pipeline | 12.132% | Fixed | 11/01/10 | 11/30/30 | 1,003 | - | 8,265 | 3,932 | 4,332 | 526 |
| 29 | Duke Energy Carolinas | Capital Lease - Cliffside PSNC Pipeline | 12.089% | Fixed | 10/22/18 | 11/30/38 | 6,274 | - | 51,897 | 667 | 51,229 | 6,193 |
| 30 | Duke Energy Carolinas | Capital Lease - Dan River Pipeline | 16.791% | Fixed | 12/19/11 | 11/30/41 | 1,089 | - | 6,489 | 141 | 6,347 | 1,066 |
| 31 | Duke Energy Carolinas | Capital Lease - Dan River Water Heaters | 10.446% | Fixed | 10/01/17 | 09/30/37 | 192 | - | 1,842 | 33 | 1,809 | 189 |
| 32 | Duke Energy Carolinas | Capital Lease - Lee CC | 13.550% | Fixed | 04/26/17 | 04/25/37 | 5,525 | - | 40,778 | 530 | 40,248 | 5,454 |
| 33 | Duke Energy Carolinas | Fair Value Hedge - g/l on cancelled swaps | - | - | - | - | - | - | 5,062 | 459 | 4,602 | - |
| 34 | Duke Energy Carolinas | Unamortized Debt Discount/Premium | - | - | - | - | - | - | (23,479) | - | (23,479) | - |
| 35 | Duke Energy Carolinas | Unamortized Debt Issuance Costs | - | - | - | - | - | - | (53,940) | - | (53,940) | - |
| 36 | | | | | | | | | | | | |
| 37 | Balance per SEC Reports | | | | | | 480,410 | | 10,939,124 | 6,457 | 10,932,667 | 479,691 |
| 38 | | | | | | | | | | | | |
| 39 | **Reconciliation to Debt in Regulatory Capital Structure** | | | | | | | | | | | |
| 40 | Plus: | | | | | | | | | | | |
| 41 | Duke Energy Carolinas | Amortization of Realized Gains or Loss on Interest Rate Hedges | | | | | | | | | - | 1,982 |
| 42 | Duke Energy Carolinas | Amortization of Debt Discount and Loss (Accounts 428 & 428.1) | | | | | | | | | - | 13,411 |
| 43 | Duke Energy Carolinas | Less: Unamortized Debt Issuance Costs | | | | | | | | | 53,940 | - |
| 44 | Duke Energy Carolinas | Add: Current portion of Capital Leases and Other Debt | | | | | | | | | 6,457 | 719 |
| 45 | | | | | | | | | | | | |
| 46 | Duke Energy Carolinas | Regulatory Debt Balance | | | | | | | | | 10,993,064 | 495,804 |
| 47 | | | | | | | | | | | | |
| 48 | **Embedded Cost of Debt** | *Annualized Interest Expense / LTD Outstanding* | | | | | | | | | | **4.51%** |
| 49 | | | | | | | | | | | | |
| 50 | **Regulatory Common Equity** | | | | | | | | | | | |
| 51 | Total Proprietary Capital | | | | | | | | | | **11,687,177** | |
| 52 | Less: 0216100 - Unappr Undistr Subsid Earnings | | | | | | | | | | **4,810** | |
| 53 | Regulated Equity Balance | | | | | | | | | | **11,682,367** | |
| 54 | | | | | | | | | | | | |
| 55 | **Total Regulated Capitalization** | | | | | | | | | | **22,675,431** | |
| 56 | Debt Ratio | | | | | | | | | | **48.48%** | |
| 57 | Equity Ratio | | | | | | | | | | **51.52%** | |
| 58 | | | | | | | | | | | | |
| 59 | Notes: | Unamortized Debt Issuance Costs are not included in Regulatory Capital Structure, instead they are included in rate base | | | | | | | | | | |
| 60 | | Amortization of Unamortized Debt Expense, Discount and Premium is included in Regulatory Cost of Debt | | | | | | | | | | |
| 61 | | Amortization of realized gains or losses on interest rate hedges is included in Regulatory Cost of Debt | | | | | | | | | | |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 35**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

a. List all outstanding issues of preferred stock as of end of the latest calendar year and at the end of the test period in accordance with Format 35a.
b. Provide calculations of embedded cost of preferred stock at the end of each of the previous two (2) years. Also, provide this calculation for the test period. Provide underlying details supporting the calculations.
c. List expected issues of preferred stock in the 12 and 24 month periods beyond most recent available year end data. Also, provide approximate dates and amounts of planned issues.

**Response:**

a-b. Duke Energy Carolinas and Duke Energy Corporation had no outstanding preferred stock as of December 31, 2018.

c. Duke Energy Carolinas does not issue preferred stock and has no plans to issue preferred stock through December 31, 2020. Duke Energy Corporation issued approximately $1 billion of preferred stock in March of 2019 and will continue to monitor needs for Duke Energy Corporation and adjust as needed.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 35**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

a. List all outstanding issues of preferred stock as of end of the latest calendar year and at the end of the test period in accordance with Format 35a.
b. Provide calculations of embedded cost of preferred stock at the end of each of the previous two (2) years. Also, provide this calculation for the test period. Provide underlying details supporting the calculations.
c. List expected issues of preferred stock in the 12 and 24 month periods beyond most recent available year end data. Also, provide approximate dates and amounts of planned issues.

**Response:**

a-b. Duke Energy Carolinas and Duke Energy Corporation had no outstanding preferred stock as of December 31, 2018.

c. Duke Energy Carolinas does not issue preferred stock and has no plans to issue preferred stock through December 31, 2020. Duke Energy Corporation issued approximately $1 billion of preferred stock in March of 2019 and will continue to monitor needs for Duke Energy Corporation and adjust as needed.

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Common Stock Issuances**
**Test Year ended December 31, 2018**



**Duke Energy Corporation**
**Five-Year Common Stock Issued**

| Line Number | Company | Date of issue | Number of Shares | Date of announcement and registration | Price Per Share (net to company) ($) | Book Value Per Share | Date for Book Value Shown | Selling Expenses as % of gross issue amount | Net Proceeds to Company (5) | Price Per Share to Public |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Duke Energy Corporation | March 1, 2016 (1) | 10,637,500 | February 29, 2016 | $ 69.84 | $ 57.98 | Mar. 31, 2016 | 3.00% | $ 742,923,000 | $ 72.00 |
| 2 | Duke Energy Corporation | March 9, 2018 (2) | 21,275,000 | March 6, 2018 | $ 74.07 | $ 59.63 | Dec. 31, 2017 | 1.24% | $ 1,575,882,664 | $ 75.00 |
| 3 | Duke Energy Corporation | June 2018 (3) | 1,276,300 | February 20, 2018 | $ 72.02 | $ 59.69 | Jun. 30, 2018 | 0.75% | $ 91,913,327 | $ 72.56 |
| 4 | Duke Energy Corporation | June 2018 (3) | 1,354,301 | February 20, 2018 | $ 78.71 | $ 59.69 | Jun. 30, 2018 | 0.75% | $ 106,594,435 | $ 79.30 |
| 5 | Duke Energy Corporation | November 2018 (3) | 354,357 | February 20, 2018 | $ 84.03 | $ 60.34 | Sep. 30, 2018 | 0.75% | $ 29,774,997 | $ 84.66 |
| 6 | Duke Energy Corporation | 2018 - DRIP (4) | 2,183,037 | N/A | $ 79.68 | $ 59.63 | Dec. 31, 2017 | N/A | $ 173,948,128 | $ 79.68 |
| 7 | | | | | | | | | | |

8 Notes:

9 **(1)** In March, 2016, DE Corporation marketed an equity offering of approximately 10.6 million shares of common stock. In lieu of issuing equity at the time of the offering, the Company entered into an equity forward agreement. On October 5, 2016, following the close of the Piedmont acquisition, DE Corporation physically settled the Equity forward in full by delivering approximately 10.6 million shares of common stock in exchange for net cash proceeds of approximately $723 million.

10 **(2)** In March, 2018, DE Corporation marketed an equity offering of approximately 21.3 million shares of common stock. In lieu of issuing equity at the time of the offering, the Company entered into an equity forward agreement. In June , 2018, the company settled approximately 10.6 million shares under the forward agreement for net cash proceeds of approximately $781 million. In December, 2018, the Company settled the remaining approximately 10.6 million shares for net cash proceeds of approximately $766 million.

11 **(3)** In February 2018, Duke Energy filed a prospectus supplement and executed an Equity Distribution Agreement under which it may sell its common stock through an at-the-market (ATM) offering program, including an equity forward sales component. In June 2018, Duke Energy marketed two separate tranches, each for approximately 1.3 million shares, of common stock. The first tranche had an initial forward price of $72.02 per share and the second tranche had an initial forward price of $78.71 per share through equity forward transactions under the ATM program. Both tranches were physically settled in December 2018 by delivering 2.6 million shares of common stock in exchange for net cash proceeds of approximately $195 million. In November 2018, Duke Energy sold an additional 354 thousand shares of common stock via a third tranche of the ATM. These shares were immediately, physically settled for net cash proceeds of approximately $30 million. The ATM issues shares over several days or weeks. The Price Per Share to Public reflects the weighted average price per share issued.

12 **(4)** For the year ended December 31, 2018, Duke Energy issued approximately 2.2 million shares through its Dividend Reinvestment Program (DRIP) with an increase in additional paid-in capital of approximately $174 million.

13 **(5)** Net proceeds to the Company are prior to any forward transaction costs incurred.

**Duke Energy Carolinas, LLC** **E-1 Item 36C**
**Docket No. E-7, Sub 1214**
**Common Equity**
**For the test year ended December 31, 2018**

| | | Common Shares Outstanding (000's) | Book Value | Earnings Per Share | Dividend Rate | Rate of Return on Common Average | Rate of Return on Common Year-end |
|---|---|---|---|---|---|---|---|
| 2009 | 1st quarter | 428,387 | 49.91 | 0.80 | 0.690 | | |
| | 2nd quarter | 431,234 | 49.53 | 0.64 | 0.690 | | |
| | 3rd quarter | 434,241 | 50.08 | 0.25 | 0.720 | | |
| | 4th quarter | 436,354 | 50.16 | 0.79 | 0.720 | | |
| | Year | | | 2.50 | 2.820 | 5.0% | 4.9% |
| 2010 | 1st quarter | 437,445 | 50.40 | 1.02 | 0.720 | | |
| | 2nd quarter | 439,180 | 48.42 | -0.51 | 0.720 | | |
| | 3rd quarter | 441,275 | 50.19 | 1.52 | 0.735 | | |
| | 4th quarter | 442,946 | 51.14 | 0.96 | 0.735 | | |
| | Year | | | 3.00 | 2.910 | 6.0% | 5.8% |
| 2011 | 1st quarter | 443,711 | 51.51 | 1.15 | 0.735 | | |
| | 2nd quarter | 443,914 | 51.14 | 0.98 | 0.735 | | |
| | 3rd quarter | 444,013 | 51.57 | 1.06 | 0.750 | | |
| | 4th quarter | 445,188 | 51.36 | 0.65 | 0.750 | | |
| | Year | | | 3.85 | 2.970 | 7.5% | 7.5% |
| 2012 | 1st quarter | 446,018 | 51.29 | 0.66 | 0.750 | | |
| | 2nd quarter | 446,221 | 50.46 | 1.00 | 0.750 | | |
| | 3rd quarter | 704,191 | 58.22 | 0.84 | 0.765 | | |
| | 4th quarter | 704,431 | 58.12 | 0.62 | 0.765 | | |
| | Year | | | 3.13 | 3.030 | 5.6% | 4.3% |
| 2013 | 1st quarter | 705,705 | 58.14 | 0.90 | 0.765 | | |
| | 2nd quarter | 705,885 | 56.95 | 0.48 | 0.765 | | |
| | 3rd quarter | 705,974 | 58.41 | 1.42 | 0.780 | | |
| | 4th quarter | 706,021 | 58.65 | 0.98 | 0.780 | | |
| | Year | | | 3.79 | 3.090 | 6.5% | 6.4% |
| 2014 | 1st quarter | 707,099 | 57.68 | -0.14 | 0.780 | | |
| | 2nd quarter | 707,264 | 57.80 | 0.86 | 0.780 | | |
| | 3rd quarter | 707,286 | 58.61 | 1.80 | 0.795 | | |
| | 4th quarter | 707,310 | 57.82 | 0.14 | 0.795 | | |
| | Year | | | 2.67 | 3.150 | 4.6% | 4.6% |
| 2015 | 1st quarter | 708,088 | 58.03 | 1.22 | 0.795 | | |
| | 2nd quarter | 688,324 | 57.56 | 0.79 | 0.795 | | |
| | 3rd quarter | 688,332 | 57.92 | 1.35 | 0.825 | | |
| | 4th quarter | 688,357 | 57.78 | 0.69 | 0.825 | | |
| | Year | | | 4.07 | 3.240 | 7.0% | 7.1% |
| 2016 | 1st quarter | 688,897 | 57.98 | 1.01 | 0.825 | | |
| | 2nd quarter | 688,934 | 57.98 | 0.74 | 0.825 | | |
| | 3rd quarter | 688,941 | 58.85 | 1.71 | 0.855 | | |
| | 4th quarter | 699,594 | 58.66 | -0.32 | 0.855 | | |
| | Year | | | 3.14 | 3.360 | 5.3% | 5.2% |
| 2017 | 1st quarter | 699,884 | 58.85 | 1.02 | 0.855 | | |
| | 2nd quarter | 699,950 | 59.00 | 0.98 | 0.855 | | |
| | 3rd quarter | 699,976 | 59.49 | 1.36 | 0.890 | | |
| | 4th quarter | 699,985 | 59.63 | 1.00 | 0.890 | | |
| | Year | | | 4.36 | 3.490 | 7.4% | 7.3% |
| 2018 | 1st quarter | 701,007 | 59.63 | 0.88 | 0.890 | | |
| | 2nd quarter | 712,287 | 59.69 | 0.71 | 0.890 | | |
| | 3rd quarter | 712,805 | 60.34 | 1.51 | 0.928 | | |
| | 4th quarter | 726,929 | 60.30 | 0.65 | 0.928 | | |
| | Year | | | 3.76 | 3.635 | 6.2% | 6.1% |

1 Information is for Duke Energy Corporation. Duke Energy Carolinas is a wholly-owned subsidiary of Duke Energy Corporation.
2 Amounts may not foot due to rounding
3 All per share data has been updated to reflect the 1:3 stock split that was executed on July 2, 2012. Annual earnings per share prior to 2012 may not foot, due to rounding.

**Duke Energy Carolinas, LLC** **E-1 Item 36**
**Docket No. E-7, Sub 1214**
**Share Prices**
**For the test year ended December 31, 2018**



| | | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | Monthly High | 70.62 | 71.74 | 71.22 | 74.80 | 74.58 | 74.19 | 74.39 | 73.99 | 74.90 | 82.29 | 83.50 | 86.83 |
| | Monthly Low | 67.13 | 69.62 | 68.71 | 70.26 | 69.93 | 69.63 | 71.39 | 69.84 | 73.06 | 74.99 | 78.99 | 80.62 |
| | Monthly Close | 70.62 | 70.88 | 71.22 | 74.49 | 71.08 | 74.19 | 72.13 | 73.99 | 74.77 | 82.15 | 80.90 | 83.54 |
| 2015 | Monthly High | 89.36 | 87.00 | 77.58 | 79.41 | 77.96 | 76.00 | 75.27 | 77.21 | 71.94 | 75.06 | 72.24 | 72.37 |
| | Monthly Low | 82.84 | 78.55 | 74.28 | 76.83 | 74.44 | 70.62 | 71.08 | 70.21 | 67.74 | 70.67 | 65.83 | 66.13 |
| | Monthly Close | 87.14 | 78.55 | 76.78 | 77.57 | 75.73 | 70.62 | 74.22 | 70.91 | 71.94 | 71.47 | 67.76 | 71.39 |
| 2016 | Monthly High | 75.30 | 79.17 | 80.68 | 81.13 | 81.08 | 85.79 | 87.23 | 85.65 | 82.52 | 80.02 | 79.65 | 78.02 |
| | Monthly Low | 71.04 | 74.03 | 73.35 | 76.34 | 76.15 | 78.94 | 84.44 | 79.52 | 77.95 | 75.91 | 73.54 | 72.75 |
| | Monthly Close | 75.30 | 74.28 | 80.68 | 78.78 | 78.23 | 85.79 | 85.59 | 79.66 | 80.04 | 80.02 | 73.77 | 77.62 |
| 2017 | Monthly High | 78.54 | 82.55 | 82.99 | 82.93 | 85.68 | 87.14 | 85.20 | 87.50 | 88.34 | 88.31 | 91.09 | 88.73 |
| | Monthly Low | 76.50 | 76.78 | 80.05 | 82.03 | 82.04 | 83.59 | 83.18 | 85.17 | 83.92 | 83.85 | 87.86 | 83.60 |
| | Monthly Close | 78.54 | 82.55 | 82.01 | 82.50 | 85.68 | 83.59 | 85.12 | 87.30 | 83.92 | 88.31 | 89.18 | 84.11 |
| 2018 | Monthly High | 83.23 | 77.92 | 77.59 | 80.50 | 79.98 | 79.52 | 81.62 | 82.28 | 83.47 | 84.75 | 88.57 | 90.90 |
| | Monthly Low | 76.82 | 74.32 | 75.17 | 76.14 | 73.68 | 72.12 | 78.64 | 80.35 | 78.09 | 79.19 | 81.66 | 83.91 |
| | Monthly Close | 78.50 | 75.34 | 77.47 | 80.16 | 77.16 | 79.08 | 81.62 | 81.24 | 80.02 | 82.63 | 88.57 | 86.30 |

Note the above is for Duke Energy Corporation. Duke Energy Carolinas is a wholly-owned subsidiary of Duke Energy Corporation and does not have common stock in its legal form as a Limited Liability Company.

DUK stock price as recorded on the NYSE in U.S. dollars. Share Prices are based on end-of-day prices.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 37**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

a. Provide figures showing computation of fixed charge coverage ratio (SEC Method, PRETAX, including Short Term Debt payments) at the end of each of the five (5) most recent prior years.
b. Make projections of expected coverage ratios during the next 12 and 24 month periods assuming:
1. Current rates remain in effect
2. Proposed rates are put into effect at the end of the 6-month waiting period and allowed to stand

**Response:**

a. Please see attached exhibit 12,2 filed with the SEC for years 2013-2017. As of November 5, 2018, DEC is no longer required to file this information with the SEC. See the attached link for supporting documentation. Please refer to page 55. https://www.sec.gov/rules/final/2018/33-10532.pdf
What follows is an excerpt for reference.
f. Ratio of Earnings to Fixed Charges
(1) Proposed Amendments
Regulation S-K requires issuers that register debt securities to disclose the historical and pro forma ratios of earnings to fixed charges.202 Regulation S-K also requires issuers that register preference equity securities to disclose the historical and pro forma ratio of combined fixed charges and preference dividends to earnings (collectively, "ratio of earnings to fixed charges").203 Regulation S-K further requires the filing of an exhibit setting forth the computation of any ratio of earnings to fixed charges.204 Similarly, Instruction 7 to "Instructions as to Exhibits" of Form 20-F requires foreign private issuers to disclose how any ratio of earnings to fixed charges presented in the filing was calculated. U.S. GAAP and IFRS require disclosure of many of the components commonly used in this ratio (e.g., income, interest expense, lease expense), as well as information from which other ratios that convey reasonably similar information about an issuer's ability to meet its financial obligations may be computed.
A variety of analytical tools are available today to investors that may accomplish a similar objective as the ratio of earnings to fixed charges. This ratio measures the issuer's ability to service fixed financing expenses – specifically, interest expense, including

management's approximation of the portion of lease expense that represents interest expense, and preference dividend requirements – from earnings. Other ratios that accomplish similar objectives include other variations of the ratio of earnings to fixed charges,205 the interest coverage ratio,206 and the debt-service coverage ratio,207 which can be calculated based on information readily available in the financial statements. Certain components commonly used in the ratio of earnings to fixed charges, such as the portion of lease expense that represents interest208 and the amortization of capitalized interest, are not readily available elsewhere. Despite this, the requirement to disclose the ratio of earnings to fixed charges, as opposed to the various components (e.g., income, interest expense, lease expense) of this ratio that investors may use as desired, may place undue emphasis on this particular measure.

Moreover, while debt agreements may contain fixed charge coverage covenants,209 debt investors often negotiate contractual agreements with issuers to obtain financial information to meet their needs,210 which may be more relevant and useful than a prescribed disclosure of a ratio of earnings to fixed charges. Companies are also required to discuss the material impacts of these covenants to the extent that they are reasonably likely to limit the company's ability to undertake additional financing or are reasonably likely to be breached.211

Based on these considerations, the Commission proposed to remove the requirement to disclose the ratio of earning to fixed charges by deleting Item 503(d) and Item 601(b)(12).212

The Commission also proposed to delete Instruction 7 to "Instructions as to Exhibits" of Form 20-F.

(2) Comments on Proposed Amendments

Commenters were supportive of the proposed amendments.213 One of these commenters indicated that, in its experience, the ratio of earnings to fixed charges is generally not used by investors or other users of financial statements, and debt covenant financial requirements may already be disclosed where material214 and vary significantly from company to company.215 Another commenter, while supportive of the proposed amendments, recommended that the Commission obtain feedback from investors about the continued utility of the pro forma ratio disclosure, as information on a pro forma basis may not be as readily available.216

(3) Final Amendments

We are adopting the amendments as proposed, including the elimination of the pro forma ratio. Although one commenter suggested that pro forma information may be less readily available, we note that information about the offering's effect on fixed charges, such as the interest rate, maturities, and amount of proceeds used to discharge indebtedness, is currently required by Item 504 of Regulation S-K.217

b.The Company does not forecast the fixed charge ratios.

SEC Fixed Chg
2013-2017.pdf

**EXHIBIT 12.2**

/A

**COMPUTATION OF RATIO OF EARNINGS TO FIXED CHARGES - DUKE ENERGY CAROLINAS**

The ratio of earnings to fixed charges is calculated using the Securities and Exchange Commission guidelines.

| | Years Ended December 31, | | | | |
|---|---|---|---|---|---|
| **(in millions)** | **2017** | **2016** | **2015** | **2014** | **2013** |
| Earnings as defined for fixed charges calculation | | | | | |
| Add: | | | | | |
| Pretax income from continuing operations | $ 1,866 | $ 1,800 | $ 1,709 | $ 1,661 | $ 1,571 |
| Fixed charges | 497 | 481 | 456 | 457 | 461 |
| Total earnings | $ 2,363 | $ 2,281 | $ 2,165 | $ 2,118 | $ 2,032 |
| | | | | | |
| Fixed charges: | | | | | |
| Interest on debt, including capitalized portions | $ 484 | $ 467 | $ 453 | $ 445 | $ 452 |
| Estimate of interest within rental expense | 13 | 14 | 3 | 12 | 9 |
| Total fixed charges | $ 497 | $ 481 | $ 456 | $ 457 | $ 461 |
| Ratio of earnings to fixed charges | 4.8 | 4.7 | 4.7 | 4.6 | 4.4 |

**DUKE ENERGY CAROLINAS, LLC** **Item No. 38**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide a capital budgeting forecast for five (5) year period beginning after the end of the most recent year.

**Response:**

Please see the attached file: "2019 DEC NC Rate Case - E-1- Data Request 38.xlsx"

2019 DEC NC Rate
Case - E-1 - Data Rec

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Financial and Capital Budget Forecast**
**For the test year ended December 31, 2018**

**E-1 Items 23, 33d & 38**

## Financial Data

(Notes A, F)

| Line | | Projected (Dollars in Millions) 2019 | 2020 | 2021 | 2022 | 2023 | 2019-2023 Totals |
|---|---|---|---|---|---|---|---|
| | **Capital Requirements** | | | | | | |
| | Construction Costs | | | | | | |
| | Production Facilities | $ 689 | $ 690 | $ 696 | $ 632 | $ 1,110 | $ 3,817 |
| | Transmission Facilities | $ 341 | $ 335 | $ 340 | $ 382 | $ 382 | $ 1,780 |
| | Distribution Facilities | $ 817 | $ 927 | $ 962 | $ 1,045 | $ 1,112 | $ 4,861 |
| | General Facilities | $ 267 | $ 375 | $ 252 | $ 90 | $ 296 | $ 1,279 |
| 1 | Construction Costs (Note B) | $ 2,113 | $ 2,327 | $ 2,249 | $ 2,149 | $ 2,899 | $ 11,738 |
| 2 | Nuclear Fuel Costs (Note B) | $ 303 | $ 315 | $ 227 | $ 255 | $ 257 | $ 1,355 |
| 3 | Equity Component of AFUDC | $ 72 | $ 89 | $ 100 | $ 83 | $ 83 | $ 426 |
| 4 | Long-Term Debt, Capital Stock Retired or Reacquired (Note C) | $ 6 | $ 457 | $ 503 | $ 359 | $ 1,000 | $ 2,324 |
| 5 | Changes in Working Capital | $ 142 | $ 24 | $ 277 | $ 275 | $ 274 | $ 993 |
| 6 | Other, Including Dividends | $ (1) | $ 6 | $ (0) | $ (0) | $ (0) | $ 4 |
| 7 | Total Capital Requirements | $ 2,635 | $ 3,217 | $ 3,355 | $ 3,121 | $ 4,512 | $ 16,840 |
| 8 | Provided by Internal Cash | 117% | 99% | 98% | 123% | 84% | 102% |
| | **Sources of Capital** | | | | | | |
| | Internal Cash | | | | | | |
| 9 | Depreciation and Amortization | $ 1,633 | $ 1,830 | $ 2,057 | $ 2,151 | $ 2,229 | $ 9,899 |
| 10 | Other (Note E) | $ 1,459 | $ 1,362 | $ 1,222 | $ 1,673 | $ 1,571 | $ 7,287 |
| 11 | Total Internal Cash | $ 3,091 | $ 3,192 | $ 3,279 | $ 3,824 | $ 3,800 | $ 17,186 |
| 12 | Outside Financing (Note C) | $ (389) | $ 25 | $ (475) | $ (362) | $ (838) | $ (2,039) |
| 13 | Total Sources of Capital | $ 2,702 | $ 3,217 | $ 2,804 | $ 3,462 | $ 2,962 | $ 15,147 |
| | **Tentative Financing Program** | | | | | | |
| 14 | Long-Term Debt (Note C) | $ 600 | $ 900 | $ 450 | $ 750 | $ 300 | $ 3,000 |
| 15 | Preferred Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 16 | Common Stock | $ - | $ - | $ - | $ - | $ - | $ - |
| 17 | Infusion From/(To) Parent | $ (550) | $ (875) | $ (925) | $ (1,200) | $ (1,050) | $ (4,600) |
| 18 | Net Change in Short-Term Debt | $ (439) | $ (0) | $ - | $ 88 | $ (88) | $ (439) |
| 19 | Total | $ (389) | $ 25 | $ (475) | $ (362) | $ (838) | $ (2,039) |
| | **Capital Structure (Note D)** | | | | | | |
| 20 | Capitalization | $ 24,064 | $ 25,040 | $ 26,131 | $ 26,507 | $ 28,009 | |
| | **Ratios** | | | | | | |
| 21 | Long-Term Debt | 48% | 48% | 48% | 47% | 48% | |
| 22 | Preferred Stock | 0% | 0% | 0% | 0% | 0% | |
| 23 | Common Stock | 52% | 52% | 52% | 53% | 52% | |

A The Company, the North Carolina Municipal Power Agency Number 1 (NCMPA), the North Carolina Electric Membership Corporation (NCEMC), and the Piedmont Municipal Power Agency (PMPA) are joint owners of the 2,258,000-kilowatt Catawba Nuclear Station. The Company currently owns 19.2% of the plant. The Company and the North Carolina Membership Corporation are joint owners of the 786,000-kilowatt Lee Combined Cycle Station. The Company currently owns 87.3% (686,000 kilowatts) of the Lee CC plant.

B Only the debt component of AFUDC is included in these costs.

C Includes current maturities related to long-term debt and the principal portions of payments on capitalized leases. Current maturities at year end are, $457 in 2019, $503 in 2020, $360 in 2021, $1,000 in 2022 and $1 in 2023.

D "Capitalization" and "Ratios" exclude short-term debt.

E "Other" includes earnings, net deferred taxes and investment tax credits and other miscellaneous items.

F Totals may not foot due to rounding

Page 1 of 126 pages previously filed in the docket
on 9/30/2019. ktm

**DUKE ENERGY CAROLINAS, LLC** **Item No. 39**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

A statement showing by cross-outs and italicized inserts all new rates and proposed changes in rates, charges, terms and conditions, and Service Rules and Regulations, as well as percentage increases (decreases) for each rate or charge, if not included in the application.
a. Include summary statements of new rates and proposed changes and reasons for each change.
b. Include all new rates, charges, terms, conditions and Service Rules and Regulations as well as changes in existing rates, charges, terms, conditions and Service Rules and Regulations.
c. Include workpapers showing derivation of rates by rate schedule. (May be combined with item 42c if desired)

**Response:**

39. Please see attached for 'E1 39 Percent Changes.pdf'.

E1 39 Percent Changes.pdf

39a. Please see attached for 'E1 39A Summary Statements.pdf'.

E1 39A Summary Statements.pdf

39b. Please see attached for 'E1 39B.pdf'.

E1 39B.pdf

39c. Please see attached for 'E1 39C Derivation of Rates.pdf'.

E1 39C Derivation of Rates.pdf

**DUKE ENERGY CAROLINAS, LLC** **Item No. 40**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

**[X] CONFIDENTIAL**

**[ ] NOT CONFIDENTIAL**

**<u>Request:</u>**

An estimate of marginal costs (customer, demand, and energy) for each rate schedule whenever marginal costs are used in the utility's rate design for any rate schedule.

**<u>Confidential Response:</u>**

Please see attached for file 'E1-40 Marginal Costs_Confidential.xlsx'.

E1-40 Marginal
Costs_Confidential.›

/A

Duke Energy Carolinas LLC | Confidential | E1 Item 40

Docket No. E-7 Sub 1214

Average Monthly Marginal Energy & Demand Costs

For the year ended December 31, 2018

[redacted]

**DUKE ENERGY CAROLINAS, LLC** **Item No. 41**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

A list of generation units completed or under construction during the test year. This list should include the capacity, actual or estimated total cost, type of fuel to be utilized, and the in-service or estimated completion date for each unit.

**Response:**

Please see attached file.

DEC Rate Case E1
41 Generation Units

/A

**DUKE ENERGY CAROLINAS, LLC** **Item No. 41**
**Docket No. E-7, Sub 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31,2018**

| Generation Unit: | Unit Type: | Fuel Type: | Nominal Capacity: | Total Project Cost | Commercial Operation Date |
|---|---|---|---|---|---|
| W.S. Lee | Combined Cycle | Natural Gas | 686 MW | $601.2M | 4/5/2018 |
| Woodleaf | Solar | Solar | 6.5 MW | $13.1M | 12/21/2018 |
| Clemson CHP | CHP | Steam | 13 MW | $58.6M (EST) | 12/1/2019 (EST) |
| Lincoln CT - Unit 17 | Combustion Turbine | Natural Gas | 402 MW | $172.5M (EST) | 10/1/2024 (EST) |

NOTE - The $ above for Lee are Duke's share, based on ownership share of 86.67%. Additionally, this balance is for the generation plant alone and does not include related transmission assets.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 42**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**
a. If not included in Item 45, file test year revenues from sale of electricity for each N.C. Retail rate schedule based on:
1. Per book revenues
2. Present rates annualized
3. Proposed rates annualized

For each rate schedule in 42a(1) through 42a(3) above, show separate amounts for: a. Basic rate revenues, b. Other revenues from sales of electricity (facilities charges, etc.)
b. If not shown separately in item 45, file test year operating revenues from sources other than sales of electricity based on:
1. Per book revenues
2. Present rate annualized
3. Proposed rates annualized

Show separate amounts for each operating revenue account included in 42b(l) through 42b(3) above.
c. Provide detailed workpapers showing the calculation of revenues for each N.C. retail rate schedule in 42a and 42b above. Where applicable, show the number of billing units used in the calculations, such as the kWh usage or the kW billing demand, as appropriate, in each rate block (May be combined with Item 39c if desired).

**Response:**
42a. Please see attached for 'E1 42A Present and Proposed Revenues.pdf'.

E1 42A Present and Proposed Revenues.

42b. Please see attached for 'E1 42B Other Rev_COS.pdf'.

E1 42B Other Rev_COS.pdf

42c. Please see attached for 'E1 42C Revenues by Rate Schedule.pdf'.

E1 42C Revenues by Rate Schedule.pdf

**Present and Proposed Revenues**
For the 12 Months Ended December 2018
Present Rate Schedule Effective 1/1/2019

| Line No. | Rate Schedule | Present [1] Revenues Annualized (a) | Proposed Revenues Annualized (b) | Increase (Decrease) in Revenue (c)=(b)-(a) | Percent Incr. (Decr) in Revenue (d)=(c)/(a) |
|---|---|---|---|---|---|
| 1 | RS | 1,284,911,226 | 1,432,520,624 | 147,609,397 | 11.5% |
| 2 | ES | 12,173,564 | 12,999,144 | 825,581 | 6.8% |
| 3 | **Rate RS-1** | **1,297,084,790** | **1,445,519,768** | **148,434,978** | **11.4%** |
| 4 | RE | 915,282,512 | 1,004,673,414 | 89,390,902 | 9.8% |
| 5 | ESA | 3,848,399 | 4,159,484 | 311,086 | 8.1% |
| 6 | **Rate RE-1** | **919,130,911** | **1,008,832,898** | **89,701,987** | **9.8%** |
| 7 | RT | 4,077,140 | 4,528,333 | 451,193 | 11.1% |
| 8 | **Residential (Rate RS)** | **2,220,292,841** | **2,458,880,999** | **238,588,159** | **10.7%** |
| 9 | BC | 2,534,095 | 2,722,042 | 187,947 | 7.4% |
| 10 | SGS | 455,242,733 | 489,744,273 | 34,501,540 | 7.6% |
| 11 | SGSCATV | 4,657,664 | 4,875,117 | 217,454 | 4.7% |
| 12 | LGS | 376,184,722 | 406,975,958 | 30,791,236 | 8.2% |
| 13 | **General (Non-TOU)** | **838,619,214** | **904,317,390** | **65,698,176** | **7.8%** |
| 14 | OPTVPL | 447,136,579 | 490,005,663 | 42,869,084 | 9.6% |
| 15 | OPTVPM | 36,647,733 | 39,789,275 | 3,141,542 | 8.6% |
| 16 | OPTVPS | 18,100,692 | 21,257,422 | 3,156,730 | 17.4% |
| 17 | OPTVSL | 150,883,995 | 166,276,856 | 15,392,861 | 10.2% |
| 18 | OPTVSM | 144,354,522 | 156,239,378 | 11,884,855 | 8.2% |
| 19 | OPTVSS | 486,363,623 | 530,075,223 | 43,711,600 | 9.0% |
| 20 | OPTVT | 58,450,884 | 62,993,260 | 4,542,377 | 7.8% |
| 21 | OPTEG | 1,023,151 | 1,112,058 | 88,907 | 8.7% |
| 22 | **OPT** | **1,342,961,179** | **1,467,749,136** | **124,787,957** | **9.3%** |
| 23 | PG | 45,198 | 47,608 | 2,410 | 5.3% |
| 24 | I | 146,840,106 | 155,165,923 | 8,325,817 | 5.7% |
| 25 | **I** | **146,885,304** | **155,213,531** | **8,328,227** | **5.7%** |
| 26 | PL | 27,263,723 | 32,232,944 | 4,969,220 | 18.2% |
| 27 | GL (now part of PL) | 2,953,173 | 3,423,672 | 470,499 | 15.9% |
| 28 | OL | 72,464,299 | 84,493,823 | 12,029,524 | 16.6% |
| 29 | FL (now part of OL, PL) | 15,608,277 | 18,771,346 | 3,163,069 | 20.3% |
| 30 | S | 3,100 | 3,798 | 698 | 22.5% |
| 31 | NL | 14,755 | 20,603 | 5,848 | 39.6% |
| 32 | TS | 1,706,335 | 2,161,810 | 455,476 | 26.7% |
| 33 | **Lighting** | **120,013,662** | **141,107,996** | **21,094,334** | **17.6%** |
| 34 | **Total Retail** | **4,668,772,199** | **5,127,269,052** | **458,496,853** | **9.8%** |

| | | |
|---|---|---|
| 35 | Migration Savings Adjustment Included in Proposed Revenues | -$3,366,000 |
| 36 | **Retail Sales without Migrations Savings Adjustment ('000s)** | **$5,123,903** |
| 37 | **Proposed Revenue ('000s)** | $5,123,903 |
| 38 | Variance | $0 |

**Notes:**

[1]**Annualized Present Revenues include :**
Test year sales priced at current base rates
+ Adjustments to account for previous base rates effective through July 2018 (present rates - previous rates multiplied by Jan-Jul 2018 billing units)
+ Fuel Cost Adjustment Rider effective 9/1/19 at proposed base fuel (exclusive of EMF and Reg Fee)
+ Spread Factor (adjustment of Estimated Per Book to Reported Revenue)

Item 42B is included in E-1 Item 45 Cost of Service Study.

**North Carolina Present and Proposed Revenue**
**Schedule RS**

**12 Months Ended December 2018**

Increase %: 13.24%
Final KWh Increase: 0

| RS | Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | Present Rates with Base Rate Rider Adjustments | Proposed Rate (RS) | Proposed Revenue for RS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | 11.80 | 7,644,506 | 14.00 | 12,165,244 | -16,817,912 | 170,313,416 | | | 14.00 | 14.00 | 170,313,416 |
| 3 | | | | | | | | | | | | |
| 4 | **Energy Charges** | | | | | | | | | | | |
| 5 | **July-October** | | | | | | | | | | | |
| 6 | First 350 kwh | 0.093457 | 521,692,494 | 0.087179 | 1,359,597,902 | 3,275,185 | 118,528,386 | | | 0.087477 | 0.099059 | 134,680,409 |
| 7 | First 350 kwh SSI | 0.086337 | 2,976,318 | 0.078829 | 5,987,485 | 22,346 | 471,987 | | | 0.079127 | 0.089761 | 537,443 |
| 8 | All over 350 kwh | 0.093457 | 1,555,293,334 | 0.087179 | 3,620,297,775 | 9,764,132 | 315,613,940 | | | 0.087477 | 0.099059 | 358,623,077 |
| 9 | **November-June** | | | | | | | | | | | |
| 10 | First 350 kwh | 0.093457 | 1,957,694,025 | 0.087179 | 2,592,573,954 | 12,290,403 | 226,018,005 | | | 0.087477 | 0.099059 | 256,817,783 |
| 11 | First 350 kwh SSI | 0.086337 | 8,701,689 | 0.078829 | 11,553,617 | 65,332 | 910,760 | | | 0.079127 | 0.089761 | 1,037,064 |
| 12 | All over 350 kwh | 0.093457 | 4,029,742,730 | 0.087179 | 5,180,069,224 | 25,298,725 | 451,593,255 | | | 0.087477 | 0.099059 | 513,132,477 |
| 13 | | | | | | | | | | | | |
| 14 | Present Revenue from Billing Units and Present Rates | | | | | 33,898,211 | 1,283,449,748 | | | | | 1,435,141,669 |
| 15 | Revenue adjusted for Spread Factor | | | | | | 1,281,105,743 | | | | | 1,432,520,624 |
| 16 | | | | | | | | | | | | |
| 17 | add adjustments to base rate | | | | | | | Row | Col | | | |
| 18 | Adjustment to Base Fuel | | | 0.000298 | 12,770,079,957 | | 3,805,484 | 1 | 4 RS, RST,ES(standard) | | | |
| 19 | | | | 0.000000 | 12,770,079,957 | | 0 | 2 | 4 RS, RST,ES(standard) | | | |
| 20 | | | | 0.000298 | | | | | | | | |
| 21 | Annualized Present Revenue | | | | | | $ 1,284,911,226 | | | | | |
| 22 | | | | | | | | | | | | |
| 23 | REPS | | | 0.07 | 12,165,244 | | 851,567 | 5 | 4 RS, RST,ES(standard) | | | |
| 24 | BPM Prospective Rider | | | -0.000078 | 12,770,079,957 | | (996,066) | 6 | 4 RS, RST,ES(standard) | | | |
| 25 | BPM True-Up Rider | | | 0.000067 | 12,770,079,957 | | 855,595 | 7 | 4 RS, RST,ES(standard) | | | |
| 26 | EDIT-1 | | | -0.001049 | 12,770,079,957 | | (13,395,814) | 8 | 4 RS, RST,ES(standard) | | | |
| 27 | Energy Efficiency Rider | | | 0.005320 | 12,770,079,957 | | 67,936,825 | 9 | 4 RS, RST,ES(standard) | | | |
| 28 | Existing DSM Program Costs Adjustment | | | -0.000055 | 12,770,079,957 | | (702,354) | 10 | 4 RS, RST,ES(standard) | | | |
| 29 | Job Retention Recovery Rider | | | 0.000410 | 12,770,079,957 | | 5,235,733 | 11 | 4 RS, RST,ES(standard) | | | |
| 30 | | | | | | | 59,785,486 | | | | | |
| 31 | Total Riders $/kWh and $/bill (REPS) | | | 0.074913 | | | | | | | | |
| 32 | | | | | | | | | | | | |
| 33 | Proposed Revenue Adjusted for Spread Factor | | | | | | | | | | | $ 1,432,520,624 |
| 34 | Revenue Increase (Decrease) | | | | | | | | | | | $ 147,609,397 |
| 35 | Percent Revenue Increase (Decrease) | | | | | | | | | | | 11.49% |
| 36 | Total Bills | | | | 12,165,244 | | | | | | | |
| 37 | Total KWH | | | | 12,770,079,957 | | | | | | | |
| 38 | Per Book kWh | | | | 12,770,077,451 | | | | | | | |
| 39 | kWh Variance | | | | 2,506 | | | | | | | |
| 40 | | | | | | | | | | | | |
| 41 | **Spread Factor Calculation** | | | | | | | | | | | |
| 42 | Unadjusted Present Revenue | | | | | | $ 1,283,449,748 | | | | | |
| 43 | add booked riders including REPS and DSM credits | | | | | | $ 16,200,352 | | | | | |
| 44 | add Price Variance due to billing units on 1/1/2018 rates | | | | | | $ 33,898,211 | | | | | |
| 45 | add Price Variance due to billing units on 8/1/2018 rates | | | -0.000047 | 4,693,979,367 | | $ 220,617 | | | | | |
| 46 | Equals estimated booked revenue (base rates) | | | | | | $ 1,333,768,929 | | | | | |
| 47 | Reported Booked Revenue | | | | | | $ 1,331,333,023 | | | | | |
| 48 | | | | | | | | | | | | |
| 49 | Spread Factor (Reported to Estimated) | | | | | | **0.9982** | | | | | |
| 50 | | | | | | | | | | | | |
| 51 | **Notes** | | | | | | | | | | | |
| 52 | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue**
**Schedule RE**

**12 Months Ended December 2018**

Increase %: 11.27%
Final KWh Increase: 0

| RE | Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | Present Rates with Base Rate Rider Adjustments | Proposed Rate (RE) | Proposed Revenue for RE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | 11.80 | 5,478,955 | 14.00 | 8,730,390 | -12,053,702 | 122,225,460 | | | 14.00 | 14.00 | 122,225,460 |
| 3 | | | | | | | | | | | | |
| 4 | **Energy Charges** | | | | | | | | | | | |
| 5 | **July-October** | | | | | | | | | | | |
| 6 | First 350 kwh | 0.093457 | 373,831,557 | 0.085808 | 974,373,223 | 2,859,438 | 83,609,018 | | | 0.086106 | 0.095807 | 93,351,775 |
| 7 | First 350 kwh SSI | 0.086337 | 2,386,350 | 0.077637 | 4,819,206 | 20,761 | 374,149 | | | 0.077935 | 0.086838 | 418,490 |
| 8 | All over 350 kwh | 0.093457 | 863,300,176 | 0.085808 | 2,064,073,447 | 6,603,383 | 177,114,014 | | | 0.086106 | 0.095807 | 197,752,685 |
| 9 | **November-June** | | | | | | | | | | | |
| 10 | First 350 kwh | 0.093457 | 1,432,513,170 | 0.085808 | 1,900,329,457 | 10,957,293 | 163,063,470 | | | 0.086106 | 0.095807 | 182,064,864 |
| 11 | First 350 kwh SSI | 0.086337 | 6,974,830 | 0.077637 | 9,343,020 | 60,681 | 725,364 | | | 0.077935 | 0.086838 | 811,329 |
| 12 | All over 350 kwh | 0.083819 | 3,724,594,428 | 0.076361 | 4,827,740,127 | 27,778,025 | 368,651,064 | | | 0.076659 | 0.085296 | 411,786,922 |
| 13 | | | | | | | | | | | | |
| 14 | Present Revenue from Billing Units and Present Rates | | | | | 36,225,880 | 915,762,539 | | | | | 1,008,411,526 |
| 15 | Revenue adjusted for Spread Factor | | | | | | 912,367,870 | | | | | 1,004,673,414 |
| 16 | | | | | | | | | | | | |
| 17 | add adjustments to base rate | | | | | | | Row | Col | | | |
| 18 | Adjustment to Base Fuel | | | 0.000298 | 9,780,678,480 | | 2,914,642 | 1 | 5 RE, RET,ES(all-elec) | | | |
| 19 | | | | 0.000000 | 9,780,678,480 | | 0 | 2 | 5 RE, RET,ES(all-elec) | | | |
| 20 | | | | 0.000298 | | | | | | | | |
| 21 | Annualized Present Revenue | | | | | | $ 915,282,512 | | | | | |
| 22 | | | | | | | | | | | | |
| 23 | REPS | | | 0.07 | 8,730,390 | | 611,127 | 5 | 5 RE, RET,ES(all-elec) | | | |
| 24 | BPM Prospective Rider | | | -0.000078 | 9,780,678,480 | | (762,893) | 6 | 5 RE, RET,ES(all-elec) | | | |
| 25 | BPM True-Up Rider | | | 0.000067 | 9,780,678,480 | | 655,305 | 7 | 5 RE, RET,ES(all-elec) | | | |
| 26 | EDIT-1 | | | -0.001049 | 9,780,678,480 | | (10,259,932) | 8 | 5 RE, RET,ES(all-elec) | | | |
| 27 | Energy Efficiency Rider | | | 0.005320 | 9,780,678,480 | | 52,033,210 | 9 | 5 RE, RET,ES(all-elec) | | | |
| 28 | Existing DSM Program Costs Adjustment | | | -0.000055 | 9,780,678,480 | | (537,937) | 10 | 5 RE, RET,ES(all-elec) | | | |
| 29 | Job Retention Recovery Rider | | | 0.000410 | 9,780,678,480 | | 4,010,078 | 11 | 5 RE, RET,ES(all-elec) | | | |
| 30 | | | | | | | 45,748,958 | | | | | |
| 31 | Total Riders $/kWh and $/bill (REPS) | | | 0.074913 | | | | | | | | |
| 32 | | | | | | | | | | | | |
| 33 | Proposed Revenue Adjusted for Spread Factor | | | | | | | | | | | $ 1,004,673,414 |
| 34 | Revenue Increase (Decrease) | | | | | | | | | | | $ 89,390,902 |
| 35 | Percent Revenue Increase (Decrease) | | | | | | | | | | | 9.77% |
| 36 | Total Bills | | | | 8,730,390 | | | | | | | |
| 37 | Total KWH | | | | 9,780,678,480 | | | | | | | |
| 38 | Per Book kWh | | | | 9,780,681,958 | | | | | | | |
| 39 | kWh Variance | | | | -3,478 | | | | | | | |
| 40 | | | | | | | | | | | | |
| 41 | **Spread Factor Calculation** | | | | | | | | | | | |
| 42 | Unadjusted Present Revenue | | | | | | $ 915,762,539 | | | | | |
| 43 | add booked riders including REPS and DSM credits | | | | | | $ 10,820,635 | | | | | |
| 44 | add Price Variance due to billing units on 1/1/2018 rates | | | | | | $ 36,225,880 | | | | | |
| 45 | add Price Variance due to billing units on 8/1/2018 rates | | | -0.000047 | 3,377,077,969 | | $ 158,723 | | | | | |
| 46 | Equals estimated booked revenue (base rates) | | | | | | $ 962,967,776 | | | | | |
| 47 | Reported Booked Revenue | | | | | | $ 959,398,121 | | | | | |
| 48 | | | | | | | | | | | | |
| 49 | Spread Factor (Reported to Estimated) | | | | | | **0.9963** | | | | | |
| 50 | | | | | | | | | | | | |
| 51 | **Notes** | | | | | | | | | | | |
| 52 | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue**
**Schedule ES**

**12 Months Ended December 2018**

| ES | Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | | Present Rates with Base Rate Rider Adjustments | Proposed Rate (ES) | Proposed Revenue for ES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | 11.80 | 64,730 | 14.00 | 104,061 | -142,407 | 1,456,854 | | | | 14.00 | 14.00 | 1,456,854 |
| 3 | | | | | | | | | | | | | |
| 4 | **Energy Charges** | | | | | | | | | | | | |
| 5 | **July-October** | | | | | | | | | | | | |
| 6 | First 350 kwh | 0.093457 | 4,742,691 | 0.091837 | 12,279,204 | 7,683 | 1,127,685 | | | | 0.092135 | 0.099059 | 1,216,366 |
| 7 | All over 350 kwh | 0.088855 | 15,660,849 | 0.087010 | 37,233,277 | 28,894 | 3,239,667 | | | | 0.087308 | 0.094106 | 3,503,875 |
| 8 | **November-June** | | | | | | | | | | | | |
| 9 | First 350 kwh | 0.093457 | 17,474,593 | 0.091837 | 23,454,950 | 28,309 | 2,154,032 | | | | 0.092135 | 0.099059 | 2,323,424 |
| 10 | All over 350 kwh | 0.088855 | 37,306,400 | 0.087010 | 47,937,880 | 68,830 | 4,171,075 | | | | 0.087308 | 0.094106 | 4,511,242 |
| 11 | | | | | | | | | | | | | |
| 12 | Present Revenue from Billing Units and Present Rates | | | | | -8,690 | 12,149,314 | | | | | | 13,011,760 |
| 13 | Revenue adjusted for Spread Factor | | | | | | 12,137,534 | | | | | | 12,999,144 |
| 14 | | | | | | | | | | | | | |
| 15 | add adjustments to base rate | | | | | | | Row | Col | | | | |
| 16 | Adjustment to Base Fuel | | | 0.000298 | 120,905,311 | | 36,030 | 1 | 4 | RS, RST,ES(standard) | | | |
| 17 | | | | 0.000000 | 120,905,311 | | 0 | 2 | 4 | RS, RST,ES(standard) | | | |
| 18 | | | | 0.000298 | | | | | | | | ` | |
| 19 | Annualized Present Revenue | | | | | | $ 12,173,564 | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | REPS | | | 0.07 | 104,061 | | 7,284 | 5 | 4 | RS, RST,ES(standard) | | | |
| 22 | BPM Prospective Rider | | | -0.000078 | 120,905,311 | | (9,431) | 6 | 4 | RS, RST,ES(standard) | | | |
| 23 | BPM True-Up Rider | | | 0.000067 | 120,905,311 | | 8,101 | 7 | 4 | RS, RST,ES(standard) | | | |
| 24 | EDIT-1 | | | -0.001049 | 120,905,311 | | (126,830) | 8 | 4 | RS, RST,ES(standard) | | | |
| 25 | Energy Efficiency Rider | | | 0.005320 | 120,905,311 | | 643,216 | 9 | 4 | RS, RST,ES(standard) | | | |
| 26 | Existing DSM Program Costs Adjustment | | | -0.000055 | 120,905,311 | | (6,650) | 10 | 4 | RS, RST,ES(standard) | | | |
| 27 | Job Retention Recovery Rider | | | 0.000410 | 120,905,311 | | 49,571 | 11 | 4 | RS, RST,ES(standard) | | | |
| 28 | | | | | | | 565,262 | | | | | | |
| 29 | Total Riders $/kWh and $/bill (REPS) | | | 0.074913 | | | | | | | | | |
| 30 | | | | | | | | | | | | | |
| 31 | Proposed Revenue Adjusted for Spread Factor | | | | | | | | | | | | $ 12,999,144 |
| 32 | Revenue Increase (Decrease) | | | | | | | | | | | | $ 825,581 |
| 33 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | 6.78% |
| 34 | Total Bills | | | | 104,061 | | | | | | | | |
| 35 | Total KWH | | | | 120,905,311 | | | | | | | | |
| 36 | Per Book kWh | | | | 120,905,311 | | | | | | | | |
| 37 | kWh Variance | | | | - | | | | | | | | |
| 38 | | | | | | | | | | | | | |
| 39 | **Spread Factor Calculation** | | | | | | | | | | | | |
| 40 | Unadjusted Present Revenue | | | | | | $ 12,149,314 | | | | | | |
| 41 | add booked riders including REPS and DSM credits | | | | | | $ 154,147 | | | | | | |
| 42 | add Price Variance due to billing units on 1/1/2018 rates | | | | | | $ (8,690) | | | | | | |
| 43 | add Price Variance due to billing units on 8/1/2018 rates | | | -0.000047 | 45,720,779 | | $ 2,149 | | | | | | |
| 44 | Equals estimated booked revenue (base rates) | | | | | | $ 12,296,919 | | | | | | |
| 45 | Reported Booked Revenue | | | | | | $ 12,284,996 | | | | | | |
| 46 | | | | | | | | | | | | | |
| 47 | Spread Factor (Reported to Estimated) | | | | | | **0.9990** | | | | | | |
| 48 | | | | | | | | | | | | | |
| 49 | **Notes** | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue**
**Schedule ESA**

**12 Months Ended December 2018**

| ESA | Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | Present Rates with Base Rate Rider Adjustments | Proposed Rate (ESA) | Proposed Revenue for ESA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | 11.80 | 24,022 | 14.00 | 37,909 | -52,849 | 530,726 | | | 14.00 | 14.00 | 530,726 |
| 3 | | | | | | | | | | | | |
| 4 | **Energy Charges** | | | | | | | | | | | |
| 5 | **July-October** | | | | | | | | | | | |
| 6 | First 350 kwh | 0.093457 | 1,738,855 | 0.091837 | 4,340,244 | 2,817 | 398,595 | | | 0.092135 | 0.095807 | 415,826 |
| 7 | All over 350 kwh | 0.088855 | 3,798,052 | 0.087010 | 9,018,141 | 7,007 | 784,668 | | | 0.087308 | 0.091017 | 820,801 |
| 8 | **November-June** | | | | | | | | | | | |
| 9 | First 350 kwh | 0.093457 | 6,423,271 | 0.091837 | 8,528,142 | 10,406 | 783,199 | | | 0.092135 | 0.095807 | 817,056 |
| 10 | All over 350 kwh | 0.078759 | 15,355,895 | 0.068909 | 19,537,539 | 151,256 | 1,346,312 | | | 0.069207 | 0.081031 | 1,583,150 |
| 11 | | | | | | | | | | | | |
| 12 | Present Revenue from Billing Units and Present Rates | | | | | 118,636 | 3,843,501 | | | | | 4,167,559 |
| 13 | Revenue adjusted for Spread Factor | | | | | | 3,836,054 | | | | | 4,159,484 |
| 14 | | | | | | | | | | | | |
| 15 | add adjustments to base rate | | | | | | | Row | Col | | | |
| 16 | Adjustment to Base Fuel | | | 0.000298 | 41,424,066 | | 12,344 | 1 | 5 RE, RET,ES(all-elec) | | | |
| 17 | | | | 0.000000 | 41,424,066 | | 0 | 2 | 5 RE, RET,ES(all-elec) | | | |
| 18 | | | | 0.000298 | | | | | | | | |
| 19 | Annualized Present Revenue | | | | | | $ 3,848,399 | | | | | |
| 20 | | | | | | | | | | | | |
| 21 | REPS | | | 0.07 | 37,909 | | 2,654 | 5 | 5 RE, RET,ES(all-elec) | | | |
| 22 | BPM Prospective Rider | | | -0.000078 | 41,424,066 | | (3,231) | 6 | 5 RE, RET,ES(all-elec) | | | |
| 23 | BPM True-Up Rider | | | 0.000067 | 41,424,066 | | 2,775 | 7 | 5 RE, RET,ES(all-elec) | | | |
| 24 | EDIT-1 | | | -0.001049 | 41,424,066 | | (43,454) | 8 | 5 RE, RET,ES(all-elec) | | | |
| 25 | Energy Efficiency Rider | | | 0.005320 | 41,424,066 | | 220,376 | 9 | 5 RE, RET,ES(all-elec) | | | |
| 26 | Existing DSM Program Costs Adjustment | | | -0.000055 | 41,424,066 | | (2,278) | 10 | 5 RE, RET,ES(all-elec) | | | |
| 27 | Job Retention Recovery Rider | | | 0.000410 | 41,424,066 | | 16,984 | 11 | 5 RE, RET,ES(all-elec) | | | |
| 28 | | | | | | | 193,826 | | | | | |
| 29 | Total Riders $/kWh and $/bill (REPS) | | | 0.074913 | | | | | | | | |
| 30 | | | | | | | | | | | | |
| 31 | Proposed Revenue Adjusted for Spread Factor | | | | | | | | | | | $ 4,159,484 |
| 32 | Revenue Increase (Decrease) | | | | | | | | | | | $ 311,086 |
| 33 | Percent Revenue Increase (Decrease) | | | | | | | | | | | 8.08% |
| 34 | Total Bills | | | | 37,909 | | | | | | | |
| 35 | Total KWH | | | | 41,424,066 | | | | | | | |
| 36 | Per Book kWh | | | | 41,424,066 | | | | | | | |
| 37 | kWh Variance | | | | - | | | | | | | |
| 38 | | | | | | | | | | | | |
| 39 | **Spread Factor Calculation** | | | | | | | | | | | |
| 40 | Unadjusted Present Revenue | | | | | | $ 3,843,501 | | | | | |
| 41 | add booked riders including REPS and DSM credits | | | | | | $ 45,383 | | | | | |
| 42 | add Price Variance due to billing units on 1/1/2018 rates | | | | | | $ 118,636 | | | | | |
| 43 | add Price Variance due to billing units on 8/1/2018 rates | | | -0.000047 | 14,107,993 | | $ 663 | | | | | |
| 44 | Equals estimated booked revenue (base rates) | | | | | | $ 4,008,183 | | | | | |
| 45 | Reported Booked Revenue | | | | | | $ 4,000,418 | | | | | |
| 46 | | | | | | | | | | | | |
| 47 | Spread Factor (Reported to Estimated) | | | | | | **0.9981** | | | | | |
| 48 | | | | | | | | | | | | |
| 49 | **Notes** | | | | | | | | | | | |
| 50 | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue**
**Schedule RT**

**12 Months Ended December 2018**

Increase %: 12.42%
Demand % of Revenue: 26.50%

| RT | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | Proposed Rate (RT) | Proposed Revenue for RT |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | |
| 2 | **Basic Facilities Charge** | 14.00 | 23,459 | -9,101 | 328,426 | | | 14.00 | 328,426 |
| 3 | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | |
| 5 | **On Peak Demand Charge** | | | | | | | | |
| 6 | Summer | 7.83 | 69,419 | -2,130 | 543,550 | | | 7.92 | 549,797 |
| 7 | Winter | 3.92 | 136,933 | -3,820 | 536,776 | | | 4.75 | 650,430 |
| 8 | | | | | | Winter: | | 60% | of Summer |
| 9 | **Energy Charges** | | | | | | | | |
| 10 | On-Peak | 0.063399 | 8,846,883 | 31,695 | 560,884 | | | 0.071605 | 633,481 |
| 11 | Off-Peak | 0.050989 | 41,087,890 | 153,523 | 2,095,030 | | | 0.057654 | 2,368,881 |
| 12 | | | | | | | | | |
| 13 | Present Revenue from Billing Units and Present Rates | | | 170,167 | 4,064,666 | | | | 4,531,016 |
| 14 | Revenue adjusted for Spread Factor | | | | 4,062,259 | | | | 4,528,333 |
| 15 | | | | | | | | | |
| 16 | add adjustments to base rate | | | | | Row | Col | | |
| 17 | Adjustment to Base Fuel | 0.000298 | 49,934,773 | | 14,881 | 1 | 6 RT | | |
| 18 | | 0.000000 | 49,934,773 | | 0 | 2 | 6 RT | | |
| 19 | | 0.000298 | | | | | | | |
| 20 | Annualized Present Revenue | | | | $ 4,077,140 | | | | |
| 21 | | | | | | | | | |
| 22 | REPS | 0.07 | 23,459 | | 1,642 | 5 | 6 RT | | |
| 23 | BPM Prospective Rider | -0.000078 | 49,934,773 | | (3,895) | 6 | 6 RT | | |
| 24 | BPM True-Up Rider | 0.000067 | 49,934,773 | | 3,346 | 7 | 6 RT | | |
| 25 | EDIT-1 | -0.001049 | 49,934,773 | | (52,382) | 8 | 6 RT | | |
| 26 | Energy Efficiency Rider | 0.005320 | 49,934,773 | | 265,653 | 9 | 6 RT | | |
| 27 | Existing DSM Program Costs Adjustment | -0.000055 | 49,934,773 | | (2,746) | 10 | 6 RT | | |
| 28 | Job Retention Recovery Rider | 0.000410 | 49,934,773 | | 20,473 | 11 | 6 RT | | |
| 29 | | | | | 232,091 | | | | |
| 30 | Total Riders $/kWh and $/bill (REPS) | 0.074913 | | | | | | | |
| 31 | | | | | | | | | |
| 32 | Proposed Revenue Adjusted for Spread Factor | | | | | | | | $ 4,528,333 |
| 33 | Revenue Increase (Decrease) | | | | | | | | $ 451,193 |
| 34 | Percent Revenue Increase (Decrease) | | | | | | | | 11.07% |
| 35 | Total Bills | | 23,459 | | | | | | |
| 36 | Total KWH | | 49,934,773 | | | | | | |
| 37 | Per Book kWh | | 49,940,125 | | | | | | |
| 38 | kWh Variance | | (5,352) | | | | | | |
| 39 | | | | | | | | | |
| 40 | **Spread Factor Calculation** | | | | | | | | |
| 41 | Unadjusted Present Revenue | | | | $ 4,064,666 | | | | |
| 42 | add booked riders including REPS and DSM credits | | | | $ 47,109 | | | | |
| 43 | add Price Variance due to billing units on 1/1/2018 rates | | | | $ 170,167 | | | | |
| 44 | add Price Variance due to billing units on 8/1/2018 rates | -0.000047 | 17,912,458 | | $ 842 | | | | |
| 45 | Estimated Booked Revenue (Base Rates) | | | | $ 4,282,784 | | | | |
| 46 | Reported Booked Revenue | | | | $ 4,280,248 | | | | |
| 47 | | | | | | | | | |
| 48 | Spread Factor (Reported to Estimated) | | | | **0.9994** | | | | |
| 49 | | | | | | | | | |
| 50 | **Notes** | | | | | | | | |
| 51 | | | | | | | | | |
| 52 | | | | | | | | | |

**North Carolina Present and Proposed Revenue**
**Schedule RTRS**

**12 Months Ended December 2018**

| RTRS | Billing Determinants | | Previous Rate as of 1/1/2018 | Present Rate Effective 1/1/2019 | Test Year Billing Units | Billing Unit Revenue | Present Revenue | Row | Col | Proposed Rate (RTRS) | Proposed Revenue for RTRS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | | 13.38 | 14.00 | 13,839 | 193,746 | 193,746 | | | 14.00 | 193,746 |
| 3 | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | |
| 5 | **On Peak Demand Charge** | | | | | | | | | | |
| 6 | | Summer | 7.77 | 7.83 | 42,223 | 330,607 | 330,607 | | | 7.92 | 334,407 |
| 7 | | Winter | 3.88 | 3.92 | 73,270 | 287,220 | 287,220 | | | 4.75 | 348,035 |
| 8 | **Energy Charges** | | | | | | | | | | |
| 9 | | On-Peak | 0.069159 | 0.063399 | 5,218,238 | 330,831 | 330,831 | | | 0.071605 | 373,652 |
| 10 | | Off-Peak | 0.056778 | 0.050989 | 24,221,505 | 1,235,030 | 1,235,030 | | | 0.057654 | 1,396,467 |
| 11 | | | | | | | | | | | |
| 12 | Present Revenue from Billing Units and Present Rates | | | | | 2,377,435 | 2,377,435 | | | | 2,646,306 |
| 13 | Revenue adjusted for Spread Factor | | | | | | 2,376,027 | | | | 2,644,740 |
| 14 | | | | | | | | | | | |
| 15 | add adjustments to base rate | | | | | | | Row | Col | | |
| 16 | Adjustment to Base Fuel | | | 0.000298 | 29,439,743 | | 8,773 | 1 | 6 RT | | |
| 17 | | | | 0.000000 | 29,439,743 | | 0 | 2 | 6 RT | | |
| 18 | | | | 0.000298 | | | | | | | |
| 19 | Annualized Present Revenue | | | | | | $ 2,384,800 | | | | |
| 20 | | | | | | | | | | | |
| 21 | REPS | | | 0.07 | 13,839 | | 969 | 5 | 6 RT | | |
| 22 | BPM Prospective Rider | | | -0.000078 | 29,439,743 | | (2,296) | 6 | 6 RT | | |
| 23 | BPM True-Up Rider | | | 0.000067 | 29,439,743 | | 1,972 | 7 | 6 RT | | |
| 24 | EDIT-1 | | | -0.001049 | 29,439,743 | | (30,882) | 8 | 6 RT | | |
| 25 | Energy Efficiency Rider | | | 0.005320 | 29,439,743 | | 156,619 | 9 | 6 RT | | |
| 26 | Existing DSM Program Costs Adjustment | | | -0.000055 | 29,439,743 | | (1,619) | 10 | 6 RT | | |
| 27 | Job Retention Recovery Rider | | | 0.000410 | 29,439,743 | | 12,070 | 11 | 6 RT | | |
| 28 | | | | | | | 136,833 | | | | |
| 29 | Total Riders $/kWh and $/bill (REPS) | | | 0.074913 | | | | | | | |
| 30 | | | | | | | | | | | |
| 31 | Proposed Revenue Adjusted for Spread Factor | | | | | | | | | | $ 2,644,740 |
| 32 | Revenue Increase (Decrease) | | | | | | | | | | $ 259,940 |
| 33 | Percent Revenue Increase (Decrease) | | | | | | | | | | 10.90% |
| 34 | Total Bills | | | | 13,839 | | | | | | |
| 35 | Total KWH | | | | 29,439,743 | | | | | | |
| 36 | Per Book kWh | | | | 29,439,743 | | | | | | |
| 37 | kWh Variance | | | | - | | | | | | |
| 38 | | | | | | | | | | | |
| 39 | **Notes** | | | | | | | | | | |
| 40 | * Spread Factor and Revenues calculated in RT | | | | | | | | | | |
| 41 | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue**
**Schedule RTRE**

**12 Months Ended December 2018**

| RTRE | Billing Determinants | Previous Rate as of 1/1/2018 | Present Rate Effective 1/1/2019 | Test Year Billing Units | Billing Unit Revenue | Present Revenue | Row | Col | Proposed Rate (RTRE) | Proposed Revenue for RTRE |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | 13.38 | 14.00 | 9,620 | 134,680 | 134,680 | | | 14.00 | 134,680 |
| 3 | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | |
| 5 | **On Peak Demand Charge** | | | | | | | | | |
| 6 | Summer | 7.77 | 7.83 | 27,196 | 212,943 | 212,943 | | | 7.92 | 215,390 |
| 7 | Winter | 3.88 | 3.92 | 63,662 | 249,556 | 249,556 | | | 4.75 | 302,395 |
| 8 | **Energy Charges** | | | | | | | | | |
| 9 | On-Peak | 0.069159 | 0.063399 | 3,628,645 | 230,052 | 230,052 | | | 0.071605 | 259,829 |
| 10 | Off-Peak | 0.056778 | 0.050989 | 16,866,385 | 860,000 | 860,000 | | | 0.057654 | 972,415 |
| 11 | | | | | | | | | | |
| 12 | Present Revenue from Billing Units and Present Rates | | | | 1,687,231 | 1,687,231 | | | | 1,884,709 |
| 13 | Revenue adjusted for Spread Factor | | | | | 1,686,232 | | | | 1,883,594 |
| 14 | | | | | | | | | | |
| 15 | add adjustments to base rate | | | | | | Row | Col | | |
| 16 | Adjustment to Base Fuel | | 0.000298 | 20,495,030 | | 6,108 | 1 | 6 RT | | |
| 17 | | | 0.000000 | 20,495,030 | | 0 | 2 | 6 RT | | |
| 18 | | | 0.000298 | | | | | | | |
| 19 | Annualized Present Revenue | | | | | $ 1,692,340 | | | | |
| 20 | | | | | | | | | | |
| 21 | REPS | | 0.07 | 9,620 | | 673 | 5 | 6 RT | | |
| 22 | BPM Prospective Rider | | -0.000078 | 20,495,030 | | (1,599) | 6 | 6 RT | | |
| 23 | BPM True-Up Rider | | 0.000067 | 20,495,030 | | 1,373 | 7 | 6 RT | | |
| 24 | EDIT-1 | | -0.001049 | 20,495,030 | | (21,499) | 8 | 6 RT | | |
| 25 | Energy Efficiency Rider | | 0.005320 | 20,495,030 | | 109,034 | 9 | 6 RT | | |
| 26 | Existing DSM Program Costs Adjustment | | -0.000055 | 20,495,030 | | (1,127) | 10 | 6 RT | | |
| 27 | Job Retention Recovery Rider | | 0.000410 | 20,495,030 | | 8,403 | 11 | 6 RT | | |
| 28 | | | | | | 95,258 | | | | |
| 29 | Total Riders $/kWh and $/bill (REPS) | | 0.074913 | | | | | | | |
| 30 | | | | | | | | | | |
| 31 | Proposed Revenue Adjusted for Spread Factor | | | | | | | | | $ 1,883,594 |
| 32 | Revenue Increase (Decrease) | | | | | | | | | $ 191,254 |
| 33 | Percent Revenue Increase (Decrease) | | | | | | | | | 11.30% |
| 34 | Total Bills | | | 9,620 | | | | | | |
| 35 | Total KWH | | | 20,495,030 | | | | | | |
| 36 | Per Book kWh | | | 20,500,382 | | | | | | |
| 37 | kWh Variance | | | 5,352 | | | | | | |
| 38 | | | | | | | | | | |
| 39 | **Notes** | | | | | | | | | |
| 40 | * Spread Factor and Revenues calculated in RT | | | | | | | | | |
| 41 | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** | **12 Months Ended December 2018** | Increase %: 8.56%

**Schedule SGS** | Final KWh Increase: 0

| SGS | Billing Determinants | | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units (No CATV) | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | Present Rates with Base Rate Rider Adjustments | Proposed Rate (SGS) | Proposed Revenue for SGS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | | 19.39 | 1,698,448 | 19.39 | 2,700,602 | 0 | 52,364,673 | | | 19.39 | 19.39 | 52,364,673 |
| 3 | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | |
| 5 | | Over 30KW | 3.8614 | 1,639,487 | 3.7616 | 2,428,146 | 163,621 | 9,133,714 | | | 3.7616 | 4.0835 | 9,915,334 |
| 6 | **Energy Charges** | | | | | | | | | | | | |
| 7 | First 125 kwh per KW | | | | | | | | | | | | |
| 8 | | First 3000 kwh | 0.115998 | 1,667,271,585 | 0.108663 | 2,641,967,979 | 12,229,437 | 287,084,167 | | | 0.109061 | 0.118395 | 312,795,799 |
| 9 | | Next 6000 kwh | 0.071113 | 319,073,742 | 0.064938 | 503,775,157 | 1,970,280 | 32,714,151 | | | 0.065336 | 0.070927 | 35,731,261 |
| 10 | | Over 9000 kwh | 0.070652 | 12,537,983 | 0.064489 | 19,500,264 | 77,272 | 1,257,553 | | | 0.064887 | 0.070440 | 1,373,599 |
| 11 | Next 275 kwh per KW | | | | | | | | | | | | |
| 12 | | First 3000 kwh | 0.066275 | 419,356,396 | 0.060225 | 665,845,286 | 2,537,106 | 40,100,532 | | | 0.060623 | 0.065811 | 43,819,944 |
| 13 | | Next 6000 kwh | 0.058388 | 298,323,846 | 0.052542 | 476,135,052 | 1,744,001 | 25,017,088 | | | 0.052940 | 0.057471 | 27,363,958 |
| 14 | | Over 9000 kwh | 0.056072 | 78,716,246 | 0.050286 | 126,498,104 | 455,452 | 6,361,084 | | | 0.050684 | 0.055022 | 6,960,179 |
| 15 | Over 400 kwh per KW | | | | | | | | | | | | |
| 16 | | All kwh | 0.054776 | 40,647,025 | 0.049023 | 66,644,200 | 233,842 | 3,267,099 | | | 0.049421 | 0.05365 | 3,575,461 |
| 17 | | | | | | | | | | | | | |
| 18 | | Monthly Minimum Billed KW (per kW of Contract Demand) | 2.04 | - | 1.99 | 51,875 | 0 | 103,231 | | | 1.99 | 2.16 | 112,050 |
| 19 | | Bills excluded in Min Bill Customers | | - | | 2,941 | | | | | | | |
| 20 | | KWH excluded in Min Bill Customers | | - | | 154,774 | | | | | | | |
| 21 | | Annual Minimum (per contract kW) | 41.92 | | 40.84 | | | | | | 40.84 | 44.34 | |
| 22 | | | | | | | | | | | | | |
| 23 | Present Revenue from Billing Units and Present Rates | | | | | | 19,411,012 | 457,403,291 | | | | | 494,012,257 |
| 24 | Revenue adjusted for Spread Factor | | | | | | | 453,451,588 | | | | | 489,744,273 |
| 25 | | | | | | | | | | | | | |
| 26 | add adjustments to base rate | | | | | | | | Row | Col | | | |
| 27 | Adjustment to Base Fuel | | | | 0.000398 | 4,500,366,042 | | 1,791,146 | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 28 | | | | | 0.000000 | 4,500,366,042 | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 29 | | | | | 0.000398 | | | | | | | | |
| 30 | Annualized Present Revenue | | | | | | | $ 455,242,733 | | | | | |
| 31 | | | | | | | | | | | | | |
| 32 | REPS | | | | 1.03 | 2,310,049 | | 2,379,350 | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 33 | BPM Prospective Rider | | | | -0.000078 | 4,500,366,042 | | (351,029) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 34 | BPM True-Up Rider | | | | 0.000067 | 4,500,366,042 | | 301,525 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 35 | EDIT-1 | | | | -0.001049 | 4,500,366,042 | | (4,720,884) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 36 | Energy Efficiency Rider | | | | 0.008286 | 4,325,183,790 | | 35,838,473 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 37 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 4,500,366,042 | | (247,520) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 38 | Job Retention Recovery Rider | | | | 0.000410 | 4,500,366,042 | | 1,845,150 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 39 | | | | | | | | 35,045,065 | | | | | |
| 40 | Total Riders $/kWh and $/bill (REPS) | | | | 1.037979 | | | | | | | | |
| 41 | | | | | | | | | | | | | |
| 42 | Proposed Revenue adjusted for Spread Factor SGS+CATV | | | | | | | | | | | | $ 494,619,390 |
| 43 | Revenue Increase (Decrease) | | | | | | | | | | | | $ 34,718,993 |
| 44 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | 7.55% |
| 45 | Total Bills | | | | | 2,703,543 | | | | | | | |
| 46 | Total KWH | | | | | 4,500,366,042 | | | | | | | |
| 47 | Per Book kWh | | | | | 4,500,519,842 | | | | | | | |
| 48 | kWh Variance | | | | | 153,800 | | | | | | | |
| 49 | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | |

| | Spread Factor Calculation | Variance per kWh | kWh Affected | SGS (no CATV) | SGS (CATV) | SGS + CATV |
|---|---|---|---|---|---|---|
| 52 | Unadjusted Present Revenue | | | $ 457,403,291 | $ 4,677,919 | $ 462,081,210 |
| 53 | add booked riders including REPS and DSM credits | | | | | $ 18,577,993 |
| 54 | add Price Variance due to billing units on 1/1/2018 rates | | | $ 19,411,012 | $ 184,449 | $ 19,595,461 |
| 55 | add Price Variance due to billing units on 8/1/2018 rates | -0.000047 | 1,683,206,823 | | | $ 79,111 |
| 56 | Equals estimated booked revenue (base rates) | | | $ 476,814,303 | $ 4,862,368 | $ 500,333,775 |
| 57 | Reported Booked Revenue | | | | | $ 496,011,177 |
| 58 | | | | | | |
| 59 | Spread Factor (Reported to Estimated) | | | | | **0.9914** |
| 60 | | | | | | |

61 **Notes**

62

63

64

65

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018** — Increase %: 8.56%

**Schedule SGSCATV**

| SGSCATV | Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | Present Rates with Base Rate Rider Adjustments | Proposed Rate (SGSCATV) | Proposed Revenue for SGSCATV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | 19.39 | 69,142 | 19.39 | 110,012 | 0 | 2,133,127 | | | 19.39 | 19.39 | 2,133,127 |
| 3 | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | |
| 5 | Over 30KW | 3.8614 | - | 3.7616 | - | 0 | 0 | | | 3.7616 | 4.0835 | 0 |
| 6 | **Energy Charges** | | | | | | | | | | | |
| 7 | First 125 kwh per KW | | | | | | | | | | | |
| 8 | First 3000 kwh | 0.056026 | 31,871,429 | 0.050241 | 50,633,827 | 184,376 | 2,543,894 | | | 0.050639 | 0.054973 | 2,783,493 |
| 9 | Next 6000 kwh | 0.056026 | 8,125 | 0.050241 | 12,378 | 47 | 622 | | | 0.050639 | 0.054973 | 680 |
| 10 | Over 9000 kwh | 0.056026 | - | 0.050241 | - | 0 | 0 | | | 0.050639 | 0.054973 | 0 |
| 11 | Next 275 kwh per KW | | | | | | | | | | | |
| 12 | First 3000 kwh | 0.056026 | 4,538 | 0.050241 | 5,490 | 26 | 276 | | | 0.050639 | 0.054973 | 302 |
| 13 | Next 6000 kwh | 0.056026 | - | 0.050241 | - | 0 | 0 | | | 0.050639 | 0.054973 | 0 |
| 14 | Over 9000 kwh | 0.056026 | - | 0.050241 | - | 0 | 0 | | | 0.050639 | 0.054973 | 0 |
| 15 | Over 400 kwh per KW | | | | | | | | | | | |
| 16 | All kwh | 0.056026 | - | 0.050241 | - | 0 | 0 | | | 0.050639 | 0.054973 | 0 |
| 17 | | | | | | | | | | | | |
| 18 | Monthly Minimum Billed KW (per kW of Contract Demand) | 2.04 | | 1.99 | | 0 | 0 | | | 1.99 | 2.16 | 0 |
| 19 | Bills excluded in Min Bill Customers | | | | | | | | | | | |
| 20 | KWH excluded in Min Bill Customers | | | | | | | | | | | |
| 21 | Annual Minimum (per contract kW) | 41.92 | | 40.84 | | | | | | 40.84 | 44.34 | |
| 22 | | | | | | | | | | | | |
| 23 | Present Revenue from Billing Units and Present Rates | | | | | 184,449 | 4,677,919 | | | | | 4,917,602 |
| 24 | Revenue adjusted for Spread Factor | | | | | | 4,637,504 | | | | | 4,875,117 |
| 25 | | | | | | | | | | | | |
| 26 | add adjustments to base rate | | | | | | | Row | Col | | | |
| 27 | Adjustment to Base Fuel | | | 0.000398 | 50,651,695 | | 20,159 | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 28 | | | | 0.000000 | 50,651,695 | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 29 | | | | 0.000398 | | | | | | | | |
| 30 | Annualized Present Revenue | | | | | | $ 4,657,664 | | | | | |
| 31 | | | | | | | | | | | | |
| 32 | REPS | | | 1.03 | 108,052 | | 111,293 | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 33 | BPM Prospective Rider | | | -0.000078 | 50,651,695 | | (3,951) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 34 | BPM True-Up Rider | | | 0.000067 | 50,651,695 | | 3,394 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 35 | EDIT-1 | | | -0.001049 | 50,651,695 | | (53,134) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 36 | Energy Efficiency Rider | | | 0.008286 | 50,544,857 | | 418,815 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 37 | Existing DSM Program Costs Adjustment | | | -0.000055 | 50,651,695 | | (2,786) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 38 | Job Retention Recovery Rider | | | 0.000410 | 50,651,695 | | 20,767 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 39 | | | | | | | 494,399 | | | | | |
| 40 | Total Riders $/kWh and $/bill (REPS) | | | 1.037624 | | | | | | | | |
| 41 | | | | | | | | | | | | |
| 42 | Proposed Revenue adjusted for Spread Factor | | | | | | | | | | | $ 4,875,117 |
| 43 | Revenue Increase (Decrease) | | | | | | | | | | | $ 217,454 |
| 44 | Percent Revenue Increase (Decrease) | | | | | | | | | | | 4.46% |
| 45 | Total Bills | | | | 110,012 | | | | | | | |
| 46 | Total KWH | | | | 50,651,695 | | | | | | | |
| 47 | Per Book kWh | | | | 50,651,695 | | | | | | | |
| 48 | kWh Variance | | | | - | | | | | | | |
| 49 | | | | | | | | | | | | |
| 50 | **Spread Factor** | | | | | | | | | | | |
| 51 | Spread Factor (Reported to Estimated) from Total SGS | | | | | | **0.9914** | | | | | |
| 52 | | | | | | | | | | | | |
| 53 | **Notes** | | | | | | | | | | | |
| 54 | [1] Spread factor calculated in tab NC-SGS | | | | | | | | | | | |
| 55 | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018** — Increase %: 8.24%

**Schedule LGS**

| LGS | Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | | Present Rates with Base Rate Rider Adjustments | Proposed Rate (LGS) | Proposed Revenue for LGS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | 23.91 | 68,589 | 23.91 | 109,745 | 0 | 2,623,993 | | | | 23.91 | 23.91 | 2,623,993 |
| 3 | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | |
| 5 | Over 30KW | 3.8094 | 9,870,016 | 3.7790 | 14,918,215 | 300,048 | 56,375,934 | | | | 3.779 | 4.0905 | 61,022,958 |
| 6 | **Energy Charges** | | | | | | | | | | | | |
| 7 | First 125 kwh per KW | | | | | | | | | | | | |
| 8 | First 3000 kwh | 0.114664 | 197,398,272 | 0.109332 | 316,150,702 | 1,052,528 | 34,565,389 | | | | 0.109730 | 0.118775 | 37,550,800 |
| 9 | Next 87000 kwh | 0.070243 | 1,039,680,456 | 0.065266 | 1,672,953,567 | 5,174,490 | 109,186,988 | | | | 0.065664 | 0.071076 | 118,906,848 |
| 10 | Over 90000 kwh | 0.069647 | 90,588,946 | 0.064674 | 138,492,670 | 450,499 | 8,956,875 | | | | 0.065072 | 0.070436 | 9,754,870 |
| 11 | Next 275 kwh per KW | | | | | | | | | | | | |
| 12 | First 6000 kwh | 0.065894 | 310,933,994 | 0.060951 | 496,919,615 | 1,536,947 | 30,287,747 | | | | 0.061349 | 0.066406 | 32,998,444 |
| 13 | Next 134000 kwh | 0.058056 | 1,240,011,358 | 0.053176 | 2,001,473,072 | 6,051,255 | 106,430,332 | | | | 0.053574 | 0.05799 | 116,065,423 |
| 14 | Over 140000 kwh | 0.057093 | 153,131,794 | 0.052221 | 235,531,180 | 746,058 | 12,299,674 | | | | 0.052619 | 0.056956 | 13,414,914 |
| 15 | Over 400 kwh per KW | | | | | | | | | | | | |
| 16 | All kwh | 0.054597 | 166,321,869 | 0.049744 | 269,068,630 | 807,160 | 13,384,550 | | | | 0.050142 | 0.054275 | 14,603,700 |
| 17 | | | | | | | | | | | | | |
| 18 | Monthly Minimum Billed KW (per kW of Contract Demand) | 2.02 | - | 2.00 | 85 | 0 | 170 | | | | 2 | 2.16 | 184 |
| 19 | Bills excluded in Min Bill Customers | | - | | 1 | | | | | | | | |
| 20 | KWH excluded in Min Bill Customers | | - | | - | | | | | | | | |
| 21 | Annual Minimum (per contract kW) | 40.24 | | 39.92 | | | | | | | 39.92 | 43.21 | |
| 22 | | | | | | | | | | | | | |
| 23 | Present Revenue from Billing Units and Present Rates | | | | | 16,118,985 | 374,111,651 | | | | | | 406,942,133 |
| 24 | Revenue adjusted for Spread Factor | | | | | | 374,142,747 | | | | | | 406,975,958 |
| 25 | | | | | | | | | | | | | |
| 26 | add adjustments to base rate | | | | | | | Row | Col | | | | |
| 27 | Adjustment to Base Fuel | | | 0.000398 | 5,130,589,436 | | 2,041,975 | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 28 | | | | 0.000000 | 5,130,589,436 | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 29 | | | | 0.000398 | | | | | | | | | |
| 30 | Annualized Present Revenue | | | | | | $ 376,184,722 | | | | | | |
| 31 | | | | | | | | | | | | | |
| 32 | REPS | | | 1.03 | 107,476 | | 110,700 | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 33 | BPM Prospective Rider | | | -0.000078 | 5,130,589,436 | | (400,186) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 34 | BPM True-Up Rider | | | 0.000067 | 5,130,589,436 | | 343,749 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 35 | EDIT-1 | | | -0.001049 | 5,130,589,436 | | (5,381,988) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 36 | Energy Efficiency Rider | | | 0.008286 | 4,434,896,527 | | 36,747,553 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 37 | Existing DSM Program Costs Adjustment | | | -0.000055 | 5,130,589,436 | | (282,182) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 38 | Job Retention Recovery Rider | | | 0.000410 | 5,130,589,436 | | 2,103,542 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 39 | | | | | | | 33,241,187 | | | | | | |
| 40 | Total Riders $/kWh and $/bill (REPS) | | | 1.037979 | | | | | | | | | |
| 41 | | | | | | | | | | | | | |
| 42 | Proposed Revenue adjusted for Spread Factor | | | | | | | | | | | | $ 406,975,958 |
| 43 | Revenue Increase (Decrease) | | | | | | | | | | | | $ 30,791,236 |
| 44 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | 8.19% |
| 45 | Total Bills | | | | 109,746 | | | | | | | | |
| 46 | Total KWH | | | | 5,130,589,436 | | | | | | | | |
| 47 | Per Book kWh | | | | 5,130,566,670 | | | | | | | | |
| 48 | kWh Variance | | | | 22,766 | | | | | | | | |
| 49 | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | |
| 51 | **Spread Factor Calculation** | | | | | | | | | | | | |
| 52 | Unadjusted Present Revenue | | | | | | $ 374,111,651 | | | | | | |
| 53 | add booked riders including REPS and DSM credits | | | | | | $ 8,344,649 | | | | | | |
| 54 | add Price Variance due to billing units on 1/1/2018 rates | | | | | | $ 16,118,985 | | | | | | |
| 55 | add Price Variance due to billing units on 8/1/2018 rates | | | -0.000047 | 1,932,522,747 | | $ 90,829 | | | | | | |
| 56 | Equals estimated booked revenue (base rates) | | | | | | $ 398,666,113 | | | | | | |
| 57 | Reported Booked Revenue | | | | | | $ 398,699,250 | | | | | | |
| 58 | | | | | | | | | | | | | |
| 59 | Spread Factor (Reported to Estimated) | | | | | | **1.0001** | | | | | | |
| 60 | | | | | | | | | | | | | |
| 61 | **Notes** | | | | | | | | | | | | |
| 62 | | | | | | | | | | | | | |
| 63 | | | | | | | | | | | | | |
| 64 | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018** — Increase %: 19.56%

**Schedule BC**

| BC Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | Present Rates with Base Rate Rider Adjustments | Proposed Rate (BC) | Proposed Revenue for BC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Basic Facilities Charge** | 19.39 | 53,389 | 19.39 | 86,264 | 0 | 1,672,649 | | | 19.39 | 19.39 | 1,672,649 |
| Basic Facilities Charge Correction [1] | 19.39 | | 19.39 | (4,278) | 0 | -82,950 | | | 19.39 | 19.39 | -82,950 |
| **Energy Charges** | | | | | | | | | | | |
| First 50 kwh | 0.083685 | 1,300,720 | 0.073922 | 2,083,099 | 12,699 | 153,987 | | | 0.07432 | 0.088857 | 185,098 |
| All over 50 kwh | 0.066217 | 9,225,531 | 0.057625 | 14,076,571 | 79,266 | 811,162 | | | 0.058023 | 0.069372 | 976,520 |
| Present Revenue from Billing Units and Present Rates | | | | | 91,965 | 2,554,848 | | | | | 2,751,317 |
| Revenue adjusted for Spread Factor | | | | | | 2,527,664 | | | | | 2,722,042 |
| add adjustments to base rate | | | | | | | Row | Col | | | |
| Adjustment to Base Fuel | | | 0.000398 | 16,159,670 | | 6,432 | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| | | | 0.000000 | 16,159,670 | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| | | | 0.000398 | | | | | ` | | | |
| Annualized Present Revenue | | | | | | $ 2,534,095 | | | | | |
| REPS | | | 1.03 | 47,161 | | 48,576 | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| BPM Prospective Rider | | | -0.000078 | 16,159,670 | | (1,260) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| BPM True-Up Rider | | | 0.000067 | 16,159,670 | | 1,083 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| EDIT-1 | | | -0.001049 | 16,159,670 | | (16,951) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| Energy Efficiency Rider | | | 0.008286 | 10,419,947 | | 86,340 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| Existing DSM Program Costs Adjustment | | | -0.000055 | 16,159,670 | | (889) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| Job Retention Recovery Rider | | | 0.000410 | 16,159,670 | | 6,625 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| | | | | | | 123,523 | | | | | |
| Total Riders $/kWh and $/bill (REPS) | | | 1.037979 | | | | | | | | |
| Proposed Revenue adjusted for Spread Factor | | | | | | | | | | | $ 2,722,042 |
| Revenue Increase (Decrease) | | | | | | | | | | | $ 187,947 |
| Percent Revenue Increase (Decrease) | | | | | | | | | | | 7.42% |
| Total Bills | | | | 86,264 | | | | | | | |
| Total KWH | | | | 16,159,670 | | | | | | | |
| Per Book kWh | | | | 16,159,670 | | | | | | | |
| kWh Variance | | | | (0) | | | | | | | |

**Spread Factor Calculation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Unadjusted Present Revenue | | | | | | $ 2,554,848 |
| add booked riders including REPS and DSM credits | | | | | | $ 275,259 |
| add Price Variance due to billing units on 1/1/2018 rates | | | | | | $ 91,965 |
| add Price Variance due to billing units on 8/1/2018 rates | | | -0.000047 | 5,633,419 | | $ 265 |
| Equals estimated booked revenue (base rates) | | | | | | $ 2,922,337 |
| Reported Booked Revenue | | | | | | $ 2,891,242 |
| | | | | | | |
| Spread Factor (Reported to Estimated) | | | | | | **0.9894** |

**Notes**

[1] Analysis of bills showed that there were bills that were pro-rated but were missed in calculating the number of facility charges

| | |
|---|---|
| Bill count reduction for Initial bills < 30 days: | 3151 |
| Bill count reduction for final bills not initially detected (< 30 days): | 1127 |

**North Carolina Present and Proposed Revenue** | **12 Months Ended December 2018** | Increase %: 37.00%

**Schedule TS** | Final KWh Increase: 0

| TS | Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | | Present Rates with Base Rate Rider Adjustments | Proposed Rate (TS) | Proposed Revenue for TS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | 6.70 | 44,673 | 6.70 | 70,900 | 0 | 475,033 | | | | 6.70 | 6.70 | 475,033 |
| 3 | | | | | | | | | | | | | |
| 4 | **Energy Charges** | | | | | | | | | | | | |
| 5 | First 50 kwh | 0.188499 | 1,922,230 | 0.214515 | 3,050,411 | -50,009 | 654,359 | | | | 0.214913 | 0.294427 | 898,123 |
| 6 | All over 50 kwh | 0.074254 | 4,529,561 | 0.081363 | 7,031,405 | -32,201 | 572,096 | | | | 0.081761 | 0.112011 | 787,595 |
| 7 | | | | | | | | | | | | | |
| 8 | Present Revenue from Billing Units and Present Rates | | | | | -82,209 | 1,701,488 | | | | | | 2,160,751 |
| 9 | Revenue adjusted for Spread Factor | | | | | | 1,702,322 | | | | | | 2,161,810 |
| 10 | | | | | | | | | | | | | |
| 11 | add adjustments to base rate | | | | | | | | | | | | |
| 12 | Adjustment to Base Fuel | | | 0.000398 | 10,081,816 | | 4,013 | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 13 | | | | 0.000000 | 10,081,816 | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 14 | | | | 0.000398 | | | | | | | | | |
| 15 | Annualized Present Revenue | | | | | | $ 1,706,335 | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | REPS | | | 1.03 | 70,470 | | 72,584 | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 18 | BPM Prospective Rider | | | -0.000078 | 10,081,816 | | (786) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 19 | BPM True-Up Rider | | | 0.000067 | 10,081,816 | | 675 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 20 | EDIT-1 | | | -0.001049 | 10,081,816 | | (10,576) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 21 | Energy Efficiency Rider | | | 0.008286 | 10,052,061 | | 83,291 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 22 | Existing DSM Program Costs Adjustment | | | -0.000055 | 10,081,816 | | (554) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 23 | Job Retention Recovery Rider | | | 0.000410 | 10,081,816 | | 4,134 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 24 | | | | | | | 148,768 | | | | | | |
| 25 | Total Riders $/kWh and $/bill (REPS) | | | 1.037979 | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | Proposed Revenue adjusted for Spread Factor | | | | | | | | | | | | $ 2,161,810 |
| 28 | Revenue Increase (Decrease) | | | | | | | | | | | | $ 455,476 |
| 29 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | 26.69% |
| 30 | Total Bills | | | | 70,900 | | | | | | | | |
| 31 | Total KWH | | | | 10,081,816 | | | | | | | | |
| 32 | Per Book kWh | | | | 10,081,816 | | | | | | | | |
| 33 | kWh Variance | | | | - | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |
| 36 | **Spread Factor Calculation** | | | | | | | | | | | | |
| 37 | Unadjusted Present Revenue | | | | | | $ 1,701,488 | | | | | | |
| 38 | add booked riders including REPS and DSM credits | | | | | | $ 233,492 | | | | | | |
| 39 | add Price Variance due to billing units on 1/1/2018 rates | | | | | | $ (82,209) | | | | | | |
| 40 | add Price Variance due to billing units on 8/1/2018 rates | | | -0.000047 | 3,630,025 | | $ 171 | | | | | | |
| 41 | Equals estimated booked revenue (base rates) | | | | | | $ 1,852,941 | | | | | | |
| 42 | Reported Booked Revenue | | | | | | $ 1,853,849 | | | | | | |
| 43 | | | | | | | | | | | | | |
| 44 | Spread Factor (Reported to Estimated) | | | | | | **1.0005** | | | | | | |

45 **Notes**

46

47

**North Carolina Present and Proposed Revenue** | **12 Months Ended December 2018** | Increase %: 5.70%

**Schedule I**

| I | Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | Present Rates with Base Rate Rider Adjustments | Proposed Rate (I) | Proposed Revenue for I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | **Basic Facilities Charge** | 19.27 | 27,856 | 19.27 | 44,296 | 0 | 853,591 | | | 19.27 | 19.27 | 853,591 |
| 3 | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | |
| 5 | Over 30KW | 4.4709 | 4,440,001 | 4.3474 | 6,691,396 | 548,340 | 29,090,174 | | | 4.3474 | 4.5954 | 30,749,640 |
| 6 | **Energy Charges** | | | | | | | | | | | |
| 7 | First 125 kwh per KW | | | | | | | | | | | |
| 8 | First 3000 kwh | 0.118770 | 68,486,090 | 0.112070 | 108,945,542 | 458,857 | 12,209,527 | | | 0.110797 | 0.117116 | 12,759,266 |
| 9 | Next 87000 kwh | 0.068330 | 395,721,918 | 0.063023 | 636,862,146 | 2,100,096 | 40,136,963 | | | 0.061750 | 0.065272 | 41,569,266 |
| 10 | Over 90000 kwh | 0.065572 | 108,469,801 | 0.060341 | 175,905,848 | 567,406 | 10,614,335 | | | 0.059068 | 0.062437 | 10,983,033 |
| 11 | Next 275 kwh per KW | | | | | | | | | | | |
| 12 | First 140000 kwh | 0.055930 | 475,780,537 | 0.050966 | 769,862,400 | 2,361,775 | 39,236,807 | | | 0.049693 | 0.052527 | 40,438,562 |
| 13 | Over 140000 kWh | 0.054126 | 166,115,782 | 0.049211 | 273,982,183 | 816,459 | 13,482,937 | | | 0.047938 | 0.050672 | 13,883,225 |
| 14 | Over 400 kwh per KW | | | | | | | | | | | |
| 15 | All kwh | 0.051795 | 48,250,654 | 0.046945 | 80,648,131 | 234,016 | 3,786,027 | | | 0.045672 | 0.048277 | 3,893,450 |
| 16 | | | | | | | | | | | | |
| 17 | Monthly Minimum Billed KW (per kW of Contract Demand) | 2.15 | - | 2.09 | - | 0 | 0 | | | 2.09 | 2.21 | 0 |
| 18 | Bills excluded in Min Bill Customers | | - | | - | | | | | | | |
| 19 | KWH excluded in Min Bill Customers | | - | | - | | | | | | | |
| 20 | Annual Minimum (per contract kW) | 40.24 | | 39.13 | | | | | | 39.13 | 41.36 | |
| 21 | | | | | | | | | | | | |
| 22 | Present Revenue from Billing Units and Present Rates | | | | | 7,086,948 | 149,410,360 | | | | | 155,130,034 |
| 23 | Revenue adjusted for Spread Factor | | | | | | 149,444,926 | | | | | 155,165,923 |
| 24 | | | | | | | | | | | | |
| 25 | add adjustments to base rate | | | | | | | Row | Col | | | |
| 26 | Adjustment to Base Fuel | | | -0.001273 | 2,046,206,250 | | (2,604,821) | 1 | 8 I,OPT-V,PG(IND) | | | |
| 27 | | | | 0.000000 | 2,046,206,250 | | 0 | 2 | 8 I,OPT-V,PG(IND) | | | |
| 28 | | | | -0.001273 | | | | | | | | |
| 29 | Equals Annualized Present Revenue | | | | | | $ 146,840,106 | | | | | |
| 30 | | | | | | | | | | | | |
| 31 | REPS | | | -6.44 | 43,174 | | (278,041) | 5 | 8 I,OPT-V,PG(IND) | | | |
| 32 | BPM Prospective Rider | | | -0.000078 | 2,046,206,250 | | (159,604) | 6 | 8 I,OPT-V,PG(IND) | | | |
| 33 | BPM True-Up Rider | | | 0.000067 | 2,046,206,250 | | 137,096 | 7 | 8 I,OPT-V,PG(IND) | | | |
| 34 | EDIT-1 | | | -0.001049 | 2,046,206,250 | | (2,146,470) | 8 | 8 I,OPT-V,PG(IND) | | | |
| 35 | Energy Efficiency Rider | | | 0.008286 | 1,561,369,905 | | 12,937,511 | 9 | 8 I,OPT-V,PG(IND) | | | |
| 36 | Existing DSM Program Costs Adjustment | | | -0.000055 | 2,046,206,250 | | (112,541) | 10 | 8 I,OPT-V,PG(IND) | | | |
| 37 | Job Retention Recovery Rider | | | 0.000410 | 2,046,206,250 | | 838,945 | 11 | 8 I,OPT-V,PG(IND) | | | |
| 38 | | | | | | | 11,216,895 | | | | | |
| 39 | Total Riders $/kWh and $/bill (REPS) | | | -6.433692 | | | | | | | | |
| 40 | | | | | | | | | | | | |
| 41 | Proposed Revenue adjusted for Spread Factor | | | | | | | | | | | 155,165,923 |
| 42 | Revenue Increase (Decrease) | | | | | | | | | | | 8,325,817 |
| 43 | Percent Revenue Increase (Decrease) | | | | | | | | | | | 5.67% |
| 44 | Total Bills | | | | 44,296 | | | | | | | |
| 45 | Total KWH | | | | 2,046,206,250 | | | | | | | |
| 46 | Per Book kWh | | | | 2,046,808,938 | | | | | | | |
| 47 | kWh Variance | | | | (602,688) | | | | | | | |
| 48 | | | | | | | | | | | | |
| 49 | **Spread Factor Calculation** | | | Variance per kWh | kWh Affected | | | | | | | |
| 50 | Unadjusted Present Revenue | | | | | | $ 149,410,360 | | | | | |
| 51 | add booked riders including REPS and DSM credits | | | | | | $ 2,741,663 | | | | | |
| 52 | add Price Variance due to billing units on 1/1/2018 rates | | | | | | $ 7,086,948 | | | | | |
| 53 | add Price Variance due to billing units on 8/1/2018 rates | | | -0.000047 | 783,381,469 | | $ 36,819 | | | | | |
| 54 | Equals estimated booked revenue (base rates) | | | | | | $ 159,275,790 | | | | | |
| 55 | Reported Booked Revenue | | | | | | $ 159,312,639 | | | | | |
| 56 | | | | | | | | | | | | |
| 57 | Spread Factor (Reported to Estimated) | | | | | | **1.0002** | | | | | |
| 58 | | | | | | | | | | | | |
| 59 | **Notes** | | | | | | | | | | | |
| 60 | | | | | | | | | | | | |
| 61 | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018** Increase %: -2.94%

**Schedule PG**

| PG | Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | Present Rates with Base Rate Rider Adjustments | Proposed Rate | Proposed Revenue for PG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | **Basic Facilities Charge-Transmission Connected** | 69.90 | - | 69.90 | - | 0 | 0 | | | 69.90 | 69.90 | 0 |
| 3 | **Basic Facilities Charge-Distribution Connected** | 69.90 | 36 | 69.90 | 62 | 0 | 4,334 | | | 69.90 | 69.90 | 4,334 |
| 4 | | | | | | | | | | | | |
| 5 | **Demand Charges** | | | | | | | | | | | |
| 6 | On-Peak Demand Charge per On-Peak Month | | | | | | | | | | | |
| 7 | InterConnected to Transmission (per kW) | 17.0632 | - | 16.1600 | - | 0 | 0 | | | 16.1600 | 15.6846 | 0 |
| 8 | InterConnected to Distribution (per kW) | 20.2712 | 348 | 19.1968 | 1,369 | 374 | 26,280 | | | 19.1968 | 18.6320 | 25,507 |
| 9 | | | | | | | | | | | | |
| 10 | Transmission Standby Demand | 1.1556 | - | 1.0598 | - | 0 | 0 | | | 1.0598 | 1.7510 | 0 |
| 11 | Distribution Standby Demand | 1.1556 | 3,435 | 1.0598 | 4,689 | 329 | 4,969 | | | 1.0598 | 1.7510 | 8,210 |
| 12 | **Energy Charges - Transmission Connected** | | | | | | | | | | | |
| 13 | On-Peak | 0.051811 | - | 0.049053 | - | 0 | 0 | | | 0.047780 | 0.046374 | 0 |
| 14 | Off-Peak | 0.049431 | - | 0.046753 | - | 0 | 0 | | | 0.045480 | 0.044142 | 0 |
| 15 | **Energy Charges - Distribution Connected** | | | | | | | | | | | |
| 16 | On-Peak | 0.053000 | 42,360 | 0.050153 | 57,660 | 121 | 2,892 | | | 0.048880 | 0.047442 | 2,736 |
| 17 | Off-Peak | 0.050357 | 59,220 | 0.047653 | 84,840 | 160 | 4,043 | | | 0.046380 | 0.045016 | 3,819 |
| 18 | | | | | | | | | | | | |
| 19 | Present Revenue from Billing Units and Present Rates | | | | | 984 | 42,518 | | | | | 44,606 |
| 20 | Revenue adjusted for Spread Factor | | | | | | 45,380 | | | | | 47,608 |
| 21 | | | | | | | | | | | | |
| 22 | add adjustments to base rate | | | | | | | Row | Col | | | |
| 23 | Adjustment to Base Fuel | | | -0.001273 | 142,500 | | (181) | 1 | 8 I,OPT-V,PG(IND) | | | |
| 24 | | | | 0.000000 | 142,500 | | 0 | 2 | 8 I,OPT-V,PG(IND) | | | |
| 25 | | | | -0.001273 | | | | | | | | |
| 26 | Equals Annualized Present Revenue | | | | | | 45,198 | | | | | |
| 27 | | | | | | | | | | | | |
| 28 | REPS | | | -6.44 | 12 | | (77) | 5 | 8 I,OPT-V,PG(IND) | | | |
| 29 | BPM Prospective Rider | | | -0.000078 | 142,500 | | (11) | 6 | 8 I,OPT-V,PG(IND) | | | |
| 30 | BPM True-Up Rider | | | 0.000067 | 142,500 | | 10 | 7 | 8 I,OPT-V,PG(IND) | | | |
| 31 | EDIT-1 | | | -0.001049 | 142,500 | | (149) | 8 | 8 I,OPT-V,PG(IND) | | | |
| 32 | Energy Efficiency Rider | | | 0.008286 | 14,400 | | 119 | 9 | 8 I,OPT-V,PG(IND) | | | |
| 33 | Existing DSM Program Costs Adjustment | | | -0.000055 | 142,500 | | (8) | 10 | 8 I,OPT-V,PG(IND) | | | |
| 34 | Job Retention Recovery Rider | | | 0.000410 | 142,500 | | 58 | 11 | 8 I,OPT-V,PG(IND) | | | |
| 35 | | | | | | | (58) | | | | | |
| 36 | Total Riders $/kWh and $/bill (REPS) | | | -6.433692 | | | | | | | | |
| 37 | | | | | | | | | | | | |
| 38 | Proposed Revenue adjusted for Spread Factor | | | | | | | | | | | 47,608 |
| 39 | Revenue Increase (Decrease) | | | | | | | | | | | 2,410 |
| 40 | Percent Revenue Increase (Decrease) | | | | | | | | | | | 5.33% |
| 41 | Total Bills | | | | 62 | | | | | | | |
| 42 | Total KWH | | | | 142,500 | | | | | | | |
| 43 | Perbook kWh | | | | 100,500 | | | | | | | |
| 44 | kWh Variance | | | | -42,000 | | | | | | | |
| 45 | | | | | | | | | | | | |
| 46 | Spread Factor Calculation | | | Variance per kWh | kWh Affected | | | | | | | |
| 47 | Unadjusted Present Revenue | | | | | | $ 42,518 | | | | | |
| 48 | add booked riders including REPS and DSM credits | | | | | | $ 292 | | | | | |
| 49 | add Price Variance due to billing units on 1/1/2018 rates | | | | | | $ 984 | | | | | |
| 50 | add Price Variance due to billing units on 8/1/2018 rates | | | -0.000047 | 40,920 | | $ 2 | | | | | |
| 51 | Equals estimated booked revenue (base rates) | | | | | | $ 43,796 | | | | | |
| 52 | Reported Booked Revenue | | | | | | $ 46,743 | | | | | |
| 53 | | | | | | | | | | | | |
| 54 | Spread Factor (Reported to Estimated) | | | | | | **1.0673** | | | | | |
| 55 | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** | **12 Months Ended December 2018** | OL Rate Change: 39.64%

**Schedule NL - Non Standard Lighting Service**

| NL | Billing Determinants | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | Present Rates with Base Rate Rider Adjustments | Proposed Rate (NL) | Proposed Revenue for NL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | **Energy Charges** | 0.053688 | 162,498 | 0.052686 | 277,948 | 163 | 14,644 | | | 0.053084 | 0.074124 | 20,603 |
| 3 | | | | | | | | | | | | |
| 4 | Present Revenue from Billing Units and Present Rates | | | | | 163 | 14,644 | | | | | 20,603 |
| 5 | | | | | | | | | | | | |
| 6 | add adjustments to base rate | | | | | | | | | | | |
| 7 | Adjustment to Base Fuel | | | 0.000398 | 277,948 | | 111 | 1 | 9 OL,FL,PL,GL,NL | | | |
| 8 | | | | 0.000000 | 277,948 | | - | 2 | 9 OL,FL,PL,GL,NL | | | |
| 9 | | | | 0.000398 | | | | | | | | |
| 10 | Equals Annualized Present Revenue | | | | | | 14,755 | | | | | |
| 11 | | | | | | | | | | | | |
| 12 | REPS | | | 0.00 | 107,476 | | 0 | 5 | 9 OL,FL,PL,GL,NL | | | |
| 13 | BPM Prospective Rider | | | -0.000078 | 277,948 | | (22) | 6 | 9 OL,FL,PL,GL,NL | | | |
| 14 | BPM True-Up Rider | | | 0.000067 | 277,948 | | 19 | 7 | 9 OL,FL,PL,GL,NL | | | |
| 15 | EDIT-1 | | | -0.001049 | 277,948 | | (292) | 8 | 9 OL,FL,PL,GL,NL | | | |
| 16 | Energy Efficiency Rider | | | 0.000000 | - | | 0 | 9 | 9 OL,FL,PL,GL,NL | | | |
| 17 | Existing DSM Program Costs Adjustment | | | -0.000055 | 277,948 | | (15) | 10 | 9 OL,FL,PL,GL,NL | | | |
| 18 | Job Retention Recovery Rider | | | 0.000410 | 277,948 | | 114 | 11 | 9 OL,FL,PL,GL,NL | | | |
| 19 | | | | | | | (196) | | | | | |
| 20 | Total Riders $/kWh | | | -0.000307 | | | | | | | | |
| 21 | | | | | | | | | | | | |
| 22 | Proposed Revenue | | | | | | | | | | | 20,603 |
| 23 | Revenue Increase (Decrease) | | | | | | | | | | | 5,848 |
| 24 | Percent Revenue Increase (Decrease) | | | | | | | | | | | 39.64% |
| 25 | Total Bills | | | | 84 | | | | | | | |
| 26 | Total KWH | | | | 277,948 | | | | | | | |
| 27 | Perbook kWh | | | | 275,017 | | | | | | | |
| 28 | kWh Variance | | | | -2,931 | | | | | | | |
| 29 | | | | | | | | | | | | |
| 30 | **Notes** | | | | | | | | | | | |
| 31 | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue**
**Schedule OL**

**12 Months Ended December 2018**

New Pole Adder: $6.49
New Pole Underground Adder: $4.62

| OL | Style | Location | Price Schedule | Lumens | kWh Rating | Test Yr Lamp Mths | Imputed kWh | Previous Rate as of 1/1/2018 | Previous Rate as of 8/1/18 | Present Rate Effective 1/1/2019 | Present Revenue | Jan-Jul Unit Price Variance | Aug-Dec Unit Price Variance | Jan-Jul Lamp Mths | Price Variance [2] | Proposed Rate | Proposed Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **High Pressure Sodium Vapor** | | | | | | | | | | | | | | |
| 1 | Post Top (2) | New Pole Served Underground | OL-HPS21-PT-NPU-NC | 4,000 | 21 | 17,524 | 368,004 | ~~15.19~~ | ~~14.92~~ | 14.92 | 261,458 | -0.27 | 0.00 | 10,250 | (2,768) | 18.62 | 326,297 |
| 2 | Suburban (3) | Existing Pole | OL-HPS47-SUB-EP-NC | 9,500 | 47 | 128,841 | 6,055,527 | ~~9.33~~ | ~~9.16~~ | 9.16 | 1,180,184 | -0.17 | 0.00 | 73,660 | (12,522) | 11.43 | 1,472,653 |
| 3 | Suburban (3) | Existing Pole (C) | OL-HPS47-SUB-EP-C-NC | 9,500 | 47 | 94,543 | 4,443,521 | ~~9.33~~ | ~~9.16~~ | 9.16 | 866,014 | -0.17 | 0.00 | 55,386 | (9,416) | 11.43 | 1,080,626 |
| 4 | Suburban (3) | New Pole | OL-HPS47-SUB-NP-NC | 9,500 | 47 | 36,137 | 1,698,439 | ~~15.84~~ | ~~15.56~~ | 15.56 | 562,292 | -0.28 | 0.00 | 21,123 | (5,914) | 17.92 | 647,575 |
| 5 | Suburban (3) | New Pole Served Underground | OL-HPS47-SUB-NPU-NC | 9,500 | 47 | 224,876 | 10,569,172 | ~~20.45~~ | ~~20.09~~ | 20.09 | 4,517,759 | -0.36 | 0.00 | 131,589 | (47,372) | 22.54 | 5,068,705 |
| 6 | Urban | Existing Pole | OL-HPS47-URB-EP-NC | 9,500 | 47 | 210,034 | 9,871,598 | ~~10.53~~ | ~~10.34~~ | 10.34 | 2,171,752 | -0.19 | 0.00 | 122,694 | (23,312) | 12.91 | 2,711,539 |
| 7 | Urban | Existing Pole (C) | OL-HPS47-URB-EP-C-NC | 9,500 | 47 | 2,350 | 110,450 | ~~10.53~~ | ~~10.34~~ | 10.34 | 24,299 | -0.19 | 0.00 | 1,382 | (263) | 12.91 | 30,339 |
| 8 | Urban | New Pole | OL-HPS47-URB-NP-NC | 9,500 | 47 | 35,206 | 1,654,682 | ~~17.04~~ | ~~16.74~~ | 16.74 | 589,348 | -0.30 | 0.00 | 20,649 | (6,195) | 19.40 | 682,996 |
| 9 | Urban | New Pole Served Underground | OL-HPS47-URB-NPU-NC | 9,500 | 47 | 220,252 | 10,351,844 | ~~21.65~~ | ~~21.27~~ | 21.27 | 4,684,760 | -0.38 | 0.00 | 127,785 | (48,558) | 24.02 | 5,290,453 |
| 10 | Suburban (4) | Existing Pole | OL-HPS56-SUB-EP-C-NC | 13,000 | 56 | 9,758 | 546,448 | ~~10.22~~ | ~~10.04~~ | 10.04 | 97,970 | -0.18 | 0.00 | 5,709 | (1,028) | 12.53 | 122,268 |
| 11 | Urban | Existing Pole | OL-HPS70-URB-EP-NC | 16,000 | 70 | 16,363 | 1,145,410 | ~~11.38~~ | ~~11.18~~ | 11.18 | 182,938 | -0.20 | 0.00 | 9,578 | (1,916) | 13.96 | 228,427 |
| 12 | Urban | Existing Pole (C) | OL-HPS70-URB-EP-C-NC | 16,000 | 70 | 693 | 48,510 | ~~11.38~~ | ~~11.18~~ | 11.18 | 7,748 | -0.20 | 0.00 | 400 | (80) | 13.96 | 9,674 |
| 13 | Urban | New Pole | OL-HPS70-URB-NP-NC | 16,000 | 70 | 7,522 | 526,540 | ~~17.88~~ | ~~17.56~~ | 17.56 | 132,086 | -0.32 | 0.00 | 4,425 | (1,416) | 20.45 | 153,825 |
| 14 | Urban | New Pole Served Underground | OL-HPS70-URB-NPU-NC | 16,000 | 70 | 62,252 | 4,357,640 | ~~22.50~~ | ~~22.10~~ | 22.10 | 1,375,769 | -0.40 | 0.00 | 36,362 | (14,545) | 25.07 | 1,560,658 |
| 15 | Urban | Existing Pole | OL-HPS104-URB-EP-NC | 27,500 | 104 | 111,796 | 11,626,784 | ~~13.46~~ | ~~13.22~~ | 13.22 | 1,477,943 | -0.24 | 0.00 | 65,341 | (15,682) | 16.50 | 1,844,634 |
| 16 | Urban | Existing Pole (C) | OL-HPS104-URB-EPC-NC | 27,500 | 104 | 88,660 | 9,220,640 | ~~13.46~~ | ~~13.22~~ | 13.22 | 1,172,085 | -0.24 | 0.00 | 52,029 | (12,487) | 16.50 | 1,462,890 |
| 17 | Urban | New Pole | OL-HPS104-URB-NP-NC | 27,500 | 104 | 23,989 | 2,494,856 | ~~19.96~~ | ~~19.61~~ | 19.61 | 470,424 | -0.35 | 0.00 | 14,075 | (4,926) | 22.99 | 551,507 |
| 18 | Urban | New Pole Served Underground | OL-HPS104-URB-NPU-NC | 27,500 | 104 | 136,515 | 14,197,560 | ~~24.58~~ | ~~24.14~~ | 24.14 | 3,295,472 | -0.44 | 0.00 | 80,275 | (35,321) | 27.61 | 3,769,179 |
| 19 | Urban | Existing Pole | OL-HPS156-URB-EP-NC | 50,000 | 156 | 67,898 | 10,592,088 | ~~16.39~~ | ~~16.10~~ | 16.09 | 1,092,479 | -0.30 | -0.01 | 39,771 | (12,213) | 20.09 | 1,364,071 |
| 20 | Urban | Existing Pole (C) | OL-HPS156-URB-EPC-NC | 50,000 | 156 | 1,618 | 252,408 | ~~16.39~~ | ~~16.10~~ | 16.09 | 26,034 | -0.30 | -0.01 | 941 | (289) | 20.09 | 32,506 |
| 21 | Urban | New Pole | OL-HPS156-URB-NP-NC | 50,000 | 156 | 13,180 | 2,056,080 | ~~22.88~~ | ~~22.47~~ | 22.46 | 296,023 | -0.42 | -0.01 | 7,731 | (3,302) | 26.58 | 350,324 |
| 22 | Urban | New Pole Served Underground | OL-HPS156-URB-NPU-NC | 50,000 | 156 | 60,791 | 9,483,396 | ~~27.52~~ | ~~27.03~~ | 27.02 | 1,642,573 | -0.50 | -0.01 | 35,383 | (17,946) | 31.20 | 1,896,679 |
| 23 | Floodlight | Existing Pole | OL-HPS70-EP-FL-NC | 16,000 | 70 | 9,809 | 686,630 | new | ~~13.83~~ | 13.83 | 135,658 | 0.00 | 0.00 | - | - | 17.26 | 169,303 |
| 24 | Floodlight | Existing Pole (C) | OL-HPS70-EP-C-FL-NC | 16,000 | 70 | 1,798 | 125,860 | new | ~~13.83~~ | 13.83 | 24,866 | 0.00 | 0.00 | - | - | 17.26 | 31,033 |
| 25 | Floodlight | New Pole | OL-HPS70-NP-FL-NC | 16,000 | 70 | 1,371 | 95,970 | new | ~~21.43~~ | 21.43 | 29,381 | 0.00 | 0.00 | - | - | 23.75 | 32,561 |
| 26 | Floodlight | New Pole Served Underground | OL-HPS70-NPU-FL-NC | 16,000 | 70 | 748 | 52,360 | new | ~~25.97~~ | 25.97 | 19,426 | 0.00 | 0.00 | - | - | 28.37 | 21,221 |
| 27 | Floodlight | Existing Pole | OL-HPS104-EP-FL-NC | 27,500 | 104 | 20,514 | 2,133,456 | new | ~~16.29~~ | 16.29 | 334,173 | 0.00 | 0.00 | - | - | 20.33 | 417,050 |
| 28 | Floodlight | Existing Pole (C) | OL-HPS104-EP-C-FL-NC | 27,500 | 104 | 4,248 | 441,792 | new | ~~16.29~~ | 16.29 | 69,200 | 0.00 | 0.00 | - | - | 20.33 | 86,362 |
| 29 | Floodlight | New Pole | OL-HPS104-NP-FL-NC | 27,500 | 104 | 2,816 | 292,864 | new | ~~23.89~~ | 23.89 | 67,274 | 0.00 | 0.00 | - | - | 26.82 | 75,525 |
| 30 | Floodlight | New Pole Served Underground | OL-HPS104-NPU-FL-NC | 27,500 | 104 | 2,502 | 260,208 | new | ~~28.43~~ | 28.43 | 71,132 | 0.00 | 0.00 | - | - | 31.44 | 78,663 |
| 31 | Floodlight | Existing Pole | OL-HPS156-EP-FL-NC | 50,000 | 156 | 127,900 | 19,952,400 | new | ~~18.31~~ | 18.30 | 2,340,570 | 0.00 | -0.01 | - | (1,279) | 22.84 | 2,921,236 |
| 32 | Floodlight | Existing Pole (C) | OL-HPS156-EP-C-FL-NC | 50,000 | 156 | 19,060 | 2,973,360 | new | ~~18.31~~ | 18.30 | 348,798 | 0.00 | -0.01 | - | (191) | 22.84 | 435,330 |
| 33 | Floodlight | New Pole | OL-HPS156-NP-FL-NC | 50,000 | 156 | 34,291 | 5,349,396 | new | ~~25.91~~ | 25.90 | 888,137 | 0.00 | -0.01 | - | (343) | 29.33 | 1,005,755 |
| 34 | Floodlight | New Pole Served Underground | OL-HPS156-NPU-FL-NC | 50,000 | 156 | 21,748 | 3,392,688 | new | ~~30.45~~ | 30.44 | 662,009 | 0.00 | -0.01 | - | (217) | 33.95 | 738,345 |
| 35 | | | **Metal Halide** | | | | | | | | | | | | | | |
| 36 | Urban | Existing Pole | OL-MH43-URB-EP-NC | 9,000 | 43 | 26,355 | 1,133,265 | ~~12.08~~ | ~~11.87~~ | 11.87 | 312,834 | -0.21 | 0.00 | 15,470 | (3,249) | 14.82 | 390,581 |
| 37 | Urban | New Pole | OL-MH43-URB-NP-NC | 9,000 | 43 | 7,241 | 311,363 | ~~18.61~~ | ~~18.28~~ | 18.28 | 132,365 | -0.33 | 0.00 | 4,246 | (1,401) | 21.31 | 154,306 |
| 38 | Urban | New Pole Served Underground | OL-MH43-URB-NPU-NC | 9,000 | 43 | 49,972 | 2,148,796 | ~~23.24~~ | ~~22.83~~ | 22.83 | 1,140,861 | -0.41 | 0.00 | 29,322 | (12,022) | 25.93 | 1,295,774 |
| 39 | Urban | Existing Pole | OL-MH155-URB-EP-NC | 40,000 | 155 | 36,104 | 5,596,120 | ~~19.51~~ | ~~19.16~~ | 19.15 | 691,392 | -0.36 | -0.01 | 21,184 | (7,775) | 23.90 | 862,886 |
| 40 | Urban | New Pole | OL-MH155-URB-NP-NC | 40,000 | 155 | 5,911 | 916,205 | ~~26.01~~ | ~~25.55~~ | 25.54 | 150,967 | -0.47 | -0.01 | 3,468 | (1,654) | 30.39 | 179,635 |
| 41 | Urban | New Pole Served Underground | OL-MH155-URB-NPU-NC | 40,000 | 155 | 88,539 | 13,723,545 | ~~30.64~~ | ~~30.10~~ | 30.09 | 2,664,139 | -0.55 | -0.01 | 51,960 | (28,944) | 35.01 | 3,099,750 |
| 42 | Area | Existing Pole | OL-MH295-URB-EP-NC | 78,000 | 295 | 918 | 270,810 | ~~45.08~~ | ~~44.28~~ | 44.27 | 40,640 | -0.81 | -0.01 | 546 | (446) | 55.26 | 50,729 |
| 43 | Area | New Pole | OL-MH295-URB-NP-NC | 78,000 | 295 | 713 | 210,335 | ~~52.82~~ | ~~51.88~~ | 51.87 | 36,983 | -0.95 | -0.01 | 418 | (400) | 61.75 | 44,028 |
| 44 | Area | New Pole Served Underground | OL-MH295-URB-NPU-NC | 78,000 | 295 | 1,700 | 501,500 | ~~57.45~~ | ~~56.43~~ | 56.42 | 95,914 | -1.03 | -0.01 | 1,000 | (1,037) | 66.37 | 112,829 |
| 45 | Area | Existing Pole | OL-MH395-AREA-EP-NC | 110,000 | 395 | 4,914 | 1,941,030 | ~~61.65~~ | ~~60.55~~ | 60.53 | 297,444 | -1.12 | -0.02 | 2,951 | (3,344) | 75.56 | 371,302 |
| 46 | Area | New Pole | OL-MH395-AREA-NP-NC | 110,000 | 395 | 968 | 382,360 | ~~69.39~~ | ~~68.16~~ | 68.14 | 65,960 | -1.25 | -0.02 | 576 | (728) | 82.05 | 79,424 |
| 47 | Area | New Pole Served Underground | OL-MH395-AREA-NPU-NC | 110,000 | 395 | 7,135 | 2,818,325 | ~~74.02~~ | ~~72.70~~ | 72.68 | 518,572 | -1.34 | -0.02 | 4,263 | (5,770) | 86.67 | 618,390 |
| 48 | Floodlight | Existing Pole | OL-MH155-EP-FL-NC | 40,000 | 155 | 45,732 | 7,088,460 | new | ~~20.33~~ | 20.32 | 929,274 | 0.00 | -0.01 | - | (457) | 25.37 | 1,160,221 |
| 49 | Floodlight | New Pole | OL-MH155-NP-FL-NC | 40,000 | 155 | 11,741 | 1,819,855 | new | ~~27.93~~ | 27.92 | 327,809 | 0.00 | -0.01 | - | (117) | 31.86 | 374,068 |
| 50 | Floodlight | New Pole Served Underground | OL-MH155-NPU-FL-NC | 40,000 | 155 | 11,766 | 1,823,730 | new | ~~32.47~~ | 32.46 | 381,924 | 0.00 | -0.01 | - | (118) | 36.48 | 429,224 |
| 51 | Floodlight | Existing Pole | OL-MH180-EP-FL-NC | 34,000 | 180 | 1,627 | 292,860 | new | ~~19.06~~ | 19.05 | 30,994 | 0.00 | -0.01 | - | (16) | 23.78 | 38,690 |
| 52 | Floodlight | New Pole | OL-MH180-NPW-FL-NC | 34,000 | 180 | 388 | 69,840 | new | ~~21.27~~ | 21.26 | 8,249 | 0.00 | -0.01 | - | (4) | 30.27 | 11,745 |
| 53 | Floodlight | New Pole Served Underground | OL-MH180-NPU-FL-NC | 34,000 | 180 | 156 | 28,080 | new | ~~26.98~~ | 26.97 | 4,207 | 0.00 | -0.01 | - | (2) | 34.89 | 5,443 |
| 54 | Floodlight | Existing Pole | OL-MH217-EP-FL-NC | 110,000 | 217 | 12 | 2,604 | new | ~~27.74~~ | 27.73 | 333 | 0.00 | -0.01 | - | (0) | 34.62 | 415 |
| 55 | Floodlight | New Pole | OL-MH217-NP-FL-NC | 110,000 | 217 | 0 | 0 | new | ~~33.78~~ | 33.77 | - | 0.00 | -0.01 | - | - | 41.11 | 0 |
| 56 | Floodlight | New Pole Served Underground | OL-MH217-NPU-FL-NC | 110,000 | 217 | 32 | 6,944 | new | ~~35.66~~ | 35.65 | 1,141 | 0.00 | -0.01 | - | (0) | 45.73 | 1,463 |
| 57 | Floodlight | Existing Pole | OL-MH435-EP-FL-NC | 110,000 | 435 | 225 | 97,875 | new | ~~47.23~~ | 47.21 | 10,622 | 0.00 | -0.02 | - | (5) | 58.93 | 13,259 |
| 58 | Floodlight | New Pole | OL-MH435-NPW-FL-NC | 110,000 | 435 | 16 | 6,960 | new | ~~47.58~~ | 47.56 | 761 | 0.00 | -0.02 | - | (0) | 65.42 | 1,047 |
| 59 | Floodlight | New Pole Served Underground | OL-MH435-NPU-FL-NC | 110,000 | 435 | 47 | 20,445 | new | ~~55.15~~ | 55.13 | 2,591 | 0.00 | -0.02 | - | (1) | 70.04 | 3,292 |
| 60 | Floodlight | New Pole (9) | OL-MH180-NP-FL-NC | 34,000 | 180 | 242 | 43,560 | new | ~~25.09~~ | 25.08 | 6,069 | 0.00 | -0.01 | - | (2) | 34.09 | 8,250 |
| 61 | Floodlight | New Pole (9) | OL-MH435-NP-FL-NC | 110,000 | 435 | 17 | 7,395 | new | ~~53.26~~ | 53.24 | 905 | 0.00 | -0.02 | - | (0) | 71.10 | 1,209 |
| 62 | | | **Mercury Vapor** | | | | | | | | | | | | | | |
| 63 | Suburban (7) | Existing Pole | OL-MV41-BRKT-EP-C-NC | 4,000 | 41 | 166 | 6,806 | ~~8.40~~ | ~~8.25~~ | 8.25 | 1,370 | -0.15 | 0.00 | 101 | (15) | 10.30 | 1,710 |
| 64 | Post Top (2) | Existing Pole | OL-MV41-PT-EP-C91-NC | 4,000 | 41 | 21,166 | 867,806 | ~~7.72~~ | ~~7.58~~ | 7.58 | 160,438 | -0.14 | 0.00 | 12,496 | (1,749) | 9.46 | 200,230 |
| 65 | Post Top (2) | New Pole | OL-MV41-PT-NP-NC | 4,000 | 41 | | | | | | | | | | | | |
| 66 | Post Top (2) | New Pole Served Underground | OL-MV41-PT-NPU-NC | 4,000 | 41 | 10,472 | 429,352 | ~~15.50~~ | ~~15.22~~ | 15.22 | 159,384 | -0.28 | 0.00 | 6,174 | (1,729) | 20.57 | 215,409 |
| 67 | Post Top (7) | Existing Pole | OL-MV41-PT-EP-C-NC | 4,000 | 41 | 156 | 6,396 | ~~10.19~~ | ~~10.01~~ | 10.01 | 1,562 | -0.18 | 0.00 | 91 | (16) | 12.50 | 1,950 |
| 68 | Suburban (3) | Existing Pole | OL-MV75-SUB-EP-NC | 7,500 | 75 | 272,642 | 20,448,150 | ~~8.42~~ | ~~8.27~~ | 8.27 | 2,254,749 | -0.15 | 0.00 | 180,836 | (27,125) | 10.32 | 2,813,665 |
| 69 | Suburban (3) | Existing Pole (C) | OL-MV75-SUB-EP-C-NC | 7,500 | 75 | 777,591 | 58,319,325 | ~~8.42~~ | ~~8.27~~ | 8.27 | 6,430,678 | -0.15 | 0.00 | 528,201 | (79,230) | 10.32 | 8,024,739 |
| 70 | Suburban (3) | New Pole | OL-MV75-SUB-NP-NC | 7,500 | 75 | 62,606 | 4,695,450 | ~~14.91~~ | ~~14.64~~ | 14.64 | 916,552 | -0.27 | 0.00 | 42,231 | (11,402) | 16.81 | 1,052,407 |
| 71 | Suburban (3) | New Pole Served Underground | OL-MV75-SUB-NPU-NC | 7,500 | 75 | 87,340 | 6,550,500 | ~~19.55~~ | ~~19.20~~ | 19.20 | 1,676,928 | -0.35 | 0.00 | 54,834 | (19,192) | 21.43 | 1,871,696 |
| 72 | Urban (6) | Existing Pole | OL-MV75-URB-EP-NC | 7,500 | 75 | 26,449 | 1,983,675 | ~~9.49~~ | ~~9.32~~ | 9.32 | 246,505 | -0.17 | 0.00 | 17,674 | (3,005) | 11.63 | 307,602 |
| 73 | Urban (6) | New Pole | OL-MV75-URB-NP-NC | 7,500 | 75 | 7,971 | 597,825 | ~~16.00~~ | ~~15.72~~ | 15.72 | 125,304 | -0.28 | 0.00 | 5,377 | (1,506) | 18.12 | 144,435 |
| 74 | Urban (6) | New Pole Served Underground | OL-MV75-URB-NPU-NC | 7,500 | 75 | 35,567 | 2,667,525 | ~~20.61~~ | ~~20.24~~ | 20.24 | 719,876 | -0.37 | 0.00 | 21,538 | (7,969) | 22.74 | 808,794 |
| 75 | Post Top (7) | Existing Pole | OL-MV75-PT-EP-C-NC | 7,500 | 75 | 2,811 | 210,825 | ~~14.52~~ | ~~14.26~~ | 14.26 | 40,085 | -0.26 | 0.00 | 1,742 | (453) | 17.80 | 50,036 |
| 76 | Urban (6) | Existing Pole | OL-MV152-URB-EP-NC | 20,000 | 152 | 12,582 | 1,912,464 | ~~13.04~~ | ~~12.81~~ | 12.80 | 161,050 | -0.24 | -0.01 | 8,023 | (1,971) | 15.98 | 201,060 |
| 77 | Urban (6) | Existing Pole (C) | OL-MV152-URB-EP-C-NC | 20,000 | 152 | 45,456 | 6,909,312 | ~~13.04~~ | ~~12.81~~ | 12.80 | 581,837 | -0.24 | -0.01 | 30,044 | (7,365) | 15.98 | 726,387 |
| 78 | Urban (6) | New Pole | OL-MV152-URB-NP-NC | 20,000 | 152 | 2,555 | 388,360 | ~~19.56~~ | ~~19.21~~ | 19.20 | 49,056 | -0.36 | -0.01 | 1,630 | (596) | 22.47 | 57,411 |
| 79 | Urban (6) | New Pole Served Underground | OL-MV152-URB-NPU-NC | 20,000 | 152 | 7,765 | 1,180,280 | ~~24.17~~ | ~~23.74~~ | 23.73 | 184,263 | -0.44 | -0.01 | 4,841 | (2,159) | 27.09 | 210,354 |

OFFICIAL COPY

Sep 30 2019

**North Carolina Present and Proposed Revenue**
**Schedule OL**

**12 Months Ended December 2018**

New Pole Adder: $6.49
New Pole Underground Adder: $4.62

| Style | Location | Price Schedule | Lumens | kWh Rating | Test Yr Lamp Mths | Imputed kWh | Previous Rate as of 1/1/2018 | Previous Rate as of 8/1/18 | Present Rate Effective 1/1/2019 | Present Revenue | Jan-Jul Unit Price Variance | Aug-Dec Unit Price Variance | Jan-Jul Lamp Mths | Price Variance [2] | Proposed Rate | Proposed Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Light Emitting Diode (8)** | | | | | | | | | | | | | | |
| Area | Existing Pole | OL-LED18-EP-NC | 4,500 | 18 | 734,589 | 13,222,602 | ~~8.73~~ | ~~8.57~~ | 8.57 | 6,295,428 | -0.16 | 0.00 | 335,070 | (53,611) | 10.70 | 7,860,102 |
| Area | New Pole | OL-LED18-NP-NC | 4,500 | 18 | 49,577 | 892,386 | ~~15.23~~ | ~~14.96~~ | 14.96 | 741,672 | -0.27 | 0.00 | 22,829 | (6,164) | 17.19 | 852,229 |
| Area | New Pole Served Underground | OL-LED18-NPU-NC | 4,500 | 18 | 78,200 | 1,407,600 | ~~19.84~~ | ~~19.49~~ | 19.49 | 1,524,118 | -0.35 | 0.00 | 39,040 | (13,664) | 21.81 | 1,705,542 |
| Area | Existing Pole | OL-LED25-EP-NC | 6,500 | 25 | 51,320 | 1,283,000 | ~~8.93~~ | ~~8.77~~ | 8.77 | 450,076 | -0.16 | 0.00 | 28,306 | (4,529) | 10.95 | 561,954 |
| Area | New Pole | OL-LED25-NP-NC | 6,500 | 25 | 18,631 | 465,775 | ~~15.42~~ | ~~15.15~~ | 15.15 | 282,260 | -0.27 | 0.00 | 10,469 | (2,827) | 17.44 | 324,925 |
| Area | New Pole Served Underground | OL-LED25-NPU-NC | 6,500 | 25 | 22,570 | 564,250 | ~~20.04~~ | ~~19.68~~ | 19.68 | 444,178 | -0.36 | 0.00 | 12,490 | (4,496) | 22.06 | 497,894 |
| Area | Existing Pole | OL-LED40-EP-NC | 9,500 | 40 | 8,013 | 320,520 | ~~10.85~~ | ~~10.66~~ | 10.66 | 85,419 | -0.19 | 0.00 | 4,440 | (844) | 13.31 | 106,653 |
| Area | New Pole | OL-LED40-NP-NC | 9,500 | 40 | 4,241 | 169,640 | ~~17.35~~ | ~~17.04~~ | 17.04 | 72,267 | -0.31 | 0.00 | 2,387 | (740) | 19.80 | 83,972 |
| Area | New Pole Served Underground | OL-LED40-NPU-NC | 9,500 | 40 | 9,292 | 371,680 | ~~21.96~~ | ~~21.57~~ | 21.57 | 200,428 | -0.39 | 0.00 | 5,127 | (2,000) | 24.42 | 226,911 |
| Area | Existing Pole | OL-LED54-EP-NC | 12,500 | 54 | 41,812 | 2,257,848 | ~~12.10~~ | ~~11.88~~ | 11.88 | 496,727 | -0.22 | 0.00 | 20,350 | (4,477) | 14.83 | 620,072 |
| Area | New Pole | OL-LED54-NP-NC | 12,500 | 54 | 6,491 | 350,514 | ~~18.60~~ | ~~18.27~~ | 18.27 | 118,591 | -0.33 | 0.00 | 3,423 | (1,130) | 21.32 | 138,388 |
| Area | New Pole Served Underground | OL-LED54-NPU-NC | 12,500 | 54 | 26,926 | 1,454,004 | ~~23.21~~ | ~~22.80~~ | 22.80 | 613,913 | -0.41 | 0.00 | 14,198 | (5,821) | 25.94 | 698,460 |
| Area | Existing Pole | OL-LED79-EP-NC | 18,500 | 79 | 11,096 | 876,584 | ~~14.21~~ | ~~13.96~~ | 13.96 | 154,900 | -0.25 | 0.00 | 6,147 | (1,537) | 17.43 | 193,403 |
| Area | New Pole | OL-LED79-NP-NC | 18,500 | 79 | 3,343 | 264,097 | ~~20.70~~ | ~~20.33~~ | 20.33 | 67,963 | -0.37 | 0.00 | 1,828 | (676) | 23.92 | 79,965 |
| Area | New Pole Served Underground | OL-LED79-NPU-NC | 18,500 | 79 | 20,761 | 1,640,119 | ~~25.32~~ | ~~24.87~~ | 24.87 | 516,326 | -0.45 | 0.00 | 10,584 | (4,763) | 28.54 | 592,519 |
| Area | Existing Pole | OL-LED101-EP-NC | 24,000 | 101 | 9,200 | 929,200 | ~~16.22~~ | ~~15.93~~ | 15.93 | 146,556 | -0.29 | 0.00 | 5,287 | (1,533) | 19.89 | 182,988 |
| Area | New Pole | OL-LED101-NP-NC | 24,000 | 101 | 3,943 | 398,243 | ~~22.72~~ | ~~22.32~~ | 22.32 | 88,008 | -0.40 | 0.00 | 2,240 | (896) | 26.38 | 104,016 |
| Area | New Pole Served Underground | OL-LED101-NPU-NC | 24,000 | 101 | 7,700 | 777,700 | ~~27.33~~ | ~~26.84~~ | 26.84 | 206,668 | -0.49 | 0.00 | 4,418 | (2,165) | 31.00 | 238,700 |
| Area | Existing Pole | OL-LED151-EP-NC | 43,000 | 151 | 2,612 | 394,412 | ~~34.27~~ | ~~33.66~~ | 33.65 | 87,894 | -0.62 | -0.01 | 1,390 | (874) | 42.01 | 109,730 |
| Area | New Pole | OL-LED151-NP-NC | 43,000 | 151 | 890 | 134,390 | ~~40.76~~ | ~~40.04~~ | 40.03 | 35,627 | -0.73 | -0.01 | 426 | (316) | 48.50 | 43,165 |
| Area | New Pole Served Underground | OL-LED151-NPU-NC | 43,000 | 151 | 5,334 | 805,434 | ~~45.38~~ | ~~44.57~~ | 44.56 | 237,683 | -0.82 | -0.01 | 2,549 | (2,118) | 53.12 | 283,342 |
| Area | Existing Pole | OL-LED179-EP-NC | 48,000 | 179 | | | | | 37.74 | | | | | | 47.11 | 0 |
| Area | New Pole | OL-LED179-NP-NC | 48,000 | 179 | | | | | | | | | New Rate | | 53.60 | 0 |
| Area | New Pole Served Underground | OL-LED179-NPU-NC | 48,000 | 179 | | | | | | | | | | | 58.22 | 0 |
| Floodlight | Existing Pole | OL-LED47-EP-FL-NC | 15,000 | 47 | 2,546 | 119,662 | new | ~~18.24~~ | 18.24 | 46,439 | 0.00 | 0.00 | - | - | 22.77 | 57,972 |
| Floodlight | New Pole | OL-LED47-NP-FL-NC | 15,000 | 47 | 719 | 33,793 | new | ~~25.84~~ | 25.84 | 18,579 | 0.00 | 0.00 | - | - | 29.26 | 21,038 |
| Floodlight | New Pole Served Underground | OL-LED47-NPU-FL-NC | 15,000 | 47 | 286 | 13,442 | new | ~~30.38~~ | 30.38 | 8,689 | 0.00 | 0.00 | - | - | 33.88 | 9,690 |
| Floodlight | Existing Pole | OL-LED48-EP-FL-NC | 30,000 | 48 | 0 | 0 | new | ~~38.40~~ | 38.40 | - | 0.00 | 0.00 | - | - | 47.93 | 0 |
| Floodlight | New Pole | OL-LED48-NP-FL-NC | 30,000 | 48 | 0 | 0 | new | ~~46.01~~ | 46.01 | - | 0.00 | 0.00 | - | - | 54.42 | 0 |
| Floodlight | New Pole Served Underground | OL-LED48-NPU-FL-NC | 30,000 | 48 | 0 | 0 | new | ~~50.54~~ | 50.54 | - | 0.00 | 0.00 | - | - | 59.04 | 0 |
| Floodlight | Existing Pole | OL-LED95-EP-FL-NC | 30,000 | 95 | 452 | 42,940 | new | ~~39.49~~ | 39.49 | 17,849 | 0.00 | 0.00 | - | - | 49.30 | 22,284 |
| Floodlight | New Pole | OL-LED95-NP-FL-NC | 30,000 | 95 | 118 | 11,210 | new | ~~47.09~~ | 47.09 | 5,557 | 0.00 | 0.00 | - | - | 55.79 | 6,583 |
| Floodlight | New Pole Served Underground | OL-LED95-NPU-FL-NC | 30,000 | 95 | 158 | 15,010 | new | ~~51.63~~ | 51.63 | 8,158 | 0.00 | 0.00 | - | - | 60.41 | 9,545 |
| | | | | | 4,614,189 | 325,080,949 | | | | 65,652,590 | | | 2,500,773 | (627,654) | | 77,887,642 |

(1) The "Existing Pole" rate is applicable to installations, including pole, installed prior to November 12, 1991.
After this date, the "Existing Pole" rate is available only for luminaires attached to poles which are not installed solely to support the luminaire.
(2) Luminaire is not available for the lighting of streets, roadways, and other vehicle thoroughfares.
(3) Closed to new installations on or after July 1, 2005.
(4) Closed to new installations on or after September 15, 1985.
(5) Closed to new installations on or after November 12, 1991.
(6) Closed to new contracts on or after October 1, 2007 for luminares installed before January 1, 2008.
(7) Closed to new installations.
(8) Light Emitting Diode (LED) luminaires are available for new installations after January 28, 2014, as replacements for failed mercury vapor luminaires, and for customer requested replacements of existing mercury vapor luminaires, provided the fixture will accommodate an LED luminaire as a replacement. LED luminaires are not available as replacements for High Pressure Sodium Vapor or Metal Halide.
(9) 40' wood pole served overhead.

| | |
|---|---|
| Revenue from Billing Units and Present Rates | 77,887,642 |
| Add Base Rate Rider Adjustments | 129,382 |
| Add Extra Facilities charges billed during test year | 7,905,043 |
| Unadjusted Revenue (Base Rates) | 85,922,067 |
| Revenue adjusted for Spread Factor | 84,493,823 |
| | 16.60% |

---

| | |
|---|---|
| Revenue from Billing Units and Present Rates | 65,652,590 |
| Booked Extra Facilities Charges | 7,905,043 |
| Unadjusted Present Revenue | 73,557,632 |
| Present Revenue adjusted for Spread Factor | 72,334,917 |

add adjustments to base rate [1]

| | | | | Row | Col | |
|---|---|---|---|---|---|---|
| Adjustment to Base Fuel | 0.000398 | 325,080,949 | 129,382 | 1 | 9 | OL,FL,PL,GL,NL |
| | 0.000000 | 325,080,949 | 0 | 2 | 9 | OL,FL,PL,GL,NL |
| | 0.000398 | | | | | |
| Equals Annualized Present Revenue | | | 72,464,299 | | | |
| BPM Prospective Rider | -0.000078 | 325,080,949 | (25,356) | 6 | 9 | OL,FL,PL,GL,NL |
| BPM True-Up Rider | 0.000067 | 325,080,949 | 21,780 | 7 | 9 | OL,FL,PL,GL,NL |
| EDIT-1 | -0.001049 | 325,080,949 | (341,010) | 8 | 9 | OL,FL,PL,GL,NL |
| Existing DSM Program Costs Adjustment | -0.000055 | 325,080,949 | (17,879) | 10 | 9 | OL,FL,PL,GL,NL |
| | | | (362,465) | | | |
| Total Riders $/kWh | -0.000717 | | | | | |

**OL Spread Factor Calculation - Comparison to Book**

| | |
|---|---|
| Unadjusted Present Revenue | 65,652,590 |
| Add booked rider Adjustments | (1,071,867) |
| Add booked extra facility charges | 7,905,043 |
| Add price variance due to test year rate changes | 627,654 |
| Equals estimated Booked Revenue | 73,113,419 |
| Reported Booked Revenue | 71,898,088 |
| Revenue Spread Factor (Reported / Estimated) | **0.983** |

| | | |
|---|---|---|
| Booked OL kWh for test year | 322,381,128 | |
| Estimated OL kWh from Billing Data | 325,080,949 | |
| OL kWh Spread Factor (Reported/Estimated - for information only) | 0.9917 | |
| OL kWh Variance | (2,699,821) | -0.84% |
| Average Booked Revenue per Lamp per Month | $ 13.43 | |

**Notes**

[1] Projected rider adjustments applicable to schedule
[2] Difference in Revenue: Test Year Sales @ Present Rates and @ Test Year Rates

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule FL (closed, moved into Schedules GL & OL)**

| FL | Price Schedule | Lumens | Style | kWh Rating | Test Yr Lamp Mths | Imputed kWh | Previous Rate as of 1/1/2018 | Previous Rate as of 8/1/18 | Present Rate Effective 1/1/2019 | Present Revenue | Jan-Jul Unit Price Variance | Aug-Dec Unit Price Variance | Jan-Jul Lamp Mths | Price Variance [2] | OL Price Schedule | Proposed Rate | Proposed Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **High Pressure Sodium Vapor** | | | | | | | | | | | | | | | | |
| 2 | FL-HPS70-EP-NC | 16,000 | FloodLight | 70 | 21,222 | 1,485,540 | ~~14.08~~ | ~~13.83~~ | 13.83 | 293,500 | -0.25 | 0.00 | 18,722 | (4,681) | OL-HPS70-EP-FL-NC | 17.26 | 366,291.72 |
| 3 | FL-HPS70-EP-C-NC | 16,000 | FloodLight | 70 | 3,814 | 266,980 | ~~14.08~~ | ~~13.83~~ | 13.83 | 52,748 | -0.25 | 0.00 | 3,364 | (841) | OL-HPS70-EP-C-FL-NC | 17.26 | 65,829.64 |
| 4 | FL-HPS70-NP-NC | 16,000 | FloodLight | 70 | 2,929 | 205,030 | ~~21.82~~ | ~~21.43~~ | 21.43 | 62,768 | -0.39 | 0.00 | 2,598 | (1,013) | OL-HPS70-NP-FL-NC | 23.75 | 69,563.75 |
| 5 | FL-HPS70-NPU-NC | 16,000 | FloodLight | 70 | 1,725 | 120,750 | ~~26.44~~ | ~~25.97~~ | 25.97 | 44,798 | -0.47 | 0.00 | 1,520 | (714) | OL-HPS70-NPU-FL-NC | 28.37 | 48,938.25 |
| 6 | FL-HPS104-EP-NC | 27,500 | FloodLight | 104 | 46,006 | 4,784,624 | ~~16.58~~ | ~~16.29~~ | 16.29 | 749,438 | -0.29 | 0.00 | 40,578 | (11,768) | OL-HPS104-EP-FL-NC | 20.33 | 935,301.98 |
| 7 | FL-HPS104-EP-C-NC | 27,500 | FloodLight | 104 | 9,821 | 1,021,384 | ~~16.58~~ | ~~16.29~~ | 16.29 | 159,984 | -0.29 | 0.00 | 8,646 | (2,507) | OL-HPS104-EP-C-FL-NC | 20.33 | 199,660.93 |
| 8 | FL-HPS104-NP-NC | 27,500 | FloodLight | 104 | 6,454 | 671,216 | ~~24.32~~ | ~~23.89~~ | 23.89 | 154,186 | -0.43 | 0.00 | 5,668 | (2,437) | OL-HPS104-NP-FL-NC | 26.82 | 173,096.28 |
| 9 | FL-HPS104-NPU-NC | 27,500 | FloodLight | 104 | 5,416 | 563,264 | ~~28.94~~ | ~~28.43~~ | 28.43 | 153,977 | -0.51 | 0.00 | 4,817 | (2,457) | OL-HPS104-NPU-FL-NC | 31.44 | 170,279.04 |
| 10 | FL-HPS156-EP-NC | 50,000 | FloodLight | 156 | 301,610 | 47,051,160 | ~~18.64~~ | ~~18.31~~ | 18.30 | 5,519,463 | -0.34 | -0.01 | 265,535 | (90,643) | OL-HPS156-EP-FL-NC | 22.84 | 6,888,772.40 |
| 11 | FL-HPS156-EP-C-NC | 50,000 | FloodLight | 156 | 46,062 | 7,185,672 | ~~18.64~~ | ~~18.31~~ | 18.30 | 842,935 | -0.34 | -0.01 | 40,468 | (13,815) | OL-HPS156-EP-C-FL-NC | 22.84 | 1,052,056.08 |
| 12 | FL-HPS156-NP-NC | 50,000 | FloodLight | 156 | 82,980 | 12,944,880 | ~~26.38~~ | ~~25.91~~ | 25.90 | 2,149,182 | -0.48 | -0.01 | 73,159 | (35,215) | OL-HPS156-NP-FL-NC | 29.33 | 2,433,803.40 |
| 13 | FL-HPS156-NPU-NC | 50,000 | FloodLight | 156 | 53,284 | 8,312,304 | ~~31.00~~ | ~~30.45~~ | 30.44 | 1,621,965 | -0.56 | -0.01 | 46,725 | (26,232) | OL-HPS156-NPU-FL-NC | 33.95 | 1,808,991.80 |
| 14 | **Metal Halide** | | | | | | | | | | | | | | | | |
| 15 | FL-MH155-EP-NC | 40,000 | FloodLight | 155 | 98,096 | 15,204,880 | ~~20.70~~ | ~~20.33~~ | 20.32 | 1,993,311 | -0.38 | -0.01 | 86,482 | (32,979) | OL-MH155-EP-FL-NC | 25.37 | 2,488,695.52 |
| 16 | FL-MH155-NP-NC | 40,000 | FloodLight | 155 | 24,732 | 3,833,460 | ~~28.44~~ | ~~27.93~~ | 27.92 | 690,517 | -0.52 | -0.01 | 21,835 | (11,383) | OL-MH155-NP-FL-NC | 31.86 | 787,961.52 |
| 17 | FL-MH155-NPU-NC | 40,000 | FloodLight | 155 | 26,714 | 4,140,670 | ~~33.06~~ | ~~32.47~~ | 32.46 | 867,136 | -0.60 | -0.01 | 23,387 | (14,065) | OL-MH155-NPU-FL-NC | 36.48 | 974,526.72 |
| 18 | FL-MH180-EP-NC | 34,000 | FloodLight | 180 | 3,540 | 637,200 | ~~19.40~~ | ~~19.06~~ | 19.05 | 67,437 | -0.35 | -0.01 | 3,124 | (1,098) | OL-MH180-EP-FL-NC | 23.78 | 84,181.20 |
| 19 | FL-MH180-NPW-NC | 34,000 | FloodLight | 180 | 894 | 160,920 | ~~21.65~~ | ~~21.27~~ | 21.26 | 19,006 | -0.39 | -0.01 | 794 | (311) | OL-MH180-NPW-FL-NC | 30.27 | 27,061.38 |
| 20 | FL-MH180-NP-NC | 34,000 | FloodLight | 180 | 550 | 99,000 | ~~25.54~~ | ~~25.09~~ | 25.08 | 13,794 | -0.46 | -0.01 | 484 | (223) | OL-MH180-NP-FL-NC | 34.09 | 18,749.50 |
| 21 | FL-MH180-NPU-NC | 34,000 | FloodLight | 180 | 303 | 54,540 | ~~27.47~~ | ~~26.98~~ | 26.97 | 8,172 | -0.50 | -0.01 | 267 | (134) | OL-MH180-NPU-FL-NC | 34.89 | 10,571.67 |
| 22 | FL-MH217-EP-NC | 110,000 | FloodLight | 217 | 33 | 7,161 | ~~28.24~~ | ~~27.74~~ | 27.73 | 915 | -0.51 | -0.01 | 30 | (15) | OL-MH217-EP-FL-NC | 34.62 | 1,142.46 |
| 23 | FL-MH217-NP-NC | 110,000 | FloodLight | 217 | - | 0 | ~~34.39~~ | ~~33.78~~ | 33.77 | 0 | -0.62 | -0.01 | - | - | OL-MH217-NP-FL-NC | 41.11 | - |
| 24 | FL-MH217-NPU-NC | 110,000 | FloodLight | 217 | 112 | 24,304 | ~~36.31~~ | ~~35.66~~ | 35.65 | 3,993 | -0.66 | -0.01 | 104 | (69) | OL-MH217-NPU-FL-NC | 45.73 | 5,121.76 |
| 25 | FL-MH435-NPW-NC | 110,000 | FloodLight | 435 | 32 | 13,920 | ~~48.44~~ | ~~47.58~~ | 47.56 | 1,522 | -0.88 | -0.02 | 28 | (25) | OL-MH435-NPW-FL-NC | 65.42 | 2,093.44 |
| 26 | FL-MH435-EP-NC | 110,000 | FloodLight | 435 | 504 | 219,240 | ~~48.08~~ | ~~47.23~~ | 47.21 | 23,794 | -0.87 | -0.02 | 449 | (392) | OL-MH435-EP-FL-NC | 58.93 | 29,700.72 |
| 27 | FL-MH435-NP-NC | 110,000 | FloodLight | 435 | 30 | 13,050 | ~~54.22~~ | ~~53.26~~ | 53.24 | 1,597 | -0.98 | -0.02 | 28 | (27) | OL-MH435-NP-FL-NC | 71.10 | 2,133.00 |
| 28 | FL-MH435-NPU-NC | 110,000 | FloodLight | 435 | 132 | 57,420 | ~~56.15~~ | ~~55.15~~ | 55.13 | 7,277 | -1.02 | -0.02 | 119 | (122) | OL-MH435-NPU-FL-NC | 70.04 | 9,245.28 |
| 29 | **LED** | | | | | | | | | | | | | | | | |
| 30 | FL-LED47-EP-NC | 34,000 | FloodLight | 47 | 1,945 | 91,415 | ~~18.57~~ | ~~18.24~~ | 18.24 | 35,477 | -0.33 | 0.00 | 1,502 | (496) | OL-LED47-EP-FL-NC | 22.77 | 44,287.65 |
| 31 | FL-LED47-NP-NC | 34,000 | FloodLight | 47 | 539 | 25,333 | ~~26.31~~ | ~~25.84~~ | 25.84 | 13,928 | -0.47 | 0.00 | 428 | (201) | OL-LED47-NP-FL-NC | 29.26 | 15,771.14 |
| 32 | FL-LED47-NPU-NC | 34,000 | FloodLight | 47 | 229 | 10,763 | ~~30.93~~ | ~~30.38~~ | 30.38 | 6,957 | -0.55 | 0.00 | 169 | (93) | OL-LED47-NPU-FL-NC | 33.88 | 7,758.52 |
| 33 | FL-LED48-EP-NC | 110,000 | FloodLight | 48 | 8 | 384 | ~~39.10~~ | ~~38.40~~ | 38.40 | 307 | -0.70 | 0.00 | 7 | (5) | OL-LED48-EP-FL-NC | 47.93 | 383.44 |
| 34 | FL-LED48-NP-NC | 110,000 | FloodLight | 48 | - | 0 | ~~46.84~~ | ~~46.01~~ | 46.01 | 0 | -0.83 | 0.00 | - | - | OL-LED48-NP-FL-NC | 54.42 | - |
| 35 | FL-LED48-NPU-NC | 110,000 | FloodLight | 48 | - | 0 | ~~51.46~~ | ~~50.54~~ | 50.54 | 0 | -0.92 | 0.00 | - | - | OL-LED48-NPU-FL-NC | 59.04 | - |
| 36 | FL-LED95-EP-NC | 110,000 | FloodLight | 95 | 297 | 28,215 | ~~40.20~~ | ~~39.49~~ | 39.49 | 11,729 | -0.71 | 0.00 | 209 | (148) | OL-LED95-EP-FL-NC | 49.30 | 14,642.10 |
| 37 | FL-LED95-NP-NC | 110,000 | FloodLight | 95 | 104 | 9,880 | ~~47.94~~ | ~~47.09~~ | 47.09 | 4,897 | -0.85 | 0.00 | 82 | (70) | OL-LED95-NP-FL-NC | 55.79 | 5,802.16 |
| 38 | FL-LED95-NPU-NC | 110,000 | FloodLight | 95 | 97 | 9,215 | ~~52.56~~ | ~~51.63~~ | 51.63 | 5,008 | -0.93 | 0.00 | 64 | (60) | OL-LED95-NPU-FL-NC | 60.41 | 5,859.77 |
| 39 | | | | | | | | | | | | | | | | | |
| 40 | | | | | 740,214 | 109,253,774 | | | | 15,581,719 | | | 651,392 | (254,237) | | | 18,748,274 |

| Row | Item | Present | Item | Proposed |
|---|---|---|---|---|
| 42 | Revenue from Billing Units and Present Rates | 15,581,719 | Revenue from Billing Units and Present Rates | 18,748,274 |
| 43 | | | Add Base Rate Rider Adjustments | 43,483 |
| 44 | Add Booked Extra Facilities Charges | 0 | Add Extra Facilities charges billed during test year | 0 |
| 45 | Unadjusted Present Revenue | 15,581,719 | Unadjusted Revenue (Base Rates) | 18,791,757 |
| 47 | Present Revenue adjusted for Spread Factor | 15,564,794 | Revenue adjusted for Spread Factor | 18,771,346 |
| 48 | | | | 20.27% |

49 add adjustments to base rate [1]

| Row | Item | kWh | Rate | Amount | Row | Col |
|---|---|---|---|---|---|---|
| 50 | Adjustment to Base Fuel | 109,253,774 | 0.000398 | 43,483 | 1 | 9 OL,FL,PL,GL,NL |
| 51 | | 109,253,774 | 0.000000 | 0 | 2 | 9 OL,FL,PL,GL,NL |
| 52 | | | 0.000398 | | | |
| 54 | Equals Annualized Present Revenue | | | $ 15,608,277 | | |
| 56 | BPM Prospective Rider | 109,253,774 | -0.000078 | (8,522) | 6 | 9 OL,FL,PL,GL,NL |
| 57 | BPM True-Up Rider | 109,253,774 | 0.000067 | 7,320 | 7 | 9 OL,FL,PL,GL,NL |
| 58 | EDIT-1 | 109,253,774 | -0.001049 | (114,607) | 8 | 9 OL,FL,PL,GL,NL |
| 59 | Existing DSM Program Costs Adjustment | 109,253,774 | -0.000055 | (6,009) | 10 | 9 OL,FL,PL,GL,NL |
| 60 | | | | (121,818) | | |
| 61 | Total Riders $/kWh | | -0.000717 | | | |

| Row | FL Spread Factor Calculation | |
|---|---|---|
| 65 | Unadjusted Present Revenue | 15,581,719 |
| 66 | Add booked rider Adjustments | (533,909) |
| 67 | Add booked extra facility charges | 0 |
| 68 | Add price variance due to test year rate changes | 254,237 |
| 69 | Equals estimated Booked Revenue | 15,302,047 |
| 70 | Reported Booked Revenue | 15,285,426 |
| 71 | Revenue Spread Factor (Reported / Estimated) | **0.999** |

| Row | Item | Value | |
|---|---|---|---|
| 74 | Booked kWh for test year | 107,709,339 | |
| 75 | Estimated kWh from Billing Data | 109,253,774 | |
| 76 | kWh Spread Factor (Reported/Estimated - for information only) | 0.9859 | |
| 77 | kWh Variance | (1,544,435) | -1.43% |

**North Carolina Present and Proposed Revenue**
**Schedule PL**

**12 Months Ended December 2018**

New Pole Adder: $6.49
New Pole Underground Adder: $4.62

| PL | Style | Location | Price Schedule | Lumens | kWh Rating | Test Yr Lamp Mths | Imputed kWh | Previous Rate as of 1/1/2018 | Previous Rate as of 8/1/18 | Present Rate Effective 1/1/2019 | Present Revenue | Jan-Aug Unit Price Variance | Sep-Dec Unit Price Variance | Jan-Aug Lamp Mths | Price Variance [2] | Proposed Rate | Proposed Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **High Pressure Sodium Vapor** | | | | | | | | | | | | | | |
| 1 | Suburban (1) | Inside Municipal Limits | PL-HPS47-SUB-IN-NC | 9,500 | 47 | 676,445 | 31,792,915 | ~~8.11~~ | ~~6.44~~ | 6.44 | 4,356,306 | -1.67 | 0.00 | 452,321 | (755,376) | 7.69 | 5,201,862 |
| 2 | Suburban (1) | Outside Municipal Limits | PL-HPS47-SUB-OUT-NC | 9,500 | 47 | 3,793 | 178,271 | ~~8.55~~ | ~~6.79~~ | 6.79 | 25,754 | -1.76 | 0.00 | 2,534 | (4,460) | 7.69 | 29,168 |
| 3 | Urban | Inside Municipal Limits | PL-HPS47-URB-IN-NC | 9,500 | 47 | 397,680 | 18,690,960 | ~~9.28~~ | ~~7.37~~ | 7.37 | 2,930,902 | -1.91 | 0.00 | 261,354 | (499,186) | 8.81 | 3,503,561 |
| 4 | Urban | Outside Municipal Limits | PL-HPS47-URB-OUT-NC | 9,500 | 47 | 4,143 | 194,721 | ~~9.73~~ | ~~7.73~~ | 7.73 | 32,025 | -2.00 | 0.00 | 2,744 | (5,488) | 8.81 | 36,500 |
| 5 | Suburban (2) (in suitable mercury fixture | Inside Municipal Limits | PL-HPS56-SUB-IN-NC | 13,000 | 56 | 1,059 | 59,304 | ~~8.97~~ | ~~7.13~~ | 7.13 | 7,551 | -1.84 | 0.00 | 711 | (1,308) | 8.61 | 9,118 |
| 6 | Suburban (2) (in suitable mercury fixture | Outside Municipal Limits | PL-HPS56-SUB-OUT-NC | 13,000 | 56 | 307 | 17,192 | ~~9.40~~ | ~~7.47~~ | 7.47 | 2,293 | -1.93 | 0.00 | 203 | (392) | 8.61 | 2,643 |
| 7 | Urban | Inside Municipal Limits | PL-HPS70-URB-IN-NC | 16,000 | 70 | 350,266 | 24,518,620 | ~~10.10~~ | ~~8.03~~ | 8.03 | 2,812,636 | -2.07 | 0.00 | 248,215 | (513,805) | 9.59 | 3,359,051 |
| 8 | Urban | Outside Municipal Limits | PL-HPS70-URB-OUT-NC | 16,000 | 70 | 633 | 44,310 | ~~10.55~~ | ~~8.38~~ | 8.38 | 5,305 | -2.17 | 0.00 | 424 | (920) | 9.59 | 6,070 |
| 9 | Urban | Inside Municipal Limits | PL-HPS104-URB-IN-NC | 27,500 | 104 | 540,670 | 56,229,680 | ~~12.12~~ | ~~9.63~~ | 9.63 | 5,206,652 | -2.49 | 0.00 | 354,415 | (882,493) | 11.52 | 6,228,518 |
| 10 | Urban | Outside Municipal Limits | PL-HPS104-URB-OUT-NC | 27,500 | 104 | 15,635 | 1,626,040 | ~~12.57~~ | ~~9.99~~ | 9.99 | 156,194 | -2.58 | 0.00 | 10,418 | (26,878) | 11.52 | 180,115 |
| 11 | Urban(3) (in suitable mercury fixture) | Inside Municipal Limits | PL-HPS136-URB-IN-NC | 38,000 | 136 | 23 | 3,128 | ~~13.17~~ | ~~10.47~~ | 10.46 | 241 | -2.71 | -0.01 | 15 | (41) | 12.49 | 287 |
| 12 | Urban(3) (in suitable mercury fixture) | Outside Municipal Limits | PL-HPS136-URB-OUT-NC | 38,000 | 136 | - | 0 | ~~13.59~~ | ~~10.80~~ | 10.79 | - | -2.80 | -0.01 | - | - | 12.49 | 0 |
| 13 | Urban | Inside Municipal Limits | PL-HPS156-URB-IN-NC | 50,000 | 156 | 187,433 | 29,239,548 | ~~15.00~~ | ~~11.92~~ | 11.91 | 2,232,327 | -3.09 | -0.01 | 130,048 | (402,422) | 14.25 | 2,670,920 |
| 14 | Urban | Outside Municipal Limits | PL-HPS156-URB-OUT-NC | 50,000 | 156 | 10,391 | 1,620,996 | ~~15.43~~ | ~~12.26~~ | 12.25 | 127,290 | -3.18 | -0.01 | 6,904 | (21,990) | 14.25 | 148,072 |
| 15 | Urban (installed on 55 foot wood pole) | Inside Municipal Limits | PL-HPS391-URB-IN-NC | 140,000 | 391 | 1,002 | 391,782 | ~~30.71~~ | ~~24.40~~ | 24.38 | 24,429 | -6.33 | -0.02 | 672 | (4,260) | 29.12 | 29,178 |
| 16 | Urban (installed on 55 foot wood pole) | Outside Municipal Limits | PL-HPS391-URB-OUT-NC | 140,000 | 391 | - | 0 | ~~31.14~~ | ~~24.75~~ | 24.73 | - | -6.41 | -0.02 | - | - | 29.12 | 0 |
| 17 | Suburban (1) | Existing Pole | PL-HPS47-SUB-EP-NC | 9,500 | 47 | | | | | 6.44 | | | | | | 7.69 | 0 |
| 18 | Suburban (1) | New Pole | PL-HPS47-SUB-NP-NC | 9,500 | 47 | | | | | | | | | | | 14.18 | 0 |
| 19 | Suburban (1) | New Pole Served Underground | PL-HPS47-SUB-NPU-NC | 9,500 | 47 | | | | | | | | | | | 18.80 | 0 |
| 20 | Urban | Existing Pole | PL-HPS47-URB-EP-NC | 9,500 | 47 | | | | | 7.37 | | | | | | 8.81 | 0 |
| 21 | Urban | New Pole | PL-HPS47-URB-NP-NC | 9,500 | 47 | | | | | | | | | | | 15.30 | 0 |
| 22 | Urban | New Pole Served Underground | PL-HPS47-URB-NPU-NC | 9,500 | 47 | | | | | | | | | | | 19.92 | 0 |
| 23 | Suburban (2) (in suitable mercury fixture | Existing Pole | PL-HPS56-SUB-EP-NC | 13,000 | 56 | | | | | 7.21 | | | | | | 8.61 | 0 |
| 24 | Suburban (2) (in suitable mercury fixture | New Pole | PL-HPS56-SUB-NP-NC | 13,000 | 56 | | | | | | | | | | | 15.10 | 0 |
| 25 | Suburban (2) (in suitable mercury fixture | New Pole Served Underground | PL-HPS56-SUB-NPU-NC | 13,000 | 56 | | | | | | | | | To be modified from | | 19.72 | 0 |
| 26 | Urban | Existing Pole | PL-HPS70-URB-EP-NC | 16,000 | 70 | | | | | 8.03 | | | | Inside/Outside | | 9.59 | 0 |
| 27 | Urban | New Pole | PL-HPS70-URB-NP-NC | 16,000 | 70 | | | | | | | | | Municipal Limits | | 16.08 | 0 |
| 28 | Urban | New Pole Served Underground | PL-HPS70-URB-NPU-NC | 16,000 | 70 | | | | | | | | | to Existing/New/ | | 20.70 | 0 |
| 29 | Urban | Existing Pole | PL-HPS104-URB-EP-NC | 27,500 | 104 | | | | | 9.64 | | | | New Pole Served | | 11.52 | 0 |
| 30 | Urban | New Pole | PL-HPS104-URB-NP-NC | 27,500 | 104 | | | | | | | | | Underground. | | 18.01 | 0 |
| 31 | Urban | New Pole Served Underground | PL-HPS104-URB-NPU-NC | 27,500 | 104 | | | | | | | | | | | 22.63 | 0 |
| 32 | Urban(3) (in suitable mercury fixture) | Existing Pole | PL-HPS136-URB-EP-NC | 38,000 | 136 | | | | | 10.46 | | | | | | 12.49 | 0 |
| 33 | Urban(3) (in suitable mercury fixture) | New Pole | PL-HPS136-URB-NP-NC | 38,000 | 136 | | | | | | | | | | | 18.98 | 0 |
| 34 | Urban(3) (in suitable mercury fixture) | New Pole Served Underground | PL-HPS136-URB-NPU-NC | 38,000 | 136 | | | | | | | | | | | 23.60 | 0 |
| 35 | Urban | Existing Pole | PL-HPS156-URB-EP-NC | 50,000 | 156 | | | | | 11.93 | | | | | | 14.25 | 0 |
| 36 | Urban | New Pole | PL-HPS156-URB-NP-NC | 50,000 | 156 | | | | | | | | | | | 20.74 | 0 |
| 37 | Urban | New Pole Served Underground | PL-HPS156-URB-NPU-NC | 50,000 | 156 | | | | | | | | | | | 25.36 | 0 |
| 38 | Urban (installed on 55 foot wood pole) | Existing Pole | PL-HPS391-URB-EP-NC | 140,000 | 391 | | | | | 24.38 | | | | | | 29.12 | 0 |
| 39 | Urban (installed on 55 foot wood pole) | New Pole | PL-HPS391-URB-NP-NC | 140,000 | 391 | | | | | | | | | | | 35.61 | 0 |
| 40 | Urban (installed on 55 foot wood pole) | New Pole Served Underground | PL-HPS391-URB-NPU-NC | 140,000 | 391 | | | | | | | | | | | 40.23 | 0 |
| 41 | | | **Metal Halide** | | | | - | | | | | | | | | | |
| 42 | Urban | Inside Municipal Limits | PL-MH43-URB-IN-NC | 9,000 | 43 | 3,017 | 129,731 | new | ~~11.75~~ | 11.75 | 35,450 | 0.00 | 0.00 | - | - | 14.04 | 42,359 |
| 43 | Urban | Outside Municipal Limits | PL-MH43-URB-OUT-NC | 9,000 | 43 | 0 | 0 | new | ~~12.22~~ | 12.22 | - | 0.00 | 0.00 | - | - | 14.04 | 0 |
| 44 | Urban | Inside Municipal Limits | PL-MH155-URB-IN-NC | 40,000 | 155 | 18,874 | 2,925,470 | ~~18.04~~ | ~~14.34~~ | 14.33 | 270,464 | -3.71 | -0.01 | 11,393 | (42,343) | 17.22 | 325,010 |
| 45 | Urban | Outside Municipal Limits | PL-MH155-URB-OUT-NC | 40,000 | 155 | 6,067 | 940,385 | ~~18.48~~ | ~~14.69~~ | 14.68 | 89,064 | -3.80 | -0.01 | 4,047 | (15,399) | 17.22 | 104,474 |
| 46 | Area | Inside Municipal Limits | PL-MH295-IN-NC | 78,000 | 295 | 261 | 76,995 | new | ~~43.86~~ | 43.85 | 11,445 | 0.00 | -0.01 | - | (3) | 52.38 | 13,671 |
| 47 | Area | Outside Municipal Limits | PL-MH295-OUT-NC | 78,000 | 295 | 0 | 0 | new | ~~44.33~~ | 44.32 | - | 0.00 | -0.01 | - | - | 52.38 | 0 |
| 48 | Urban | Existing Pole | PL-MH43-URB-EP-NC | 9,000 | 43 | | | | | 11.75 | | | | | | 14.04 | 0 |
| 49 | Urban | New Pole | PL-MH43-URB-NP-NC | 9,000 | 43 | | | | | | | | | To be modified from | | 20.53 | 0 |
| 50 | Urban | New Pole Served Underground | PL-MH43-URB-NPU-NC | 9,000 | 43 | | | | | | | | | Inside/Outside | | 25.15 | 0 |
| 51 | Urban | Existing Pole | PL-MH155-URB-EP-NC | 40,000 | 155 | | | | | 14.42 | | | | Municipal Limits | | 17.22 | 0 |
| 52 | Urban | New Pole | PL-MH155-URB-NP-NC | 40,000 | 155 | | | | | | | | | to Existing/New/ | | 23.71 | 0 |
| 53 | Urban | New Pole Served Underground | PL-MH155-URB-NPU-NC | 40,000 | 155 | | | | | | | | | New Pole Served | | 28.33 | 0 |
| 54 | Area | Existing Pole | PL-MH295-EP-NC | 78,000 | 295 | | | | | 43.85 | | | | Underground. | | 52.38 | 0 |
| 55 | Area | New Pole | PL-MH295-NP-NC | 78,000 | 295 | | | | | | | | | | | 58.87 | 0 |
| 56 | Area | New Pole Served Underground | PL-MH295-NPU-NC | 78,000 | 295 | | | | | | | | | | | 63.49 | 0 |
| 57 | | | **Mercury Vapor** | | | | | | | | | | | | | | |
| 58 | Suburban (1) | Inside Municipal Limits | PL-MV41-SUB-IN-NC | 4,000 | 41 | 182,741 | 7,492,381 | ~~5.33~~ | ~~4.24~~ | 4.24 | 774,822 | -1.09 | 0.00 | 115,494 | (125,888) | 5.06 | 924,669 |
| 59 | Suburban (1) | Inside Municipal Limits | PL-MV75-SUB-IN-NC | 7,500 | 75 | 356,870 | 26,765,250 | ~~7.21~~ | ~~5.73~~ | 5.73 | 2,044,865 | -1.48 | 0.00 | 258,350 | (382,358) | 6.85 | 2,444,560 |
| 60 | Suburban (1) | Outside Municipal Limits | PL-MV75-SUB-OUT-NC | 7,500 | 75 | 7,246 | 543,450 | ~~7.67~~ | ~~6.10~~ | 6.10 | 44,201 | -1.57 | 0.00 | 4,860 | (7,630) | 6.85 | 49,635 |
| 61 | Urban (4) | Inside Municipal Limits | PL-MV75-URB-IN-NC | 7,500 | 75 | 21,019 | 1,576,425 | ~~8.28~~ | ~~6.58~~ | 6.58 | 138,305 | -1.70 | 0.00 | 14,115 | (23,996) | 7.88 | 165,630 |
| 62 | Urban (4) | Outside Municipal Limits | PL-MV75-URB-OUT-NC | 7,500 | 75 | 1,142 | 85,650 | ~~8.73~~ | ~~6.94~~ | 6.94 | 7,925 | -1.79 | 0.00 | 774 | (1,385) | 7.88 | 8,999 |
| 63 | Urban (4) | Inside Municipal Limits | PL-MV152-URB-IN-NC | 20,000 | 152 | 53,678 | 8,159,056 | ~~11.74~~ | ~~9.33~~ | 9.32 | 500,279 | -2.42 | -0.01 | 36,715 | (89,020) | 11.15 | 598,510 |
| 64 | Urban (4) | Outside Municipal Limits | PL-MV152-URB-OUT-NC | 20,000 | 152 | 1,868 | 283,936 | ~~12.19~~ | ~~9.69~~ | 9.68 | 18,082 | -2.51 | -0.01 | 1,251 | (3,146) | 11.15 | 20,828 |
| 65 | Urban (4) | Inside Municipal Limits | PL-MV393-URB-IN-NC | 55,000 | 393 | 418 | 164,274 | ~~24.31~~ | ~~19.32~~ | 19.30 | 8,067 | -5.01 | -0.02 | 290 | (1,455) | 23.05 | 9,635 |
| 66 | Urban (4) | Outside Municipal Limits | PL-MV393-URB-OUT-NC | 55,000 | 393 | - | 0 | ~~24.75~~ | ~~19.67~~ | 19.65 | - | -5.10 | -0.02 | - | - | 23.05 | 0 |
| 67 | Suburban (1) | Existing Pole | PL-MV41-SUB-EP-NC | 4,000 | 41 | | | | | 4.24 | | | | | | 5.06 | 0 |
| 68 | Suburban (1) | New Pole | PL-MV41-SUB-NP-NC | 4,000 | 41 | | | | | | | | | | | 11.55 | 0 |
| 69 | Suburban (1) | New Pole Served Underground | PL-MV41-SUB-NPU-NC | 4,000 | 41 | | | | | | | | | | | 16.17 | 0 |
| 70 | Suburban (1) | Existing Pole | PL-MV75-SUB-EP-NC | 7,500 | 75 | | | | | 5.74 | | | | | | 6.85 | 0 |
| 71 | Suburban (1) | New Pole | PL-MV75-SUB-NP-NC | 7,500 | 75 | | | | | | | | | To be modified from | | 13.34 | 0 |
| 72 | Suburban (1) | New Pole Served Underground | PL-MV75-SUB-NPU-NC | 7,500 | 75 | | | | | | | | | Inside/Outside | | 17.96 | 0 |
| 73 | Urban (4) | Existing Pole | PL-MV75-URB-EP-NC | 7,500 | 75 | | | | | 6.60 | | | | Municipal Limits | | 7.88 | 0 |
| 74 | Urban (4) | New Pole | PL-MV75-URB-NP-NC | 7,500 | 75 | | | | | | | | | to Existing/New/ | | 14.37 | 0 |
| 75 | Urban (4) | New Pole Served Underground | PL-MV75-URB-NPU-NC | 7,500 | 75 | | | | | | | | | New Pole Served | | 18.99 | 0 |
| 76 | Urban (4) | Existing Pole | PL-MV152-URB-EP-NC | 20,000 | 152 | | | | | 9.33 | | | | Underground. | | 11.15 | 0 |
| 77 | Urban (4) | New Pole | PL-MV152-URB-NP-NC | 20,000 | 152 | | | | | | | | | | | 17.64 | 0 |
| 78 | Urban (4) | New Pole Served Underground | PL-MV152-URB-NPU-NC | 20,000 | 152 | | | | | | | | | | | 22.26 | 0 |
| 79 | Urban (4) | Existing Pole | PL-MV393-URB-EP-NC | 55,000 | 393 | | | | | 19.30 | | | | | | 23.05 | 0 |
| 80 | Urban (4) | New Pole | PL-MV393-URB-NP-NC | 55,000 | 393 | | | | | | | | | | | 29.54 | 0 |
| 81 | Urban (4) | New Pole Served Underground | PL-MV393-URB-NPU-NC | 55,000 | 393 | | | | | | | | | | | 34.16 | 0 |
| 82 | | | **Incandescent (5)** | | | | | | | | | | | | | | |
| 83 | Suburban | Bracket | PL-INC63-BRKT-NC | 63 | 63 | 0 | 0 | ~~5.21~~ | ~~4.14~~ | 4.14 | - | -1.07 | 0.00 | - | - | 4.95 | 0 |
| 84 | Post Top | Post Top | PL-INC63-PT-NC | 63 | 63 | 0 | 0 | ~~1.93~~ | ~~1.53~~ | 1.53 | - | -0.40 | 0.00 | - | - | 1.83 | 0 |
| 85 | Suburban | Existing Pole | PL-INC63-BRKT-EP-NC | 63 | 63 | | | | | 4.14 | | | | To be modified from | | 4.95 | 0 |
| 86 | Suburban | New Pole | PL-INC63-BRKT-NP-NC | 63 | 63 | | | | | | | | | Inside/Outside | | 11.44 | 0 |
| 87 | Suburban | New Pole Served Underground | PL-INC63-BRKT-NPU-NC | 63 | 63 | | | | | | | | | Municipal Limits | | 16.06 | 0 |
| 88 | Post Top | Existing Pole | PL-INC63-PT-EP-NC | 63 | 63 | | | | | 1.53 | | | | to Existing/New/ | | 1.83 | 0 |
| 89 | Post Top | New Pole | PL-INC63-PT-NP-NC | 63 | 63 | | | | | | | | | New Pole Served | | 8.32 | 0 |
| 90 | Post Top | New Pole Served Underground | PL-INC63-PT-NPU-NC | 63 | 63 | | | | | | | | | Underground. | | 12.94 | 0 |

**North Carolina Present and Proposed Revenue**
**Schedule PL**

**12 Months Ended December 2018**

New Pole Adder: $6.49
New Pole Underground Adder: $4.62

| Style | Location | Price Schedule | Lumens | kWh Rating | Test Yr Lamp Mths | Imputed kWh | Previous Rate as of 1/1/2018 | Previous Rate as of 8/1/18 | Present Rate Effective 1/1/2019 | Present Revenue | Jan-Aug Unit Price Variance | Sep-Dec Unit Price Variance | Jan-Aug Lamp Mths | Price Variance [2] | Proposed Rate | Proposed Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Light Emitting Diode(6)** | | | | | | | | | | | | | | |
| Area (closed) | Inside Municipal Limits | PL-LED18-IN-NC | 4,500 | 18 | 183,951 | 3,311,118 | ~~8.73~~ | ~~6.94~~ | 6.94 | 1,276,620 | -1.79 | 0.00 | 118,017 | (211,250) | 8.29 | 1,524,954 |
| Area (closed) | Outside Municipal Limits | PL-LED18-OUT-NC | 4,500 | 18 | 714 | 12,852 | ~~8.73~~ | ~~6.94~~ | 6.94 | 4,955 | -1.79 | 0.00 | 615 | (1,101) | 8.29 | 5,919 |
| Area (closed) | Inside Municipal Limits | PL-LED25-IN-NC | 6,500 | 25 | 8,106 | 202,650 | ~~8.93~~ | ~~7.10~~ | 7.10 | 57,553 | -1.83 | 0.00 | 1,923 | (3,519) | 8.48 | 68,739 |
| Area (closed) | Outside Municipal Limits | PL-LED25-OUT-NC | 6,500 | 25 | 6 | 150 | ~~8.93~~ | ~~7.10~~ | 7.10 | 43 | -1.83 | 0.00 | - | - | 8.48 | 51 |
| Area (closed) | Inside Municipal Limits | PL-LED40-IN-NC | 9,500 | 40 | 717 | 28,680 | ~~10.85~~ | ~~8.62~~ | 8.62 | 6,181 | -2.23 | 0.00 | 64 | (143) | 10.30 | 7,385 |
| Area (closed) | Outside Municipal Limits | PL-LED40-OUT-NC | 9,500 | 40 | - | 0 | ~~10.85~~ | ~~8.62~~ | 8.62 | - | -2.23 | 0.00 | - | - | 10.30 | 0 |
| Area (closed) | Inside Municipal Limits | PL-LED54-IN-NC | 12,500 | 54 | 34,239 | 1,848,906 | ~~12.10~~ | ~~9.62~~ | 9.62 | 329,379 | -2.48 | 0.00 | 19,954 | (49,486) | 11.49 | 393,406 |
| Area (closed) | Outside Municipal Limits | PL-LED54-OUT-NC | 12,500 | 54 | 63 | 3,402 | ~~12.10~~ | ~~9.62~~ | 9.62 | 606 | -2.48 | 0.00 | 45 | (112) | 11.49 | 724 |
| Area (closed) | Inside Municipal Limits | PL-LED79-IN-NC | 18,500 | 79 | 6,994 | 552,526 | ~~14.21~~ | ~~11.29~~ | 11.29 | 78,962 | -2.92 | 0.00 | 1,889 | (5,516) | 13.49 | 94,349 |
| Area (closed) | Outside Municipal Limits | PL-LED79-OUT-NC | 18,500 | 79 | 3 | 237 | ~~14.21~~ | ~~11.29~~ | 11.29 | 34 | -2.92 | 0.00 | 2 | (6) | 13.49 | 40 |
| Area (closed) | Inside Municipal Limits | PL-LED101-IN-NC | 24,000 | 101 | 1,765 | 178,265 | ~~16.22~~ | ~~12.89~~ | 12.89 | 22,751 | -3.33 | 0.00 | 80 | (266) | 15.40 | 27,181 |
| Area (closed) | Outside Municipal Limits | PL-LED101-OUT-NC | 24,000 | 101 | - | 0 | ~~16.22~~ | ~~12.89~~ | 12.89 | - | -3.33 | 0.00 | - | - | 15.40 | 0 |
| Area (closed) | Inside Municipal Limits | PL-LED151-IN-NC | 43,000 | 151 | 118 | 17,818 | ~~34.27~~ | ~~27.23~~ | 27.22 | 3,212 | -7.05 | -0.01 | 101 | (712) | 32.51 | 3,836 |
| Area (closed) | Outside Municipal Limits | PL-LED151-OUT-NC | 43,000 | 151 | - | 0 | ~~34.27~~ | ~~27.23~~ | 27.22 | - | -7.05 | -0.01 | - | - | 32.51 | 0 |
| Area | Existing Pole | PL-LED18-EP-NC | 4,500 | 18 | 3,003 | 54,054 | new | ~~6.94~~ | 6.94 | 20,841 | 0.00 | 0.00 | - | - | 8.29 | 24,895 |
| Area | New Pole | PL-LED18-NP-NC | 4,500 | 18 | 0 | 0 | new | ~~13.43~~ | 13.43 | - | 0.00 | 0.00 | - | - | 14.78 | 0 |
| Area | New Pole Served Underground | PL-LED18-NPU-NC | 4,500 | 18 | 42 | 756 | new | ~~18.05~~ | 18.05 | 758 | 0.00 | 0.00 | - | - | 19.40 | 815 |
| Area | Existing Pole | PL-LED25-EP-NC | 6,500 | 25 | 1,574 | 39,350 | new | ~~7.10~~ | 7.10 | 11,175 | 0.00 | 0.00 | - | - | 8.48 | 13,348 |
| Area | New Pole | PL-LED25-NP-NC | 6,500 | 25 | 5 | 125 | new | ~~13.59~~ | 13.59 | 68 | 0.00 | 0.00 | - | - | 14.97 | 75 |
| Area | New Pole Served Underground | PL-LED25-NPU-NC | 6,500 | 25 | 5 | 125 | new | ~~18.21~~ | 18.21 | 91 | 0.00 | 0.00 | - | - | 19.59 | 98 |
| Area | Existing Pole | PL-LED40-EP-NC | 9,500 | 40 | 519 | 20,760 | new | ~~8.62~~ | 8.62 | 4,474 | 0.00 | 0.00 | - | - | 10.30 | 5,346 |
| Area | New Pole | PL-LED40-NP-NC | 9,500 | 40 | 0 | 0 | new | ~~15.11~~ | 15.11 | - | 0.00 | 0.00 | - | - | 16.79 | 0 |
| Area | New Pole Served Underground | PL-LED40-NPU-NC | 9,500 | 40 | 0 | 0 | new | ~~19.73~~ | 19.73 | - | 0.00 | 0.00 | - | - | 21.41 | 0 |
| Area | Existing Pole | PL-LED54-EP-NC | 12,500 | 54 | 3,812 | 205,848 | new | ~~9.62~~ | 9.62 | 36,671 | 0.00 | 0.00 | - | - | 11.49 | 43,800 |
| Area | New Pole | PL-LED54-NP-NC | 12,500 | 54 | 8 | 432 | new | ~~16.11~~ | 16.11 | 129 | 0.00 | 0.00 | - | - | 17.98 | 144 |
| Area | New Pole Served Underground | PL-LED54-NPU-NC | 12,500 | 54 | 72 | 3,888 | new | ~~20.73~~ | 20.73 | 1,493 | 0.00 | 0.00 | - | - | 22.60 | 1,627 |
| Area | Existing Pole | PL-LED79-EP-NC | 18,500 | 79 | 2,164 | 170,956 | new | ~~11.29~~ | 11.29 | 24,432 | 0.00 | 0.00 | - | - | 13.49 | 29,192 |
| Area | New Pole | PL-LED79-NP-NC | 18,500 | 79 | 0 | 0 | new | ~~17.78~~ | 17.78 | - | 0.00 | 0.00 | - | - | 19.98 | 0 |
| Area | New Pole Served Underground | PL-LED79-NPU-NC | 18,500 | 79 | 52 | 4,108 | new | ~~22.40~~ | 22.40 | 1,165 | 0.00 | 0.00 | - | - | 24.60 | 1,279 |
| Area | Existing Pole | PL-LED101-EP-NC | 24,000 | 101 | 1,200 | 121,200 | new | ~~12.89~~ | 12.89 | 15,468 | 0.00 | 0.00 | - | - | 15.40 | 18,480 |
| Area | New Pole | PL-LED101-NP-NC | 24,000 | 101 | 5 | 505 | new | ~~19.38~~ | 19.38 | 97 | 0.00 | 0.00 | - | - | 21.89 | 109 |
| Area | New Pole Served Underground | PL-LED101-NPU-NC | 24,000 | 101 | 0 | 0 | new | ~~24.00~~ | 24.00 | - | 0.00 | 0.00 | - | - | 26.51 | 0 |
| Area | Existing Pole | PL-LED151-EP-NC | 43,000 | 151 | 285 | 43,035 | new | ~~27.23~~ | 27.22 | 7,758 | 0.00 | -0.01 | - | (3) | 32.51 | 9,265 |
| Area | New Pole | PL-LED151-NP-NC | 43,000 | 151 | 0 | 0 | new | ~~33.72~~ | 33.71 | - | 0.00 | -0.01 | - | - | 39.00 | 0 |
| Area | New Pole Served Underground | PL-LED151-NPU-NC | 43,000 | 151 | 19 | 2,869 | new | ~~38.34~~ | 38.33 | 728 | 0.00 | -0.01 | - | (0) | 43.62 | 829 |
| Area | Existing Pole | PL-LED179-EP-NC | 48,000 | 179 | | | | | 39.44 | | | | | | 47.11 | 0 |
| Area | New Pole | PL-LED179-NP-NC | 48,000 | 179 | | | | | | | | | New Rate | | 53.60 | 0 |
| Area | New Pole Served Underground | PL-LED179-NPU-NC | 48,000 | 179 | | | | | | | | | | | 58.22 | 0 |
| | | **Floodlight Service** | | | | | | | | | | | - | - | | |
| High Pressure Sodium Vapor | Existing Pole | PL-HPS70-EP-FL-NC | 16,000 | 70 | 696 | 48,720 | new | ~~13.83~~ | 13.83 | 9,626 | 0.00 | 0.00 | - | - | 17.26 | 12,013 |
| High Pressure Sodium Vapor | Existing Pole | PL-HPS70-EP-C-FL-NC | 16,000 | 70 | 83 | 5,810 | new | ~~13.83~~ | 13.83 | 1,148 | 0.00 | 0.00 | - | - | 17.26 | 1,433 |
| High Pressure Sodium Vapor | New Pole | PL-HPS70-NP-FL-NC | 16,000 | 70 | 102 | 7,140 | new | ~~21.43~~ | 21.43 | 2,186 | 0.00 | 0.00 | - | - | 23.75 | 2,423 |
| High Pressure Sodium Vapor | New Pole Served Underground | PL-HPS70-NPU-FL-NC | 16,000 | 70 | 72 | 5,040 | new | ~~25.97~~ | 25.97 | 1,870 | 0.00 | 0.00 | - | - | 28.37 | 2,043 |
| High Pressure Sodium Vapor | Existing Pole | PL-HPS104-EP-FL-NC | 27,500 | 104 | 1,941 | 201,864 | new | ~~16.29~~ | 16.29 | 31,619 | 0.00 | 0.00 | - | - | 20.33 | 39,461 |
| High Pressure Sodium Vapor | Existing Pole | PL-HPS104-EP-C-FL-NC | 27,500 | 104 | 495 | 51,480 | new | ~~16.29~~ | 16.29 | 8,064 | 0.00 | 0.00 | - | - | 20.33 | 10,063 |
| High Pressure Sodium Vapor | New Pole | PL-HPS104-NP-FL-NC | 27,500 | 104 | 310 | 32,240 | new | ~~23.89~~ | 23.89 | 7,406 | 0.00 | 0.00 | - | - | 26.82 | 8,314 |
| High Pressure Sodium Vapor | New Pole Served Underground | PL-HPS104-NPU-FL-NC | 27,500 | 104 | 235 | 24,440 | new | ~~28.43~~ | 28.43 | 6,681 | 0.00 | 0.00 | - | - | 31.44 | 7,388 |
| High Pressure Sodium Vapor | Existing Pole | PL-HPS156-EP-FL-NC | 50,000 | 156 | 17,800 | 2,776,800 | new | ~~18.31~~ | 18.30 | 325,740 | 0.00 | -0.01 | - | (178) | 22.84 | 406,552 |
| High Pressure Sodium Vapor | Existing Pole | PL-HPS156-EP-C-FL-NC | 50,000 | 156 | 2,728 | 425,568 | new | ~~18.31~~ | 18.30 | 49,922 | 0.00 | -0.01 | - | (27) | 22.84 | 62,308 |
| High Pressure Sodium Vapor | New Pole | PL-HPS156-NP-FL-NC | 50,000 | 156 | 5,571 | 869,076 | new | ~~25.91~~ | 25.90 | 144,289 | 0.00 | -0.01 | - | (56) | 29.33 | 163,397 |
| High Pressure Sodium Vapor | New Pole Served Underground | PL-HPS156-NPU-FL-NC | 50,000 | 156 | 3,710 | 578,760 | new | ~~30.45~~ | 30.44 | 112,932 | 0.00 | -0.01 | - | (37) | 33.95 | 125,955 |
| Metal Halide | Existing Pole | PL-MH155-EP-FL-NC | 40,000 | 155 | 2,623 | 406,565 | new | ~~20.33~~ | 20.32 | 53,299 | 0.00 | -0.01 | - | (26) | 25.37 | 66,546 |
| Metal Halide | New Pole | PL-MH155-NP-FL-NC | 40,000 | 155 | 503 | 77,965 | new | ~~27.93~~ | 27.92 | 14,044 | 0.00 | -0.01 | - | (5) | 31.86 | 16,026 |
| Metal Halide | New Pole Served Underground | PL-MH155-NPU-FL-NC | 40,000 | 155 | 1,037 | 160,735 | new | ~~32.47~~ | 32.46 | 33,661 | 0.00 | -0.01 | - | (10) | 36.48 | 37,830 |
| Metal Halide | Existing Pole | PL-MH180-EP-FL-NC | 34,000 | 180 | 120 | 21,600 | new | ~~19.06~~ | 19.05 | 2,286 | 0.00 | -0.01 | - | (1) | 23.78 | 2,854 |
| Metal Halide | New Pole (7) | PL-MH180-NP-FL-NC | 34,000 | 180 | 24 | 4,320 | new | ~~25.09~~ | 25.08 | 602 | 0.00 | -0.01 | - | (0) | 34.09 | 818 |
| Metal Halide | New Pole | PL-MH180-NPW-FL-NC | 34,000 | 180 | 48 | 8,640 | new | ~~21.27~~ | 21.26 | 1,020 | 0.00 | -0.01 | - | (0) | 30.27 | 1,453 |
| Metal Halide | New Pole Served Underground | PL-MH180-NPU-FL-NC | 34,000 | 180 | 0 | 0 | new | ~~26.98~~ | 26.97 | - | 0.00 | -0.01 | - | - | 34.89 | 0 |
| Metal Halide | Existing Pole | PL-MH217-EP-FL-NC | 110,000 | 217 | 0 | 0 | new | ~~27.74~~ | 27.73 | - | 0.00 | -0.01 | - | - | 34.62 | 0 |
| Metal Halide | New Pole | PL-MH217-NP-FL-NC | 110,000 | 217 | 0 | 0 | new | ~~33.78~~ | 33.77 | - | 0.00 | -0.01 | - | - | 41.11 | 0 |
| Metal Halide | New Pole Served Underground | PL-MH217-NPU-FL-NC | 110,000 | 217 | 0 | 0 | new | ~~35.66~~ | 35.65 | - | 0.00 | -0.01 | - | - | 45.73 | 0 |
| Metal Halide | New Pole | PL-MH435-NPW-FL-NC | 110,000 | 435 | 0 | 0 | new | ~~47.58~~ | 47.56 | - | 0.00 | -0.02 | - | - | 65.42 | 0 |
| Metal Halide | Existing Pole | PL-MH435-EP-FL-NC | 110,000 | 435 | 0 | 0 | new | ~~47.23~~ | 47.21 | - | 0.00 | -0.02 | - | - | 58.93 | 0 |
| Metal Halide | New Pole (7) | PL-MH435-NP-FL-NC | 110,000 | 435 | 0 | 0 | new | ~~53.26~~ | 53.24 | - | 0.00 | -0.02 | - | - | 71.10 | 0 |
| Metal Halide | New Pole Served Underground | PL-MH435-NPU-FL-NC | 110,000 | 435 | 0 | 0 | new | ~~55.15~~ | 55.13 | - | 0.00 | -0.02 | - | - | 70.04 | 0 |
| LED 130 watts | Existing Pole | PL-LED47-EP-FL-NC | 15,000 | 47 | 88 | 4,136 | new | ~~18.24~~ | 18.24 | 1,605 | 0.00 | 0.00 | - | - | 22.77 | 2,004 |
| LED 130 watts | New Pole | PL-LED47-NP-FL-NC | 15,000 | 47 | 10 | 470 | new | ~~25.84~~ | 25.84 | 258 | 0.00 | 0.00 | - | - | 29.26 | 293 |
| LED 130 watts | New Pole Served Underground | PL-LED47-NPU-FL-NC | 15,000 | 47 | 44 | 2,068 | new | ~~30.38~~ | 30.38 | 1,337 | 0.00 | 0.00 | - | - | 33.88 | 1,491 |
| LED 260 watts (half night) | Existing Pole | PL-LED48-EP-FL-NC | 30,000 | 48 | 0 | 0 | new | ~~38.40~~ | 38.40 | - | 0.00 | 0.00 | - | - | 47.93 | 0 |
| LED 260 watts (half night) | New Pole | PL-LED48-NP-FL-NC | 30,000 | 48 | 0 | 0 | new | ~~46.01~~ | 46.01 | - | 0.00 | 0.00 | - | - | 54.42 | 0 |
| LED 260 watts (half night) | New Pole Served Underground | PL-LED48-NPU-FL-NC | 30,000 | 48 | 0 | 0 | new | ~~50.54~~ | 50.54 | - | 0.00 | 0.00 | - | - | 59.04 | 0 |
| LED 260 watts | Existing Pole | PL-LED95-EP-FL-NC | 30,000 | 95 | 3 | 285 | new | ~~39.49~~ | 39.49 | 118 | 0.00 | 0.00 | - | - | 49.30 | 148 |
| LED 260 watts | New Pole | PL-LED95-NP-FL-NC | 30,000 | 95 | 3 | 285 | new | ~~47.09~~ | 47.09 | 141 | 0.00 | 0.00 | - | - | 55.79 | 167 |
| LED 260 watts | New Pole Served Underground | PL-LED95-NPU-FL-NC | 30,000 | 95 | 0 | 0 | new | ~~51.63~~ | 51.63 | - | 0.00 | 0.00 | - | - | 60.41 | 0 |
| | | | | | 3,130,368 | 226,289,092 | | | | 24,578,370 | | | 2,060,957 | (4,084,099) | | 29,359,907 |

| | |
|---|---|
| Revenue from Billing Units and Present Rates | 29,359,907 |
| Add Base Rate Rider Adjustments | 90,063 |
| Add Extra Facilities charges billed during test year | 1,587,233 |
| Unadjusted Revenue (Base Rates) | 31,037,203 |
| Revenue adjusted for Spread Factor | 32,232 944 |
| | 18.23% |

(1) Closed to new installations on or after July 1, 2005.
(2) Closed to new installations on or after February 3, 1987.
(3) Closed to new installations on or after November 12, 1991.
(4) Closed to new contracts on or after October 1, 2007 for luminares installed before January 1, 2008.
(5) Closed to new installations.
(6) Light Emitting Diode (LED) luminaires are only available as replacements for failed mercury vapor luminaires and for customer requested replacements of existing mercury vapor luminaires, provided the fixture will accommodate an LED luminaire as a replacement. LED luminaires are not available as replacements for High Pressure Sodium Vapor or Metal Halide luminaires.
(7) 40' wood pole served overhead.

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| | |
|---|---|
| Revenue from Billing Units and Present Rates | 24,578,370 |
| Booked Extra Facilities Charges | 1,587,233 |
| Unadjusted Present Revenue | 26,165,603 |
| Present Revenue adjusted for Spread Factor | 27,173,660 |

| add adjustments to base rate [1] | | kWh Priced | | Row | Col | |
|---|---|---|---|---|---|---|
| Adjustment to Base Fuel | 0.000398 | 226,289,092 | 90,063 | 1 | 9 | OL,FL,PL,GL,NL |
| | 0.000000 | 226,289,092 | 0 | 2 | 9 | OL,FL,PL,GL,NL |
| | 0.000398 | | | | | |
| Equals Annualized Present Revenue | | | 27,263,723 | | | |
| BPM Prospective Rider | -0.000078 | 226,289,092 | (17,651) | 6 | 9 | OL,FL,PL,GL,NL |
| BPM True-Up Rider | 0.000067 | 226,289,092 | 15,161 | 7 | 9 | OL,FL,PL,GL,NL |
| EDIT-1 | -0.001049 | 226,289,092 | (237,377) | 8 | 9 | OL,FL,PL,GL,NL |
| Existing DSM Program Costs Adjustment | -0.000055 | 226,289,092 | (12,446) | 10 | 9 | OL,FL,PL,GL,NL |
| | | | (252,312) | | | |
| Total Riders $/kWh | -0.000717 | | | | | |

**GL & PL Spread Factor Calculation - Comparison to Book**

| | |
|---|---|
| Unadjusted Present Revenue | $ 27,302,541 |
| Add booked rider Adjustments | $ (942,365) |
| Add booked extra facility charges | $ 2,816,550 |
| Add price variance due to test year rate changes | $ 5,818,694 |
| Equals estimated Booked Revenue | $ 34,995,420 |
| Reported Booked Revenue | $ 36,343,655 |
| Revenue Spread Factor (Reported / Estimated) | **1.039** |

| | | |
|---|---|---|
| Estimated PL kWh from Billing Data | 226,289,092 | |
| Reported PL kWh from Per Book | 232,673,040 | |
| PL kWh Spread Factor (Reported/Estimated - for information only) | 0.9726 | |
| PL kWh Variance | -6,383,948 | -2.82% |
| Average Booked Revenue per Lamp per Month | $ 10.78 | |

**Notes**

[1] Projected rider adjustments applicable to schedule
[2] Difference in Revenue: Test Year Sales @ Present Rates and @ Test Year Rates

Index **Duke Energy Carolinas LLC** **12 Months Ended December 2018**
Design **DOCKET NO. E-7, SUB 1214** E1.42.C
**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule GL (closed, moved into Schedule PL)**

| GL | Style | Location | Price Schedule | Lumens | kWh Rating | Test Yr Lamp Mths | Imputed kWh | Previous Rate as of 1/1/2018 | Previous Rate as of 8/1/18 | Present Rate Effective 1/1/2019 | Present Revenue | Jan-Aug Unit Price Variance | Sep-Dec Unit Price Variance | Jan-Aug Lamp Mths | Price Variance [2] | Present PL Price Schedule | Proposed PL Price Schedule | Proposed Rate | Proposed Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | **High Pressure Sodium** | | | | | | | | | | | | | | | | |
| 2 | Suburban (1) | Urban | GL-HPS47-URB-EP-NC | 9,500 | 47 | 14,438 | 678,586 | ~~10.25~~ | ~~7.37~~ | 7.37 | 106,408 | -2.88 | 0.00 | 14,320 | (41,242) | PL-HPS47-URB-IN-NC | PL-HPS47-URB-EP-NC | 8.81 | 127,198.78 |
| 3 | | Urban | GL-HPS47-URB-NP-NC | 9,500 | 47 | 1,848 | 86,856 | ~~16.76~~ | ~~7.37~~ | 7.37 | 13,620 | -9.39 | 0.00 | 1,821 | (17,099) | PL-HPS47-URB-IN-NC | PL-HPS47-URB-EP-NC | 8.81 | 16,280.88 |
| 4 | Urban | Urban | GL-HPS47-URB-NPU-NC | 9,500 | 47 | 60,761 | 2,855,767 | ~~21.38~~ | ~~7.37~~ | 7.37 | 447,809 | -14.01 | 0.00 | 60,454 | (846,961) | PL-HPS47-URB-IN-NC | PL-HPS47-URB-EP-NC | 8.81 | 535,304.41 |
| 5 | | Urban | GL-HPS70-URB-EP-NC | 16,000 | 70 | 9,006 | 630,420 | ~~11.07~~ | ~~8.03~~ | 8.03 | 72,318 | -3.04 | 0.00 | 8,944 | (27,190) | PL-HPS70-URB-IN-NC | PL-HPS70-URB-EP-NC | 9.59 | 86,367.54 |
| 6 | Suburban (2) (in suitable mercury fixture) | Urban | GL-HPS70-URB-NP-NC | 16,000 | 70 | 2,252 | 157,640 | ~~17.58~~ | ~~8.03~~ | 8.03 | 18,084 | -9.55 | 0.00 | 2,235 | (21,344) | PL-HPS70-URB-IN-NC | PL-HPS70-URB-EP-NC | 9.59 | 21,596.68 |
| 7 | | Urban | GL-HPS70-URB-NPU-NC | 16,000 | 70 | 6,615 | 463,050 | ~~22.21~~ | ~~8.03~~ | 8.03 | 53,118 | -14.18 | 0.00 | 6,552 | (92,907) | PL-HPS70-URB-IN-NC | PL-HPS70-URB-EP-NC | 9.59 | 63,437.85 |
| 8 | Urban | Urban | GL-HPS104-URB-EP-NC | 27,500 | 104 | 12,777 | 1,328,808 | ~~13.10~~ | ~~9.63~~ | 9.63 | 123,043 | -3.47 | 0.00 | 12,468 | (43,264) | PL-HPS104-URB-IN-NC | PL-HPS104-URB-EP-NC | 11.52 | 147,191.04 |
| 9 | | Urban | GL-HPS104-URB-NP-NC | 27,500 | 104 | 2,471 | 256,984 | ~~19.59~~ | ~~9.63~~ | 9.63 | 23,796 | -9.96 | 0.00 | 2,417 | (24,073) | PL-HPS104-URB-IN-NC | PL-HPS104-URB-EP-NC | 11.52 | 28,465.92 |
| 10 | Urban | Urban | GL-HPS104-URB-NPU-NC | 27,500 | 104 | 12,527 | 1,302,808 | ~~24.24~~ | ~~9.63~~ | 9.63 | 120,635 | -14.61 | 0.00 | 12,013 | (175,510) | PL-HPS104-URB-IN-NC | PL-HPS104-URB-EP-NC | 11.52 | 144,311.04 |
| 11 | | Urban | GL-HPS156-URB-EP-NC | 50,000 | 156 | 7,119 | 1,110,564 | ~~15.95~~ | ~~11.92~~ | 11.91 | 84,787 | -4.04 | -0.01 | 6,991 | (28,245) | PL-HPS156-URB-IN-NC | PL-HPS156-URB-EP-NC | 14.25 | 101,445.75 |
| 12 | Urban(3) (in suitable mercury fixture) | Urban | GL-HPS156-URB-NP-NC | 50,000 | 156 | 3,343 | 521,508 | ~~22.45~~ | ~~11.92~~ | 11.91 | 39,815 | -10.54 | -0.01 | 3,312 | (34,909) | PL-HPS156-URB-IN-NC | PL-HPS156-URB-EP-NC | 14.25 | 47,637.75 |
| 13 | | Urban | GL-HPS156-URB-NPU-NC | 50,000 | 156 | 6,302 | 983,112 | ~~27.08~~ | ~~11.92~~ | 11.91 | 75,057 | -15.17 | -0.01 | 6,033 | (91,523) | PL-HPS156-URB-IN-NC | PL-HPS156-URB-EP-NC | 14.25 | 89,803.50 |
| 14 | | Floodlight | GL-HPS70-EP-FL-NC | | 70 | 242 | 16,940 | ~~14.08~~ | ~~13.83~~ | 13.83 | 3,347 | -0.25 | 0.00 | - | - | PL-HPS70-EP-FL-NC | PL-HPS70-EP-FL-NC | 17.26 | 4,176.92 |
| 15 | | Floodlight | GL-HPS70-EP-C-FL-NC | | 70 | 39 | 2,730 | ~~14.08~~ | ~~13.83~~ | 13.83 | 539 | -0.25 | 0.00 | - | - | PL-HPS70-EP-C-FL-NC | PL-HPS70-EP-C-FL-NC | 17.26 | 673.14 |
| 16 | | Floodlight | GL-HPS70-NP-FL-NC | | 70 | 35 | 2,450 | ~~21.82~~ | ~~21.43~~ | 21.43 | 750 | -0.39 | 0.00 | - | - | PL-HPS70-NP-FL-NC | PL-HPS70-NP-FL-NC | 23.75 | 831.25 |
| 17 | | Floodlight | GL-HPS70-NPU-FL-NC | | 70 | 25 | 1,750 | ~~26.44~~ | ~~25.97~~ | 25.97 | 649 | -0.47 | 0.00 | - | - | PL-HPS70-NPU-FL-NC | PL-HPS70-NPU-FL-NC | 28.37 | 709.25 |
| 18 | | Floodlight | GL-HPS104-EP-FL-NC | | 104 | 671 | 69,784 | ~~16.58~~ | ~~16.29~~ | 16.29 | 10,931 | -0.29 | 0.00 | - | - | PL-HPS104-EP-FL-NC | PL-HPS104-EP-FL-NC | 20.33 | 13,641.43 |
| 19 | | Floodlight | GL-HPS104-EP-C-FL-NC | | 104 | 218 | 22,672 | ~~16.58~~ | ~~16.29~~ | 16.29 | 3,551 | -0.29 | 0.00 | - | - | PL-HPS104-EP-C-FL-NC | PL-HPS104-EP-C-FL-NC | 20.33 | 4,431.94 |
| 20 | | Floodlight | GL-HPS104-NP-FL-NC | | 104 | 108 | 11,232 | ~~24.32~~ | ~~23.89~~ | 23.89 | 2,580 | -0.43 | 0.00 | - | - | PL-HPS104-NP-FL-NC | PL-HPS104-NP-FL-NC | 26.82 | 2,896.56 |
| 21 | | Floodlight | GL-HPS104-NPU-FL-NC | | 104 | 84 | 8,736 | ~~28.94~~ | ~~28.43~~ | 28.43 | 2,388 | -0.51 | 0.00 | - | - | PL-HPS104-NPU-FL-NC | PL-HPS104-NPU-FL-NC | 31.44 | 2,640.96 |
| 22 | | Floodlight | GL-HPS156-EP-FL-NC | | 156 | 6,061 | 945,516 | ~~18.64~~ | ~~18.31~~ | 18.30 | 110,916 | -0.34 | -0.01 | - | (61) | PL-HPS156-EP-FL-NC | PL-HPS156-EP-FL-NC | 22.84 | 138,433.24 |
| 23 | | Floodlight | GL-HPS156-EP-C-FL-NC | | 156 | 1,215 | 189,540 | ~~18.64~~ | ~~18.31~~ | 18.30 | 22,235 | -0.34 | -0.01 | - | (12) | PL-HPS156-EP-C-FL-NC | PL-HPS156-EP-C-FL-NC | 22.84 | 27,750.60 |
| 24 | | Floodlight | GL-HPS156-NP-FL-NC | | 156 | 1,935 | 301,860 | ~~26.38~~ | ~~25.91~~ | 25.90 | 50,117 | -0.48 | -0.01 | - | (19) | PL-HPS156-NP-FL-NC | PL-HPS156-NP-FL-NC | 29.33 | 56,753.55 |
| 25 | | Floodlight | GL-HPS156-NPU-FL-NC | | 156 | 1,282 | 199,992 | ~~31.00~~ | ~~30.45~~ | 30.44 | 39,024 | -0.56 | -0.01 | - | (13) | PL-HPS156-NPU-FL-NC | PL-HPS156-NPU-FL-NC | 33.95 | 43,523.90 |
| 26 | | | **Metal Halide** | | | | | | | | | | | | | | | | |
| 27 | | Urban | GL-MH43-URB-EP-NC | 9,000 | 43 | 2,977 | 128,011 | ~~11.75~~ | ~~11.75~~ | 11.75 | 34,980 | 0.00 | 0.00 | 2,755 | - | PL-MH43-URB-IN-NC | PL-MH43-URB-EP-NC | 14.04 | 41,797.08 |
| 28 | Urban | Urban | GL-MH43-URB-NP-NC | 9,000 | 43 | 57 | 2,451 | ~~18.25~~ | ~~11.75~~ | 11.75 | 670 | -6.50 | 0.00 | 51 | (332) | PL-MH43-URB-IN-NC | PL-MH43-URB-EP-NC | 14.04 | 800.28 |
| 29 | | Urban | GL-MH43-URB-NPU-NC | 9,000 | 43 | 5,867 | 252,281 | ~~22.88~~ | ~~11.75~~ | 11.75 | 68,937 | -11.13 | 0.00 | 5,402 | (60,124) | PL-MH43-URB-IN-NC | PL-MH43-URB-EP-NC | 14.04 | 82,372.68 |
| 30 | | Urban | GL-MH155-URB-EP-NC | 40,000 | 155 | 1,360 | 210,800 | ~~18.97~~ | ~~14.34~~ | 14.33 | 19,489 | -4.64 | -0.01 | 1,256 | (5,829) | PL-MH155-URB-IN-NC | PL-MH155-URB-EP-NC | 17.22 | 23,419.20 |
| 31 | Suburban (1) | Urban | GL-MH155-URB-NP-NC | 40,000 | 155 | 162 | 25,110 | ~~25.48~~ | ~~14.34~~ | 14.33 | 2,321 | -11.15 | -0.01 | 144 | (1,606) | PL-MH155-URB-IN-NC | PL-MH155-URB-EP-NC | 17.22 | 2,789.64 |
| 32 | Suburban (1) | Urban | GL-MH155-URB-NPU-NC | 40,000 | 155 | 3,791 | 587,605 | ~~30.11~~ | ~~14.34~~ | 14.33 | 54,325 | -15.78 | -0.01 | 3,424 | (54,034) | PL-MH155-URB-IN-NC | PL-MH155-URB-EP-NC | 17.22 | 65,281.02 |
| 33 | Urban | Area | GL-MH295-AREA-EP-NC | 78,000 | 295 | 369 | 108,855 | ~~43.86~~ | ~~43.86~~ | 43.85 | 16,181 | -0.01 | -0.01 | 328 | (4) | PL-MH295-IN-NC | PL-MH295-EP-NC | 52.38 | 19,328.22 |
| 34 | | Area | GL-MH295-AREA-NP-NC | 78,000 | 295 | 387 | 114,165 | ~~50.36~~ | ~~43.86~~ | 43.85 | 16,970 | -6.51 | -0.01 | 344 | (2,240) | PL-MH295-IN-NC | PL-MH295-EP-NC | 52.38 | 20,271.06 |
| 35 | Urban (installed on 55 foot wood pole) | Area | GL-MH295-AREA-NPU-NC | 78,000 | 295 | 27 | 7,965 | ~~55.00~~ | ~~43.86~~ | 43.85 | 1,184 | -11.15 | -0.01 | 24 | (268) | PL-MH295-IN-NC | PL-MH295-EP-NC | 52.38 | 1,414.26 |
| 36 | | Floodlight | GL-MH155-EP-FL-NC | | 155 | 919 | 142,445 | ~~20.70~~ | ~~20.33~~ | 20.32 | 18,674 | -0.38 | -0.01 | - | (9) | PL-MH155-EP-FL-NC | PL-MH155-EP-FL-NC | 25.37 | 23,315.03 |
| 37 | | Floodlight | GL-MH155-NP-FL-NC | | 155 | 169 | 26,195 | ~~28.44~~ | ~~27.93~~ | 27.92 | 4,718 | -0.52 | -0.01 | - | (2) | PL-MH155-NP-FL-NC | PL-MH155-NP-FL-NC | 31.86 | 5,384.34 |
| 38 | | Floodlight | GL-MH155-NPU-FL-NC | | 155 | 355 | 55,025 | ~~33.06~~ | ~~32.47~~ | 32.46 | 11,523 | -0.60 | -0.01 | - | (4) | PL-MH155-NPU-FL-NC | PL-MH155-NPU-FL-NC | 36.48 | 12,950.40 |
| 39 | | Floodlight | GL-MH180-EP-FL-NC | | 180 | 47 | 8,460 | ~~19.40~~ | ~~19.06~~ | 19.05 | 895 | -0.35 | -0.01 | - | (0) | PL-MH180-EP-FL-NC | PL-MH180-EP-FL-NC | 23.78 | 1,117.66 |
| 40 | | Floodlight | GL-MH180-NP-FL-NC | | 180 | 8 | 1,440 | ~~25.54~~ | ~~25.09~~ | 25.08 | 201 | -0.46 | -0.01 | - | (0) | PL-MH180-NP-FL-NC | PL-MH180-NP-FL-NC | 34.09 | 272.72 |
| 41 | | Floodlight | GL-MH180-NPU-FL-NC | | 180 | 0 | 0 | ~~27.47~~ | ~~26.98~~ | 26.97 | - | -0.50 | -0.01 | - | - | PL-MH180-NPU-FL-NC | PL-MH180-NPU-FL-NC | 34.89 | - |
| 42 | | Floodlight | GL-MH180-NPW-FL-NC | | 180 | 16 | 2,880 | ~~21.65~~ | ~~21.27~~ | 21.26 | 340 | -0.39 | -0.01 | - | (0) | PL-MH180-NPW-FL-NC | PL-MH180-NPW-FL-NC | 30.27 | 484.32 |
| 43 | | | **Light Emitting Diode (2)** | | | | | | | | | | | | | | | | |
| 44 | | Area | GL-LED18-EP-NC | 4,500 | 18 | 1,035 | 18,630 | ~~8.73~~ | ~~6.94~~ | 6.94 | 7,183 | -1.79 | 0.00 | 901 | (1,613) | PL-LED18-EP-NC | PL-LED18-EP-NC | 8.29 | 8,580.15 |
| 45 | | Area | GL-LED18-URB-EP-NC | 4,500 | 18 | 6,371 | 114,678 | ~~8.73~~ | ~~6.94~~ | 6.94 | 44,215 | -1.79 | 0.00 | 6,371 | (11,404) | PL-LED18-EP-NC | PL-LED18-EP-NC | 8.29 | 52,815.59 |
| 46 | | Area | GL-LED18-NP-NC | 4,500 | 18 | 237 | 4,266 | ~~15.23~~ | ~~13.43~~ | 13.43 | 3,183 | -1.80 | 0.00 | 208 | (374) | PL-LED18-NP-NC | PL-LED18-NP-NC | 14.78 | 3,502.86 |
| 47 | | Area | GL-LED18-URB-NP-NC | 4,500 | 18 | 1,439 | 25,902 | ~~15.23~~ | ~~13.43~~ | 13.43 | 19,326 | -1.80 | 0.00 | 1,439 | (2,590) | PL-LED18-NP-NC | PL-LED18-NP-NC | 14.78 | 21,268.42 |
| 48 | | Area | GL-LED18-NPU-NC | 4,500 | 18 | 2,828 | 50,904 | ~~19.86~~ | ~~18.05~~ | 18.05 | 51,045 | -1.81 | 0.00 | 2,506 | (4,536) | PL-LED18-NPU-NC | PL-LED18-NPU-NC | 19.40 | 54,863.20 |
| 49 | | Area | GL-LED18-URB-NPU-NC | 4,500 | 18 | 7,316 | 131,688 | ~~19.86~~ | ~~18.05~~ | 18.05 | 132,054 | -1.81 | 0.00 | 7,316 | (13,242) | PL-LED18-NPU-NC | PL-LED18-NPU-NC | 19.40 | 141,930.40 |
| 50 | | Area | GL-LED25-EP-NC | 6,500 | 25 | 1,656 | 41,400 | ~~8.93~~ | ~~7.10~~ | 7.10 | 11,758 | -1.83 | 0.00 | 1,424 | (2,606) | PL-LED25-EP-NC | PL-LED25-EP-NC | 8.48 | 14,042.88 |
| 51 | | Area | GL-LED25-URB-EP-NC | 6,500 | 25 | 7,098 | 177,450 | ~~8.93~~ | ~~7.10~~ | 7.10 | 50,396 | -1.83 | 0.00 | 7,098 | (12,989) | PL-LED25-EP-NC | PL-LED25-EP-NC | 8.48 | 60,191.04 |
| 52 | | Area | GL-LED25-NP-NC | 6,500 | 25 | 478 | 11,950 | ~~15.42~~ | ~~13.59~~ | 13.59 | 6,496 | -1.83 | 0.00 | 415 | (759) | PL-LED25-NP-NC | PL-LED25-NP-NC | 14.97 | 7,155.66 |
| 53 | | Area | GL-LED25-URB-NP-NC | 6,500 | 25 | 1,084 | 27,100 | ~~15.42~~ | ~~13.59~~ | 13.59 | 14,732 | -1.83 | 0.00 | 1,084 | (1,984) | PL-LED25-NP-NC | PL-LED25-NP-NC | 14.97 | 16,227.48 |
| 54 | | Area | GL-LED25-NPU-NC | 6,500 | 25 | 1,858 | 46,450 | ~~20.06~~ | ~~18.21~~ | 18.21 | 33,834 | -1.85 | 0.00 | 1,642 | (3,038) | PL-LED25-NPU-NC | PL-LED25-NPU-NC | 19.59 | 36,398.22 |
| 55 | | Area | GL-LED25-URB-NPU-NC | 6,500 | 25 | 3,197 | 79,925 | ~~20.06~~ | ~~18.21~~ | 18.21 | 58,217 | -1.85 | 0.00 | 3,197 | (5,914) | PL-LED25-NPU-NC | PL-LED25-NPU-NC | 19.59 | 62,629.23 |
| 56 | | Area | GL-LED40-EP-NC | 9,500 | 40 | 380 | 15,200 | ~~10.85~~ | ~~8.62~~ | 8.62 | 3,276 | -2.23 | 0.00 | 336 | (749) | PL-LED40-EP-NC | PL-LED40-EP-NC | 10.30 | 3,914.00 |
| 57 | | Area | GL-LED40-URB-EP-NC | 9,500 | 40 | 612 | 24,480 | ~~10.85~~ | ~~8.62~~ | 8.62 | 5,275 | -2.23 | 0.00 | 612 | (1,365) | PL-LED40-EP-NC | PL-LED40-EP-NC | 10.30 | 6,303.60 |
| 58 | | Area | GL-LED40-NP-NC | 9,500 | 40 | 147 | 5,880 | ~~17.35~~ | ~~15.11~~ | 15.11 | 2,221 | -2.24 | 0.00 | 131 | (293) | PL-LED40-NP-NC | PL-LED40-NP-NC | 16.79 | 2,468.13 |
| 59 | | Area | GL-LED40-URB-NP-NC | 9,500 | 40 | 380 | 15,200 | ~~17.35~~ | ~~15.11~~ | 15.11 | 5,742 | -2.24 | 0.00 | 380 | (851) | PL-LED40-NP-NC | PL-LED40-NP-NC | 16.79 | 6,380.20 |
| 60 | | Area | GL-LED40-NPU-NC | 9,500 | 40 | 880 | 35,200 | ~~21.98~~ | ~~19.73~~ | 19.73 | 17,362 | -2.25 | 0.00 | 792 | (1,782) | PL-LED40-NPU-NC | PL-LED40-NPU-NC | 21.41 | 18,840.80 |
| 61 | | Area | GL-LED40-URB-NPU-NC | 9,500 | 40 | 381 | 15,240 | ~~21.98~~ | ~~19.73~~ | 19.73 | 7,517 | -2.25 | 0.00 | 381 | (857) | PL-LED40-NPU-NC | PL-LED40-NPU-NC | 21.41 | 8,157.21 |
| 62 | | Area | GL-LED54-EP-NC | 12,500 | 54 | 2,849 | 153,846 | ~~12.10~~ | ~~9.62~~ | 9.62 | 27,407 | -2.48 | 0.00 | 2,463 | (6,108) | PL-LED54-EP-NC | PL-LED54-EP-NC | 11.49 | 32,735.01 |
| 63 | | Area | GL-LED54-URB-EP-NC | 12,500 | 54 | 6,378 | 344,412 | ~~12.10~~ | ~~9.62~~ | 9.62 | 61,356 | -2.48 | 0.00 | 6,378 | (15,817) | PL-LED54-EP-NC | PL-LED54-EP-NC | 11.49 | 73,283.22 |
| 64 | | Area | GL-LED54-NP-NC | 12,500 | 54 | 335 | 18,090 | ~~18.60~~ | ~~16.11~~ | 16.11 | 5,397 | -2.49 | 0.00 | 294 | (732) | PL-LED54-NP-NC | PL-LED54-NP-NC | 17.98 | 6,023.30 |
| 65 | | Area | GL-LED54-URB-NP-NC | 12,500 | 54 | 664 | 35,856 | ~~18.60~~ | ~~16.11~~ | 16.11 | 10,697 | -2.49 | 0.00 | 664 | (1,653) | PL-LED54-NP-NC | PL-LED54-NP-NC | 17.98 | 11,938.72 |
| 66 | | Area | GL-LED54-NPU-NC | 12,500 | 54 | 3,882 | 209,628 | ~~23.24~~ | ~~20.73~~ | 20.73 | 80,474 | -2.51 | 0.00 | 3,429 | (8,607) | PL-LED54-NPU-NC | PL-LED54-NPU-NC | 22.60 | 87,733.20 |
| 67 | | Area | GL-LED54-URB-NPU-NC | 12,500 | 54 | 1,175 | 63,450 | ~~23.24~~ | ~~20.73~~ | 20.73 | 24,358 | -2.51 | 0.00 | 1,175 | (2,949) | PL-LED54-NPU-NC | PL-LED54-NPU-NC | 22.60 | 26,555.00 |
| 68 | | Area | GL-LED79-EP-NC | 18,500 | 79 | 1,392 | 109,968 | ~~14.21~~ | ~~11.29~~ | 11.29 | 15,716 | -2.92 | 0.00 | 1,246 | (3,638) | PL-LED79-EP-NC | PL-LED79-EP-NC | 13.49 | 18,778.08 |
| 69 | | Area | GL-LED79-URB-EP-NC | 18,500 | 79 | 6,662 | 526,298 | ~~14.21~~ | ~~11.29~~ | 11.29 | 75,214 | -2.92 | 0.00 | 6,662 | (19,453) | PL-LED79-EP-NC | PL-LED79-EP-NC | 13.49 | 89,870.38 |
| 70 | | Area | GL-LED79-NP-NC | 18,500 | 79 | 134 | 10,586 | ~~20.70~~ | ~~17.78~~ | 17.78 | 2,383 | -2.92 | 0.00 | 118 | (345) | PL-LED79-NP-NC | PL-LED79-NP-NC | 19.98 | 2,677.32 |
| 71 | | Area | GL-LED79-URB-NP-NC | 18,500 | 79 | 1,351 | 106,729 | ~~20.70~~ | ~~17.78~~ | 17.78 | 24,021 | -2.92 | 0.00 | 1,351 | (3,945) | PL-LED79-NP-NC | PL-LED79-NP-NC | 19.98 | 26,992.98 |
| 72 | | Area | GL-LED79-NPU-NC | 18,500 | 79 | 3,293 | 260,147 | ~~25.34~~ | ~~22.40~~ | 22.40 | 73,763 | -2.94 | 0.00 | 2,966 | (8,720) | PL-LED79-NPU-NC | PL-LED79-NPU-NC | 24.60 | 81,007.80 |
| 73 | | Area | GL-LED79-URB-NPU-NC | 18,500 | 79 | 1,726 | 136,354 | ~~25.34~~ | ~~22.40~~ | 22.40 | 38,662 | -2.94 | 0.00 | 1,726 | (5,074) | PL-LED79-NPU-NC | PL-LED79-NPU-NC | 24.60 | 42,459.60 |
| 74 | | Area | GL-LED101-EP-NC | 24,000 | 101 | 1,045 | 105,545 | ~~16.22~~ | ~~12.89~~ | 12.89 | 13,470 | -3.33 | 0.00 | 931 | (3,100) | PL-LED101-EP-NC | PL-LED101-EP-NC | 15.40 | 16,093.00 |
| 75 | | Area | GL-LED101-URB-EP-NC | 24,000 | 101 | 961 | 97,061 | ~~16.22~~ | ~~12.89~~ | 12.89 | 12,387 | -3.33 | 0.00 | 961 | (3,200) | PL-LED101-EP-NC | PL-LED101-EP-NC | 15.40 | 14,799.40 |
| 76 | | Area | GL-LED101-NP-NC | 24,000 | 101 | 304 | 30,704 | ~~22.72~~ | ~~19.38~~ | 19.38 | 5,892 | -3.34 | 0.00 | 267 | (892) | PL-LED101-NP-NC | PL-LED101-NP-NC | 21.89 | 6,654.56 |
| 77 | | Area | GL-LED101-URB-NP-NC | 24,000 | 101 | 376 | 37,976 | ~~22.72~~ | ~~19.38~~ | 19.38 | 7,287 | -3.34 | 0.00 | 376 | (1,256) | PL-LED101-NP-NC | PL-LED101-NP-NC | 21.89 | 8,230.64 |
| 78 | | Area | GL-LED101-NPU-NC | 24,000 | 101 | 1,944 | 196,344 | ~~27.35~~ | ~~24.00~~ | 24.00 | 46,656 | -3.35 | 0.00 | 1,723 | (5,772) | PL-LED101-NPU-NC | PL-LED101-NPU-NC | 26.51 | 51,535.44 |
| 79 | | Area | GL-LED101-URB-NPU-NC | 24,000 | 101 | 1,160 | 117,160 | ~~27.35~~ | ~~24.00~~ | 24.00 | 27,840 | -3.35 | 0.00 | 1,160 | (3,886) | PL-LED101-NPU-NC | PL-LED101-NPU-NC | 26.51 | 30,751.60 |
| 80 | | Area | GL-LED151-EP-NC | 43,000 | 151 | 136 | 20,536 | ~~34.27~~ | ~~27.23~~ | 27.22 | 3,702 | -7.05 | -0.01 | 119 | (839) | PL-LED151-EP-NC | PL-LED151-EP-NC | 32.51 | 4,421.36 |
| 81 | | Area | GL-LED151-URB-EP-NC | 43,000 | 151 | 0 | 0 | ~~34.27~~ | ~~27.23~~ | 27.22 | - | -7.05 | -0.01 | - | - | PL-LED151-EP-NC | PL-LED151-EP-NC | 32.51 | - |
| 82 | | Area | GL-LED151-NP-NC | 43,000 | 151 | 153 | 23,103 | ~~40.77~~ | ~~33.72~~ | 33.71 | 5,158 | -7.06 | -0.01 | 136 | (960) | PL-LED151-NP-NC | PL-LED151-NP-NC | 39.00 | 5,967.00 |
| 83 | | Area | GL-LED151-URB-NP-NC | 43,000 | 151 | 0 | 0 | ~~40.77~~ | ~~33.72~~ | 33.71 | - | -7.06 | -0.01 | - | - | PL-LED151-NP-NC | PL-LED151-NP-NC | 39.00 | - |
| 84 | | Area | GL-LED151-NPU-NC | 43,000 | 151 | 302 | 45,602 | ~~45.41~~ | ~~38.34~~ | 38.33 | 11,576 | -7.08 | -0.01 | 265 | (1,877) | PL-LED151-NPU-NC | PL-LED151-NPU-NC | 43.62 | 13,173.24 |
| 85 | | Area | GL-LED151-URB-NPU-NC | 43,000 | 151 | 0 | 0 | ~~45.41~~ | ~~38.34~~ | 38.33 | - | -7.08 | -0.01 | - | - | PL-LED151-NPU-NC | PL-LED151-NPU-NC | 43.62 | - |
| 86 | | Floodlight | GL-LED47-EP-FL-NC | | 40 | 17 | 680 | ~~18.57~~ | ~~18.24~~ | 18.24 | 310 | -0.33 | 0.00 | - | - | PL-LED47-EP-FL-NC | PL-LED47-EP-FL-NC | 22.77 | 387.09 |
| 87 | | Floodlight | GL-LED47-NP-FL-NC | | 40 | 3 | 120 | ~~26.31~~ | ~~25.84~~ | 25.84 | 78 | -0.47 | 0.00 | - | - | PL-LED47-NP-FL-NC | PL-LED47-NP-FL-NC | 29.26 | 87.78 |
| 88 | | Floodlight | GL-LED47-NPU-FL-NC | | 40 | 10 | 400 | ~~30.93~~ | ~~30.38~~ | 30.38 | 304 | -0.55 | 0.00 | - | - | PL-LED47-NPU-FL-NC | PL-LED47-NPU-FL-NC | 33.88 | 338.80 |
| 89 | | Floodlight | GL-LED95-EP-FL-NC | | 79 | 1 | 79 | ~~40.20~~ | ~~39.49~~ | 39.49 | 39 | -0.71 | 0.00 | - | - | PL-LED95-EP-FL-NC | PL-LED95-EP-FL-NC | 49.30 | 49.30 |
| 90 | | Floodlight | GL-LED95-NP-FL-NC | | 79 | 1 | 79 | ~~47.94~~ | ~~47.09~~ | 47.09 | 47 | -0.85 | 0.00 | - | - | PL-LED95-NP-FL-NC | PL-LED95-NP-FL-NC | 55.79 | 55.79 |
| 91 | | | | | | | | | | | | | | | | | | | |
| 92 | | | | | | 241,484 | 17,313,931 | | | | 2,724,171 | | | 221,931 | (1,734,595) | | | | 3,183,852 |

| | | | |
|---|---|---|---|
| Revenue from Billing Units and Present Rates | 2,724,171 | Revenue from Billing Units and Present Rates | 3,183,852 |
| Booked Extra Facilities Charges | 112,813 | Booked Extra Facilities Charges | 112,813 |
| Unadjusted Present Revenue | 2,836,984 | Unadjusted Present Revenue | 3,296,665 |
| Present Revenue adjusted for Spread Factor | 2,946,282 | Present Revenue adjusted for Spread Factor | 3,423 672 |
| | | | 15.93% |

| add adjustments to base rate [1] | kWh Priced | | | Row | Col |
|---|---|---|---|---|---|
| Adjustment to Base Fuel | 17,313,931 | 0.000398 | 6,891 | 1 | 9 OL,FL,PL,GL,NL |
| | 17,313,931 | 0.000000 | 0 | 2 | 9 OL,FL,PL,GL,NL |
| | | 0.000398 | | | |
| Equals Annualized Present Revenue | | | $ 2,953,173 | | |
| BPM Prospective Rider | 18,709,804 | -0.000078 | (1,459) | 6 | 9 OL,FL,PL,GL,NL |
| BPM True-Up Rider | 18,709,804 | 0.000067 | 1,254 | 7 | 9 OL,FL,PL,GL,NL |
| EDIT-1 | 18,709,804 | -0.001049 | (19,627) | 8 | 9 OL,FL,PL,GL,NL |
| Existing DSM Program Costs Adjustment | 18,709,804 | -0.000055 | (1,029) | 10 | 9 OL,FL,PL,GL,NL |
| | | | (20,861) | | |
| Total Riders $/kWh | | -0.000717 | | | |

**GL & PL Spread Factor Calculation - Comparison to Book**
Revenue Spread Factor (Reported / Estimated) **1.039**

| | | |
|---|---|---|
| Booked GL kWh for test year | 18,709,804 | |
| Estimated GL kWh from Billing Data | 17,313,931 | |
| GL kWh Spread Factor (Reported/Estimated - for information on | 1.0806 | |
| GL kWh Variance | 1,395,873 | 7.46% |

**Notes**

(2) Light Emitting Diode (LED) luminaires are available only for new installations after January 28, 2014 and are not available as replacements for High Pressure Sodium Vapor or Metal Halide luminaires.
and are not available as replacements for High Pressure Sodium Vapor or Metal Halide luminaires.
[1] Projected rider adjustments applicable to schedule
[2] Difference in Revenue: Test Year Sales @ Present Rates and @ Test Year Rates

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018** — OL Rate Change: 24.83%

**Schedule S**

| S Billing Determinants | | Previous Rate as of 1/1/2018 | Billing Units Jan-Jul @ as of 1/1/2018 Prices | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | | Present Rates with Base Rate Rider Adjustments | Proposed Rate | Proposed Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Charge** | | 6.01 | 29 | 5.90 | 49 | 3 | 289 | | | | 5.90 | 5.90 | 289 |
| **Energy Charges** | | | | | | | | | | | | | |
| | All kwh | 0.052880 | 30,922 | 0.051893 | 53,778 | 31 | 2,791 | | | | 0.052291 | 0.065275 | 3,510 |
| Present Revenue from Billing Units and Present Rates | | | | | | 34 | 3,080 | | | | | | 3,799 |
| Revenue adjusted for Spread Factor | | | | | | | 3,079 | | | | | | 3,798 |
| add adjustments to base rate | | | | | | | | Row | Col | | | | |
| Adjustment to Base Fuel | | | | 0.000398 | 53,778 | | 21 | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| | | | | 0.000000 | 53,778 | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| | | | | 0.000398 | | | | | | | | | |
| Equals Annualized Present Revenue | | | | | | | 3,100 | | | | | | |
| REPS | | | | 1.03 | 12 | | 12 | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| BPM Prospective Rider | | | | -0.000078 | 53,778 | | (4) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| BPM True-Up Rider | | | | 0.000067 | 53,778 | | 4 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| EDIT-1 | | | | -0.001049 | 53,778 | | (56) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| Energy Efficiency Rider | | | | 0.008286 | - | | 0 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| Existing DSM Program Costs Adjustment | | | | -0.000055 | 53,778 | | (3) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| Job Retention Recovery Rider | | | | 0.000410 | 53,778 | | 22 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| | | | | | | | (26) | | | | | | |
| Total Riders $/kWh | | | | 1.037979 | | | | | | | | | |
| Proposed Revenue adjusted for Spread Factor | | | | | | | | | | | | | 3,798 |
| Revenue Increase (Decrease) | | | | | | | | | | | | | 698 |
| Percent Revenue Increase (Decrease) | | | | | | | | | | | | | 22.52% |
| Total Bills | | | | | 49 | | | | | | | | |
| Total kWh | | | | | 53,778 | | | | | | | | |
| Per Book kWh | | | | | 0 | | | | | | | | |

| **Spread Factor Calculation** | | | Variance per kWh | kWh Affected | | |
|---|---|---|---|---|---|---|
| Unadjusted Present Revenue | | | | | | $ 3,080 |
| add booked riders including REPS and DSM credits | | | | | | $ - |
| add Price Variance due to billing units on 1/1/2018 rates | | | | | | $ 34 |
| add Price Variance due to billing units on 8/1/2018 rates | | | -0.000047 | 22,856.84 | | $ 1 |
| Equals estimated booked revenue (base rates) | | | | | | $ 3,115 |
| Reported Booked Revenue | | | | | | $ 3,114 |
| | | | | | | |
| Spread Factor (Reported to Estimated) | | | | | | **0.9997** |

**Notes**

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

Overall OPT Rate: 9.15%
On-Peak % of Revenue: 47.35%

**Schedule OPTEG**

| OPTEG | Billing Determinants | BU Name in BU table | Price Name in Price Table | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTEG) | Jan-Jul 2018 Billing Units (HP with OPTEG baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue | Row | Col | | Present Rates with Base Rate Rider Adjustments | Proposed Rate (OPTEG) | Proposed Revenue for OPTEG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | Bills | CHG | 33.21 | 8.00 | 0 | 33.21 | 12 | 0 | 399 | | | | 33.21 | 33.21 | 399 |
| 3 | | | | | | | | | | | | | | | | |
| 4 | **Energy Charges** | | | | | | | | | | | | | | | |
| 5 | On Peak Summer (June-September) | | | | | | | | | | | | | | | |
| 6 | First 100,000 kWh | bu_skw1 | KHS | 0.183148 | 200,000 | 0 | 0.181947 | 400,000 | 240 | 72,779 | | | | 0.182345 | 0.186466 | 74,586 |
| 7 | All over 100,000 kWh | bu_skw2 | KHS | 0.132599 | 606,400 | 0 | 0.131717 | 1,168,000 | 535 | 153,845 | | | | 0.132115 | 0.134988 | 157,666 |
| 8 | | | | | | | 71.98% | | | | | | | | 80.00% | |
| 9 | On Peak Winter (October-May) | | | | | | 64.49% | | | | | | | | 71.68% | |
| 10 | First 100,000 kWh | bu_wkw1 | KHW | 0.131836 | 600,000 | 0 | 0.130958 | 800,000 | 527 | 104,766 | | | | 0.131356 | 0.149173 | 119,338 |
| 11 | All over 100,000 kWh | bu_wkw2 | KHW | 0.085527 | 1,339,200 | 0 | 0.084941 | 1,801,600 | 785 | 153,030 | | | | 0.085339 | 0.096755 | 174,314 |
| 12 | | | | | | | | | | | | | | | | |
| 13 | All Off-Peak kWh | okwh | OPE | 0.033736 | 10,553,600 | 0 | 0.033476 | 15,843,200 | 2,744 | 530,367 | | | | 0.033874 | 0.036972 | 585,755 |
| 14 | | | | | | | | | | | | | | | | |
| 15 | **Minimum Bill per kW of Contract Demand** | | MTHMIn | 0 | | | 1.99 | | | | | | | 1.99 | 2.17 | |
| 16 | | | | | | | | | | | | | | | | |
| 17 | Present Revenue from Billing Units and Present Rates | | | | | | | | 4,831 | 1,015,186 | | | | | | 1,112,058 |
| 18 | Revenue adjusted for Spread Factor | | | | | | | | | 1,015,186 | | | | | | 1,112,058 |
| 19 | | | | | | | | | | | | | | | | |
| 20 | add adjustments to base rate | | | | | | | | | | Row | Col | | | | |
| 21 | Adjustment to Base Fuel | | | | | | 0.000398 | 20,012,800 | | 7,965 | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 22 | | | | | | | 0.000000 | 20,012,800 | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 23 | | | | | | | 0.000398 | | | | | | | | | |
| 24 | Annualized Present Revenue | | | | | | | | | 1,023,151 | | | | | | |
| 25 | | | | | | | | | | | | | | | | |
| 26 | REPS | | | | | | 1.03 | 12 | | 12 | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 27 | BPM Prospective Rider | | | | | | -0.000078 | 20,012,800 | | (1,561) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 28 | BPM True-Up Rider | | | | | | 0.000067 | 20,012,800 | | 1,341 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 29 | EDIT-1 | | | | | | -0.001049 | 20,012,800 | | (20,993) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 30 | Energy Efficiency Rider | | | | | | 0.008286 | - | | 0 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 31 | Existing DSM Program Costs Adjustment | | | | | | -0.000055 | 20,012,800 | | (1,101) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 32 | Job Retention Recovery Rider | | | | | | 0.000410 | 20,012,800 | | 8,205 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | | |
| 33 | | | | | | | | | | (14,097) | | | | | | |
| 34 | Total Riders $/kWh and $/bill (REPS) | | | | | | 1.037979 | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | |
| 36 | Proposed Revenue (using Spread Factor) | | | | | | | | | | | | | | | 1,112,058 |
| 37 | Revenue Increase (Decrease) | | | | | | | | | | | | | | | 88,907 |
| 38 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | | | 8.689526% |
| 39 | Total Bills | | | | | | | 12 | | | | | | | | |
| 40 | Total KWH | | | | | | | 20,012,800 | | | | | | | | |
| 41 | Per Book kWh | | | | | | | 20,012,800 | | | | | | | | |
| 42 | kWh Variance | | | | | | | 0 | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | |
| 44 | **Spread Factor Calculation** | | | | | | | | | | | | | | | |
| 45 | Unadjusted Present Revenue | | | | | | | | | $ 1,015,186 | | | | | | |
| 46 | add booked riders including REPS and DSM credits | | | | | | | | | $ (75,600) | | | | | | |
| 47 | add Rate Equalization Adjustment | | | | | | | | | $ 122,717 | | | | | | |
| 48 | add Price Variance due to billing units on 1/1/2018 rates | | | | | | | | | $ 4,831 | | | | | | |
| 49 | add Price Variance due to billing units on 8/1/2018 rates | | | | | | -0.000047 | 6,713,600 | | $ 316 | | | | | | |
| 50 | Equals estimated booked revenue (base rates) | | | | | | | | | $ 1,067,449 | | | | | | |
| 51 | Reported Booked Revenue | | | | | | | | | $ 1,067,449 | | | | | | |
| 52 | Spread Factor (Reported to Estimated) | | | | | | | | | **1.0000** | | | | | | |
| 53 | | | | | | | | | | | | | | | | |
| 54 | **Notes** | | | | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | | |

Rate Equalization Adjustment Factor - .00613195/kwh

| | 2018 |
|---|---|
| Jan | $ 10,085.83 |
| Feb | $ 9,418.68 |
| Mar | $ 9,379.43 |
| Apr | $ 9,614.90 |
| May | $ 10,242.81 |
| Jun | $ 10,968.83 |
| Jul | $ 10,752.99 |
| Aug | $ 11,086.57 |
| Sept | $ 10,635.25 |
| Oct | $ 10,340.92 |
| Nov | $ 10,360.54 |
| Dec | $ 9,830.74 |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule OPTVG - All General Service**

| OPTVG Billing Determinants | Present Rate Effective 1/1/2019 | Jan-Jul Test Year Total Billing Units OPTVG | Test Year Total Billing Units OPTVG | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVG | Row | Col | | Proposed Rate (OPTVG) | Proposed Revenue for OPTVG |
|---|---|---|---|---|---|---|---|---|---|---|
| **Facilities Charge** | 0 | 122,118 | 194,707 | 0 | 6,263,709 | | | | | 6,263,709 |
| **Demand Charges** | | | | | | | | | | |
| Summer On-Peak Demand Charge | | | | | | | | | | |
| First 2000 KW | 0 | 3,452,873 | 6,821,196 | 2,955,231 | 105,993,424 | | | | | 113,988,410 |
| Next 3000 KW | 0 | 383,279 | 770,325 | 344,437 | 11,141,337 | | | | | 12,036,078 |
| All KW over 5000 KW | 0 | 887,268 | 1,912,308 | 807,319 | 20,685,206 | | | | | 22,256,604 |
| Winter On-Peak Demand Charge | | | | | | | | | | |
| First 2000 KW | 0 | 8,710,144 | 12,511,666 | 4,072,801 | 106,042,538 | | | | | 117,940,866 |
| Next 3000 KW | 0 | 1,018,541 | 1,439,147 | 502,676 | 11,402,035 | | | | | 12,694,412 |
| All KW over 5000 KW | 0 | 2,329,838 | 3,261,451 | 1,174,462 | 19,274,181 | | | | | 21,400,910 |
| Economy Demand | 0 | 642,749 | 936,493 | -119,942 | 1,275,160 | | | | | 1,852,128 |
| **Energy Charges** | | | | | | | | | | |
| On-Peak | 0.061143 | 1,932,525,935 | 3,133,684,349 | 3,417,096 | 191,442,753 | | | | | 208,082,599 |
| Off-Peak | 0.030030 | 6,617,166,081 | 10,503,773,949 | 25,232,180 | 314,311,105 | | | | | 340,585,405 |
| **Minimum Bill per kW of Contract Demand** | 1.99 | | | | | | | | | |
| Present Revenue from Billing Units and Present Rates | | | | 38,386,261 | 787,831,448 | | | | | 857,101,120 |
| Revenue adjusted for Spread Factor | | | | | 785,429,883 | | | | | 854,488,399 |
| add adjustments to base rate | | | | | | Row | Col | | | |
| Adjustment to Base Fuel | 0.000398 | | 13,637,458,298 | | 5,427,708 | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| | 0.000000 | | 13,637,458,298 | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| | 0.000398 | | | | | | | | | |
| Equals Annualized Present Revenue | | | | | $ 790,857,592 | | | | | |
| REPS | 1.03 | | 190,452 | | 196,165 | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| BPM Prospective Rider | -0.000078 | | 13,637,458,298 | | (1,063,722) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| BPM True-Up Rider | 0.000067 | | 13,637,458,298 | | 913,710 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| EDIT-1 | -0.001049 | | 13,637,458,298 | | (14,305,694) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| Energy Efficiency Rider | 0.008286 | | 8,374,590,573 | | 69,391,857 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| Existing DSM Program Costs Adjustment | -0.000055 | | 13,637,458,298 | | (750,060) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| Job Retention Recovery Rider | 0.000410 | | 13,637,458,298 | | 5,591,358 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| | | | | | 59,973,615 | | | | | |
| Riders in Present Revenue $/kWh | | | | | | | | | | |
| Total Riders $/kWh and $/bill (REPS) | 1.037569 | | | | | | | | | |
| Total Bills | | | 194,707 | | | | | | | |
| Total KWH | | | 13,637,458,298 | | | | | | | |
| Per Book kWh | | | 13,637,458,294 | | | | | | | |
| kWh Variance | | | 4 | | | | | | | |
| **Spread Factor Calculation** | | | | | | | | | | |
| Unadjusted Present Revenue | | | | | $ 787,831,448 | | | | | |
| add booked riders including REPS and DSM credits | | | | | $ (11,320,085) | | | | | |
| add Price Variance due to billing units on 1/1/2018 rates | | | | | $ 38,386,261 | | | | | |
| add Price Variance due to billing units on 8/1/2018 rates | -0.000047 | | 5,087,766,282 | | $ 239,125 | | | | | |
| Equals estimated booked revenue (base rates) | | | | | $ 815,136,749 | | | | | |
| Reported Booked Revenue | | | | | $ 813,142,227 | | | | | |
| deduct HP Standby Charges reported in Booked Revenue | | | | | $ 490,278 | | | | | |
| Adjusted Reported Booked Revenue | | | | | $ 812,651,949 | | | | | |
| Spread Factor (Reported to Estimated) | | | | | **0.9970** | | | | | |

| Included Schedules |
|---|
| OPTG |
| OPTVGT |
| OPTVGSS |
| OPTVGSM |
| OPTVGSL |
| OPTVGPS |
| OPTVGPM |
| OPTVGPL |

**Notes**

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule OPTVI - All Industrial Service**

| OPTVI | Billing Determinants | Present Rate Effective 1/1/2019 | Jan-Jul Test Year Total Billing Units OPTVI | Test Year Total Billing Units OPTVI | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVI | Row | Col | Proposed Rate (OPTVI) | Proposed Revenue for OPTVI |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | **Facilities Charge** | 0 | 8,475 | 13,445 | 0 | 432,539 | | | | 432,539 |
| 3 | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | |
| 6 | First 2000 KW | 0 | 1,544,119 | 3,093,083 | 1,307,388 | 46,421,196 | | | | 49,921,658 |
| 7 | Next 3000 KW | 0 | 688,566 | 1,402,005 | 576,586 | 20,128,154 | | | | 21,753,760 |
| 8 | All KW over 5000 KW | 0 | 901,038 | 1,822,537 | 644,851 | 20,163,062 | | | | 21,759,525 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | |
| 10 | First 2000 KW | 0 | 4,234,905 | 6,051,854 | 1,966,167 | 49,494,121 | | | | 54,971,387 |
| 11 | Next 3000 KW | 0 | 1,846,335 | 2,641,330 | 845,533 | 20,741,920 | | | | 23,131,659 |
| 12 | All KW over 5000 KW | 0 | 2,229,966 | 3,209,771 | 869,611 | 19,404,950 | | | | 21,635,688 |
| 13 | Economy Demand | 0 | 729,348 | 1,191,579 | 68,003 | 1,157,065 | | | | 1,796,605 |
| 14 | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | |
| 16 | On-Peak | 0.061143 | 1,429,817,399 | 2,323,412,427 | 2,251,748 | 142,388,904 | | | | 154,325,692 |
| 17 | Off-Peak | 0.030163 | 5,072,138,380 | 8,118,401,754 | 18,379,046 | 244,457,398 | | | | 262,871,862 |
| 18 | **Minimum Bill per kW of Contract Demand** | 1.99 | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | 26,908,933 | 564,789,310 | | | | 612,600,377 |
| 21 | Revenue adjusted for Spread Factor | | | | | 564,372,866 | | | | 612,148,680 |
| 22 | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | Row | Col | | |
| 24 | Adjustment to Base Fuel | -0.001273 | | 10,441,814,181 | | (13,292,429) | 1 | 8 I,OPT-V,PG(IND) | | |
| 25 | | 0.000000 | | 10,441,814,181 | | 0 | 2 | 8 I,OPT-V,PG(IND) | | |
| 26 | | -0.001273 | | | | | | | | |
| 27 | Annualized Present Revenue | | | | | $ 551,080,436 | | | | |
| 28 | | | | | | | | | | |
| 29 | REPS | -6.44 | | 13,139 | | (84,613) | 5 | 8 I,OPT-V,PG(IND) | | |
| 30 | BPM Prospective Rider | -0.000078 | | 10,441,814,181 | | (814,462) | 6 | 8 I,OPT-V,PG(IND) | | |
| 31 | BPM True-Up Rider | 0.000067 | | 10,441,814,181 | | 699,602 | 7 | 8 I,OPT-V,PG(IND) | | |
| 32 | EDIT-1 | -0.001049 | | 10,441,814,181 | | (10,953,463) | 8 | 8 I,OPT-V,PG(IND) | | |
| 33 | Energy Efficiency Rider | 0.008286 | | 4,661,285,868 | | 38,623,415 | 9 | 8 I,OPT-V,PG(IND) | | |
| 34 | Existing DSM Program Costs Adjustment | -0.000055 | | 10,441,814,181 | | (574,300) | 10 | 8 I,OPT-V,PG(IND) | | |
| 35 | Job Retention Recovery Rider | 0.000410 | | 10,441,814,181 | | 4,281,144 | 11 | 8 I,OPT-V,PG(IND) | | |
| 36 | | | | | | 31,177,323 | | | | |
| 37 | Total Riders $/kWh and $/bill (REPS) | (6.433692) | | | | | | | | |
| 38 | | | | | | | | | | |
| 39 | Total Bills | | | 13,445 | | | | | | |
| 40 | Total KWH | | | 10,441,814,181 | | | | | | |
| 41 | Per Book kWh | | | 10,441,814,181 | | | | | | |
| 42 | kWh Variance | | | - | | | | | | |
| 43 | | | | | | | | | | |
| 44 | **Spread Factor Calculation** | | | | | | | | | |
| 45 | Unadjusted Present Revenue | | | | | $ 564,789,310 | | | | |
| 46 | add booked riders including REPS and DSM credits | | | | | $ (18,046,180) | | | | |
| 47 | add Price Variance due to billing units on 1/1/2018 rates | | | | | $ 26,908,933 | | | | |
| 48 | add Price Variance due to billing units on 8/1/2018 rates | -0.000047 | | 3,939,858,402 | | $ 185,173 | | | | |
| 49 | Equals estimated booked revenue (base rates) | | | | | $ 573,837,236 | | | | |
| 50 | | | | | | | | | | |
| 51 | Reported Booked Revenue | | | | | $ 573,527,378 | | | | |
| 52 | deduct HP Standby Charges reported in Booked Revenue | | | | | $ (113,258) | | | | |
| 53 | Adjusted Reported Booked Revenue | | | | | $ 573,414,120 | | | | |
| 54 | | | | | | | | | | |
| 55 | Spread Factor (Reported to Estimated) | | | | | **0.9993** | | | | |
| 56 | | | | | | | | | | |
| 57 | **Notes** | | | | | | | | | |

**Included Schedules**
OPTI
OPTVIT
OPTVISS
OPTVISM
OPTVISL
OPTVIPS
OPTVIPM
OPTVIPL

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule OPTVT - Transmission (General and Industrial)**

| OPTVT | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVT) | Test Year Billing Units (HP with OPTVT baseline) | Total Billing Units All Sources OPTVT | Present Revenue Billed on OPTVT | | | Proposed Rate (OPTVT) | Proposed Revenue for OPTVT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | Facilities Charge | 32.17 | 47 | 0 | 47 | 1,512 | | | 32.17 | 1,512 |
| 3 | | | | | | | | | | |
| 4 | Demand Charges | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | |
| 6 | First 2000 KW | 10.4799 | 31,914 | 0 | 31,914 | 334,455 | | | 11.1304 | 355,215 |
| 7 | Next 3000 KW | 10.4799 | 39,022 | 0 | 39,022 | 408,946 | | | 11.1304 | 434,330 |
| 8 | All KW over 5000 KW | 10.4799 | 568,113 | 0 | 568,113 | 5,953,766 | | | 11.1304 | 6,323,323 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | |
| 10 | First 2000 KW | 5.7236 | 64,086 | 0 | 64,086 | 366,803 | | | 6.2580 | 401,050 |
| 11 | Next 3000 KW | 5.7236 | 74,107 | 0 | 74,107 | 424,159 | | | 6.2580 | 463,762 |
| 12 | All KW over 5000 KW | 5.7236 | 1,028,862 | 0 | 1,028,862 | 5,888,794 | | | 6.2580 | 6,438,618 |
| 13 | Economy Demand | 0 | 0 | 0 | 0 | 0 | | | 0.0000 | 0 |
| 14 | | | | | | | | | | |
| 15 | Energy Charges | | | | | | | | | |
| 16 | On-Peak | 0.061023 | 264,684,050 | 0 | 264,684,050 | 16,151,815 | | | 0.065816 | 17,420,445 |
| 17 | Off-Peak | 0.029853 | 971,935,500 | 0 | 971,935,500 | 29,015,190 | | | 0.032221 | 31,316,734 |
| 18 | Minimum Bill per kW of Contract Demand | 1.99 | | | | | | | 2.17 | |
| 19 | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | 58,545,440 | 0.0 | | | 63,154,990 |
| 21 | Revenue adjusted for Spread Factor | | | | | 58,395,515 | | | | 62,993,260 |
| 22 | | | | | | | | | | |
| 23 | add adjustments to base rate | | | on pk | off pk | | Row | Col | | |
| 24 | Adjustment to Base Fuel | 0.000398 | 1,236,619,550 | | | 55,368 | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 25 | | 0.000000 | 1,236,619,550 | | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 26 | | | | 12,537 | 42,832 | | | | | |
| 27 | Equals Annualized Present Revenue | | | | | $ 58,450,884 | | | | |
| 28 | | | | | | | | | | |
| 29 | REPS | 1.03 | 12 | | | (43) | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 30 | BPM Prospective Rider | -0.000078 | 1,236,619,550 | | | (96,456) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 31 | BPM True-Up Rider | 0.000067 | 1,236,619,550 | | | 82,854 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 32 | EDIT-1 | -0.001049 | 1,236,619,550 | | | (1,297,214) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 33 | Energy Efficiency Rider | 0.008286 | - | | | 0 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 34 | Existing DSM Program Costs Adjustment | -0.000055 | 1,236,619,550 | | | (68,014) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 35 | Job Retention Recovery Rider | 0.000410 | 1,236,619,550 | | | 507,014 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 36 | | | | | | (1,310,860) | | | | |
| 37 | Riders in Present Revenue $/kWh | 0.000398 | | | | | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | 1.037979 | | | | | | | | |
| 39 | | | | | | | | | | |
| 40 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | 62,993,260 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | 4,542,377 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | 7.77% |
| 43 | | | | | | | | | | |
| 44 | Total Bills | | | 47 | | | | | | |
| 45 | Total KWH | | | 1,236,619,550 | | | | | | |
| 46 | Per Book kWh | | | 1,236,619,550 | | | | | | |
| 47 | kWh Variance | | | - | | | | | | |
| 48 | | | | | | | | | | |
| 49 | **Spread Factor Calculation** | Variance per kWh | kWh Affected | | | | | | | |
| 50 | Unadjusted Present Revenue | | | | | | | | | |
| 51 | add booked riders including REPS and DSM credits | | | | | | | | | |
| 52 | add Price Variance from 1/1/17 Rates [1] | | | | | | | | | |
| 53 | | | | | | | | | | |
| 54 | Equals estimated booked revenue (base rates) | | | | | | | | | |
| 55 | Reported Booked Revenue | | | $ 56,431,399 | | | | | | |
| 56 | Spread Factor (Reported to Estimated) | | | | | | | | | |
| 57 | | | | | | | | | | |

58 **Notes**

59 [1] Correction for 1/1/17 Tax Law Base Rate change applied to all billing Units

60

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule OPTVPS - Primary Small (General and Industrial)**

| OPTVPS | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVPS) | Test Year Billing Units (HP with OPTVPS baseline) | Total Billing Units All Sources OPTVPS | Present Revenue Billed on OPTVPS | | | Proposed Rate (OPTVPS) | Proposed Revenue for OPTVPS |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Facilities Charge | 32.17 | 1,443 | 36 | 1,479 | 47,577 | | | 32.17 | 47,577 |
| 2 | | | | | | | | | | |
| 3 | Demand Charges | | | | | | | | | |
| 4 | Summer On-Peak Demand Charge | | | | | | | | | |
| 5 | First 2000 KW | 13.8294 | 162,913 | 4,283 | 167,196 | 2,312,221 | | | 15.5243 | 2,595,601 |
| 6 | Next 3000 KW | 13.8294 | | 0 | 0 | 0 | | | 15.5243 | 0 |
| 7 | All KW over 5000 KW | 13.8294 | | 0 | 0 | 0 | | | 15.5243 | 0 |
| 8 | Winter On-Peak Demand Charge | | | | | | | | | |
| 9 | First 2000 KW | 7.2237 | 304,781 | 24,060 | 328,841 | 2,375,451 | | | 8.4773 | 2,787,686 |
| 10 | Next 3000 KW | 7.2237 | | 10,249 | 10,249 | 74,036 | | | 8.4773 | 86,884 |
| 11 | All KW over 5000 KW | 7.2237 | | 0 | 0 | 0 | | | 8.4773 | 0 |
| 12 | Economy Demand | 0.8809 | 142,359 | 329,288 | 471,647 | 415,474 | | | 1.3993 | 659,976 |
| 13 | | | | | | | | | | |
| 14 | Energy Charges | | | | | | | | | |
| 15 | On-Peak | 0.060893 | 47,410,735 | 1,979,700 | 49,390,435 | 3,007,532 | | | 0.071276 | 3,520,353 |
| 16 | Off-Peak | 0.030213 | 200,080,319 | 132,729,216 | 332,809,535 | 10,055,174 | | | 0.034868 | 11,604,403 |
| 17 | Minimum Bill per kW of Contract Demand | 1.99 | | | | | | | 2.17 | |
| 18 | | | | | | | | | | |
| 19 | Present Revenue from Billing Units and Present Rates | | | | | 18,287,464 | 0 | | | 21,302,480 |
| 20 | Revenue adjusted for Spread Factor | | | | | 18,248,667 | | | | 21,257,422 |
| 21 | | | | | | | | | | |
| 22 | add adjustments to base rate | | | on pk | off pk | | Row | Col | | |
| 23 | Adjustment to Base Fuel | 0.000398 | 382,199,970 | | | (147,975) | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (G | | |
| 24 | | 0.000000 | 382,199,970 | | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (G | | |
| 25 | | | | (1,583) | (146,393) | | | | | |
| 26 | | | | | | | | | | |
| 27 | Equals Annualized Present Revenue | | | | | $ 18,100,692 | | | | |
| 28 | | | | | | | | | | |
| 29 | REPS | 1.03 | 1,424 | | | (254) | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (G | | |
| 30 | BPM Prospective Rider | (0.000078) | 382,199,970 | | | (29,812) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (G | | |
| 31 | BPM True-Up Rider | 0.000067 | 382,199,970 | | | 25,607 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (G | | |
| 32 | EDIT-1 | (0.001049) | 382,199,970 | | | (400,928) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (G | | |
| 33 | Energy Efficiency Rider | 0.008286 | 155,545,548 | | | 1,288,850 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (G | | |
| 34 | Existing DSM Program Costs Adjustment | (0.000055) | 382,199,970 | | | (21,021) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (G | | |
| 35 | Job Retention Recovery Rider | 0.000410 | 382,199,970 | | | 156,702 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (G | | |
| 36 | | | | | | | | | | |
| 37 | Riders in Present Revenue $/kWh | 0.000398 | | | | | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | 1.037979 | | | | 883,464 | | | | |
| 39 | | | | | | | | | | |
| 40 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | 21,257,422 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | 3,156,730 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | 17.44% |
| 43 | | | | | | | | | | |
| 44 | Total Bills | | | | 1,479 | | | | | |
| 45 | Total KWH | | | | 382,199,970 | | | | | |
| 46 | Per Book kWh | | | | 382,759,170 | | | | | |
| 47 | kWh Variance | | | | (559,200) | | | | | |
| 48 | | | | | | | | | | |
| 49 | **Spread Factor Calculation** | Variance per kWh | kWh Affected | | | | | | | |
| 50 | Unadjusted Present Revenue | | | | | | | | | |
| 51 | add booked riders including REPS and DSM credits | | | | | | | | | |
| 52 | add Price Variance from 1/1/17 Rates [1] | | | | | | | | | |
| 53 | | | | | | | | | | |
| 54 | Equals estimated booked revenue (base rates) | | | | | | | | | |
| 55 | Reported Booked Revenue | | | | $ 19,120,510 | | | | | |
| 56 | Spread Factor (Reported to Estimated) | | | | | | | | | |
| 57 | | | | | | | | | | |
| 58 | **Notes** | | | | | | | | | |
| 59 | [1] Correction for 1/1/17 Tax Law Base Rate change applied to all billing Units | | | | | | | | | |
| 60 | | | | | | | | | | |
| 61 | | | | | | | | | | |
| 62 | Do not erase or write below this line | | | | | | | | | |

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule OPTVPM - Primary Medium (General and Industrial)**

| OPTVPM | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVPM) | Test Year Billing Units (HP with OPTVPM baseline) | Total Billing Units All Sources OPTVPM | Present Revenue Billed on OPTVPM | Row | Col | | Proposed Rate (OPTVPM) | Proposed Revenue for OPTVPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Facilities Charge | 32.17 | 784 | 0 | 784 | 25,224 | | | | 32.17 | 25,224 |
| 2 | | | | | | | | | | | |
| 3 | Demand Charges | | | | | | | | | | |
| 4 | Summer On-Peak Demand Charge | | | | | | | | | | |
| 5 | First 2000 KW | 14.0567 | 397,963 | 0 | 397,963 | 5,594,051 | | | | 15.0507 | 5,989,627 |
| 6 | Next 3000 KW | 14.0567 | 29,845 | 0 | 29,845 | 419,518 | | | | 15.0507 | 449,183 |
| 7 | All KW over 5000 KW | 14.0567 | 1,989 | 0 | 1,989 | 27,962 | | | | 15.0507 | 29,940 |
| 8 | Winter On-Peak Demand Charge | | | | | | | | | | |
| 9 | First 2000 KW | 7.6772 | 759,729 | 0 | 759,729 | 5,832,589 | | | | 8.4649 | 6,431,027 |
| 10 | Next 3000 KW | 7.6772 | 49,661 | 0 | 49,661 | 381,258 | | | | 8.4649 | 420,376 |
| 11 | All KW over 5000 KW | 7.6772 | 4,011 | 0 | 4,011 | 30,791 | | | | 8.4649 | 33,951 |
| 12 | Economy Demand | 0.8809 | 58,834 | 0 | 58,834 | 51,827 | | | | 1.3993 | 82,326 |
| 13 | | | | | | | | | | | |
| 14 | Energy Charges | | | | | | | | | | |
| 15 | On-Peak | 0.061103 | 151,547,801 | 0 | 151,547,801 | 9,260,025 | | | | 0.065978 | 9,998,821 |
| 16 | Off-Peak | 0.029903 | 510,002,217 | 0 | 510,002,217 | 15,250,596 | | | | 0.032189 | 16,416,461 |
| 17 | Minimum Bill per kW of Contract Demand | 1.99 | | | | | | | | 2.17 | |
| 18 | | | | | | | | | | | |
| 19 | Present Revenue from Billing Units and Present Rates | | | | | 36,873,842 | 0 | | | | 39,876,936 |
| 20 | Revenue adjusted for Spread Factor | | | | | 36,792,796 | | | | | 39,789,275 |
| 21 | | | | | | | | | | | |
| 22 | add adjustments to base rate | | | on pk | off pk | | Row | Col | | | |
| 23 | Adjustment to Base Fuel | 0.000398 | 661,550,018 | | | (145,063) | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 24 | | 0.000000 | 661,550,018 | | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 25 | | | | (37,052) | (108,011) | | | | | | |
| 26 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | | |
| 27 | | | | | | | | | | | |
| 28 | Equals Annualized Present Revenue | | | | | $ 36,647,733 | | | | | |
| 29 | | | | | | | | | | | |
| 30 | REPS | 1.030000 | 778 | | | (1,036) | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 31 | BPM Prospective Rider | (0.000078) | 661,550,018 | | | (51,601) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 32 | BPM True-Up Rider | 0.000067 | 661,550,018 | | | 44,324 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 33 | EDIT-1 | (0.001049) | 661,550,018 | | | (693,966) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 34 | Energy Efficiency Rider | 0.008286 | 443,888,072 | | | 3,678,057 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 35 | Existing DSM Program Costs Adjustment | (0.000055) | 661,550,018 | | | (36,385) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 36 | Job Retention Recovery Rider | 0.000410 | 661,550,018 | | | 271,236 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 37 | | | | | | | | | | | |
| 38 | Base Rate Adjustments | | | | | | | | | | |
| 39 | Proposed Revenue adjusted for Spread Factor and Base Rate Adjustments | | | | | | | | | | 39,789,275 |
| 40 | Revenue Increase (Decrease) | | | | | | | | | | 3,141,542 |
| 41 | Percent Revenue Increase (Decrease) | | | | | | | | | | 8.57% |
| 42 | | | | | | | | | | | |
| 43 | | | | | | | | | | | |
| 44 | | | | | | | | | | | |
| 45 | Riders in Present Revenue $/kWh | 0.000398 | | | | | | | | | |
| 46 | Total Riders $/kWh and $/bill (REPS) | 1.037979 | | | | 2,975,777 | | | | | |
| 47 | | | | | | | | | | | |
| 48 | | | | | | | | | | | |
| 49 | | | | | | | | | | | |
| 50 | Total Bills | | | | 784 | | | | | | |
| 51 | Total KWH | | | | 661,550,018 | | | | | | |
| 52 | Per Book kWh | | | | 661,550,018 | | | | | | |
| 53 | kWh Variance | | | | - | | | | | | |
| 54 | | | | | | | | | | | |
| 55 | | | | | | | | | | | |
| 56 | **Spread Factor Calculation** | Variance per kWh | kWh Affected | | | | | | | | |
| 57 | Unadjusted Present Revenue | | | | | | | | | | |
| 58 | add booked riders including REPS and DSM credits | | | | | | | | | | |
| 59 | add Price Variance from 1/1/17 Rates [1] | | | | | | | | | | |
| 60 | | | | | | | | | | | |
| 61 | Equals estimated booked revenue (base rates) | | | | | | | | | | |
| 62 | Reported Booked Revenue | | | | $ 38,546,860 | | | | | | |
| 63 | Spread Factor (Reported to Estimated) | | | | | | | | | | |
| 64 | | | | | | | | | | | |
| 65 | **Notes** | | | | | | | | | | |
| 66 | [1] Correction for 1/1/17 Tax Law Base Rate change applied to all billing Units | | | | | | | | | | |
| 67 | | | | | | | | | | | |
| 68 | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule OPTVPL - Primary Large (General and Industrial)**

| OPTVPL | Billing Determinants | | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVPL) | Test Year Billing Units (HP with OPTVPL baseline) | Total Billing Units All Sources OPTVPL | Present Revenue Billed on OPTVPL | Row | Col | Proposed Rate (OPTVPL) | Proposed Revenue for OPTVPL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | |
| 2 | Facilities Charge | | 32.17 | 1,535 | 70 | 1,605 | 51,633 | | | 32.17 | 51,633 |
| 3 | | | | | | | | | | | |
| 4 | Demand Charges | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | |
| 6 | | First 2000 KW | 15.0272 | 999,208 | 51,552 | 1,050,759 | 15,789,971 | | | 16.2520 | 17,076,941 |
| 7 | | Next 3000 KW | 15.0272 | 1,314,068 | 67,709 | 1,381,777 | 20,764,240 | | | 16.2520 | 22,456,640 |
| 8 | | All KW over 5000 KW | 10.6209 | 2,435,985 | 239,575 | 2,675,560 | 28,416,857 | | | 11.4696 | 30,687,605 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | |
| 10 | | First 2000 KW | 8.208 | 2,038,725 | 92,642 | 2,131,367 | 17,494,260 | | | 9.1374 | 19,475,152 |
| 11 | | Next 3000 KW | 8.208 | 2,550,584 | 126,713 | 2,677,297 | 21,975,254 | | | 9.1374 | 24,463,534 |
| 12 | | All KW over 5000 KW | 5.7995 | 4,196,458 | 371,387 | 4,567,846 | 26,491,220 | | | 6.4663 | 29,537,059 |
| 13 | Economy Demand | | 0.8809 | 447,814 | 389,267 | 837,081 | 737,385 | | | 1.3993 | 1,171,327 |
| 14 | | | | | | | | | | | |
| 15 | Energy Charges | | | | | | | | | | |
| 16 | | On-Peak | 0.061343 | 1,771,798,398 | 125,882,555 | 1,897,680,953 | 116,409,443 | | | 0.066492 | 126,180,602 |
| 17 | | Off-Peak | 0.030163 | 6,177,034,375 | 613,063,451 | 6,790,097,826 | 204,809,721 | | | 0.032362 | 219,741,146 |
| 18 | Minimum Bill per kW of Contract Demand | | 1.99 | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | 452,939,983 | 0 | | | 490,841,640 |
| 21 | Revenue adjusted for Spread Factor | | | | | | 452,168,374 | | | | 490,005,663 |
| 22 | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | on pk | off pk | | Row | Col | | |
| 24 | Adjustment to Base Fuel | | 0.000398 | 8,687,778,779 | | | (5,031,795) | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 25 | | | 0.000000 | 8,687,778,779 | | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 26 | Proposed Revenue from Billing Units and Proposed Rates | | | | (1,075,583) | (3,956,212) | | | | | |
| 27 | | | | | | | | | | | |
| 28 | Annualized Present Revenue | | | | | | $ 447,136,579 | | | | |
| 29 | | | | | | | | | | | |
| 30 | REPS | | 1.03 | 12 | | | (5,286) | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 31 | BPM Prospective Rider | | -0.000078 | 8,687,778,779 | | | (677,647) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 32 | BPM True-Up Rider | | 0.000067 | 8,687,778,779 | | | 582,081 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 33 | EDIT-1 | | -0.001049 | 8,687,778,779 | | | (9,113,480) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 34 | Energy Efficiency Rider | | 0.008286 | 3,452,060,325 | | | 28,603,772 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 35 | Existing DSM Program Costs Adjustment | | -0.000055 | 8,687,778,779 | | | (477,828) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 36 | Job Retention Recovery Rider | | 0.000410 | 8,687,778,779 | | | 3,561,989 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 37 | | | | | | | 22,473,602 | | | | |
| 38 | Base Rate Adjustments | | | | | | | | | | |
| 39 | Proposed Revenue adjusted for Spread Factor and Base Rate Adjustments | | | | | | | | | | 490,005,663 |
| 40 | Revenue Increase (Decrease) | | | | | | | | | | 42,869,084 |
| 41 | Percent Revenue Increase (Decrease) | | | | | | | | | | 9.59% |
| 42 | | | | | | | | | | | |
| 43 | Riders in Present Revenue $/kWh | | 0.000398 | | | | | | | | |
| 44 | Total Riders $/kWh and $/bill (REPS) | | 1.037979 | | | | 19,389,440 | | | | 490,005,663 |
| 45 | | | | | | | | | | | |
| 46 | | | | | | | | | | | |
| 47 | | | | | | | | | | | |
| 48 | Total Bills | | | | | 1,605 | | | | | |
| 49 | Total KWH | | | | | 8,687,778,779 | | | | | |
| 50 | Per Book kWh | | | | | 8,687,778,779 | | | | | |
| 51 | kWh Variance | | | | | - | | | | | |
| 52 | | | | | | | | | | | |
| 53 | | | | | | | | | | | |
| 54 | **Spread Factor Calculation** | | Variance per kWh | kWh Affected | | | | | | | OPTEG |
| 55 | Unadjusted Present Revenue | | | | | | | | | | OPTG |
| 56 | add booked riders including REPS and DSM credits | | | | | | | | | | OPTI |
| 57 | add Price Variance from 1/1/17 Rates [1] | | | | | | | | | | OPTVGPL |
| 58 | | | | | | | | | | | OPTVGPM |
| 59 | Equals estimated booked revenue (base rates) | | | | | | | | | | OPTVGPS |
| 60 | Reported Booked Revenue | | | | | $ 453,033,144 | | | | | OPTVGSL |
| 61 | Spread Factor (Reported to Estimated) | | | | | | | | | | OPTVGSM |
| 62 | | | | | | | | | | | OPTVGSS |
| 63 | **Notes** | | | | | | | | | | OPTVGT |
| 64 | [1] Correction for 1/1/17 Tax Law Base Rate change applied to all billing Units | | | | | | | | | | OPTVI59 |
| 65 | | | | | | | | | | | OPTVIPL |
| 66 | | | | | | | | | | | OPTVIPM |

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule OPTVSS - Secondary Small (General and Industrial)**

| OPTVSS | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVSS) | Test Year Billing Units (HP with OPTVSS baseline) | Total Billing Units All Sources OPTVSS | Present Revenue Billed on OPTVSS | Row | Col | Proposed Rate (OPTVSS) | Proposed Revenue for OPTVSS |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | Facilities Charge | 32.17 | 199,792 | 32 | 199,824 | 6,428,343 | | | 32.17 | 6,428,343 |
| 3 | | | | | | | | | | |
| 4 | Demand Charges | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | |
| 6 | First 2000 KW | 15.8246 | 6,035,298 | 1,750 | 6,037,048 | 95,533,865 | | | 17.0117 | 102,700,444 |
| 7 | Next 3000 KW | 15.8246 | 0 | 0 | 0 | 0 | | | 17.0117 | 0 |
| 8 | All KW over 5000 KW | 15.8246 | 0 | 0 | 0 | 0 | | | 17.0117 | 0 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | |
| 10 | First 2000 KW | 8.6426 | 11,041,889 | 3,530 | 11,045,420 | 95,461,145 | | | 9.6158 | 106,210,548 |
| 11 | Next 3000 KW | 8.6426 | 140 | 0 | 140 | 1,210 | | | 9.6158 | 1,346 |
| 12 | All KW over 5000 KW | 8.6426 | 0 | 0 | 0 | 0 | | | 9.6158 | 0 |
| 13 | Economy Demand | 1.6141 | 607,539 | 9,010 | 616,549 | 995,172 | | | 2.2815 | 1,406,656 |
| 14 | | | | | | | | | | |
| 15 | Energy Charges | | | | | | | | | |
| 16 | On-Peak | 0.060903 | 1,851,114,052 | 617,715 | 1,851,731,767 | 112,776,020 | | | 0.066421 | 122,993,876 |
| 17 | Off-Peak | 0.029723 | 5,896,271,832 | 3,570,572 | 5,899,842,404 | 175,361,016 | | | 0.032504 | 191,768,477 |
| 18 | Minimum Bill per kW of Contract Demand | 1.99 | | | | | | | 2.17 | |
| 19 | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | 486,556,770 | 0 | | | 531,509,690 |
| 21 | Revenue adjusted for Spread Factor | | | | | 485,243,510 | | | | 530,075,223 |
| 22 | | | | | | | | | | |
| 23 | add adjustments to base rate | | | on pk | off pk | | Row | Col | | |
| 24 | Adjustment to Base Fuel | 0.000398 | 7,751,574,171 | | | 1,120,112 | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 25 | | 0.000000 | 7,751,574,171 | | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 26 | | | | 251,173 | 868,939 | | | | | |
| 27 | | | | | | | | | | |
| 28 | Proposed Revenue adjusted for Spread Factor and Base Rate Adjustments | | | | | | | | | 530,075,223 |
| 29 | Revenue Increase (Decrease) | | | | | | | | | 43,711,600 |
| 30 | Percent Revenue Increase (Decrease) | | | | | | | | | 8.99% |
| 31 | Equals Annualized Present Revenue | | | | | $ 486,363,623 | | | | |
| 32 | | | | | | | | | | |
| 33 | REPS | 1.03 | 12 | | | 132,563 | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 34 | BPM Prospective Rider | (0.000078) | 7,751,574,171 | | | (604,623) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 35 | BPM True-Up Rider | 0.000067 | 7,751,574,171 | | | 519,355 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 36 | EDIT-1 | (0.001049) | 7,751,574,171 | | | (8,131,401) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 37 | Energy Efficiency Rider | 0.008286 | 9,925,754,141 | | | 47,954,523 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 38 | Existing DSM Program Costs Adjustment | (0.000055) | 7,751,574,171 | | | (426,337) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 39 | Job Retention Recovery Rider | 0.000410 | 7,751,574,171 | | | 3,178,145 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 40 | | | | | | | | | | |
| 41 | Riders in Present Revenue $/kWh | 0.000398 | | | | | | | | |
| 42 | Total Riders $/kWh and $/bill (REPS) | 1.037979 | | | | 39,870,418 | | | | |
| 43 | | | | | | | | | | |
| 44 | | | | | | | | | | |
| 45 | Total Bills | | | | 199,824 | | | | | |
| 46 | Total KWH | | | | 7,751,574,171 | | | | | |
| 47 | Per Book kWh | | | | 7,751,574,171 | | | | | |
| 48 | kWh Variance | | | | - | | | | | |
| 49 | | | | | | | | | | |
| 50 | **Spread Factor Calculation** | Variance per kWh | kWh Affected | | | | | | | |
| 51 | Unadjusted Present Revenue | | | | | | | | | |
| 52 | add booked riders including REPS and DSM credits | | | | | | | | | |
| 53 | add Price Variance from 1/1/17 Rates [1] | | | | | | | | | |
| 54 | | | | | | | | | | |
| 55 | Equals estimated booked revenue (base rates) | | | | | | | | | |
| 56 | Reported Booked Revenue | | | | $ 514,998,496 | | | | | |
| 57 | Spread Factor (Reported to Estimated) | | | | | | | | | |
| 58 | | | | | | | | | | |
| 59 | **Notes** | | | | | | | | | |
| 60 | [1] Correction for 1/1/17 Tax Law Base Rate change applied to all billing Units | | | | | | | | | |
| 61 | | | | | | | | | | |
| 62 | | | | | | | | | | |

North Carolina Present and Proposed Revenue — 12 Months Ended December 2018

**Schedule OPTVSM - Secondary Medium (General and Industrial)**

| OPTVSM | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVSM) | Test Year Billing Units (HP with OPTVSM baseline) | Total Billing Units All Sources OPTVSM | Present Revenue Billed on OPTVSM | Row | Col | Proposed Rate (OPTVSM) | Proposed Revenue for OPTVSM |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | Facilities Charge | 32.17 | 3,464 | 0 | 3,464 | 111,430 | | | 32.17 | 111,430 |
| 3 | | | | | | | | | | |
| 4 | Demand Charges | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | |
| 6 | First 2000 KW | 15.3333 | 1,608,570 | 0 | 1,608,570 | 24,664,680 | | | 16.3747 | 26,339,845 |
| 7 | Next 3000 KW | 15.3333 | 75,231 | 0 | 75,231 | 1,153,532 | | | 16.3747 | 1,231,877 |
| 8 | All KW over 5000 KW | 15.3333 | 0 | 0 | 0 | 0 | | | 16.3747 | 0 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | |
| 10 | First 2000 KW | 8.3744 | 2,997,334 | 0 | 2,997,334 | 25,100,872 | | | 9.2160 | 27,623,428 |
| 11 | Next 3000 KW | 8.3744 | 127,860 | 0 | 127,860 | 1,070,754 | | | 9.2160 | 1,178,361 |
| 12 | All KW over 5000 KW | 8.3744 | 0 | 0 | 0 | 0 | | | 9.2160 | 0 |
| 13 | Economy Demand | 1.6141 | 84,839 | 0 | 84,839 | 136,939 | | | 2.2815 | 193,561 |
| 14 | | | | | | | | | | |
| 15 | Energy Charges | | | | | | | | | |
| 16 | On-Peak | 0.061303 | 590,446,295 | 0 | 590,446,295 | 36,196,129 | | | 0.065657 | 38,766,932 |
| 17 | Off-Peak | 0.030113 | 1,910,701,437 | 0 | 1,910,701,437 | 57,536,952 | | | 0.031960 | 61,066,018 |
| 18 | Minimum Bill per kW of Contract Demand | 1.99 | | | | | | | 2.17 | |
| 19 | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | 145,971,289 | 0 | | | 156,511,453 |
| 21 | Revenue adjusted for Spread Factor | | | | | 145,717,529 | | | | 156,239,378 |
| 22 | | | | | | | | | | |
| 23 | add adjustments to base rate | | | on pk | off pk | | Row | Col | | |
| 24 | Adjustment to Base Fuel | 0.000398 | 2,501,147,732 | | | (1,363,007) | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 25 | | 0.000000 | 2,501,147,732 | | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 26 | Proposed Revenue from Billing Units and Proposed Rates | | | (327,083) | (1,035,924) | | | | | |
| 27 | | | | | | | | | | |
| 28 | | | | | | | | | | |
| 29 | Equals Annualized Present Revenue | | | | | $ 144,354,522 | | | | |
| 30 | Proposed Revenue adjusted for Spread Factor and Base Rate Adjustments | | | | | | | | | 156,239,378 |
| 31 | Revenue Increase (Decrease) | | | | | | | | | 11,884,855 |
| 32 | Percent Revenue Increase (Decrease) | | | | | | | | | 8.23% |
| 33 | | | | | | | | | | |
| 34 | REPS | 1.03 | 12 | | | (10,321) | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 35 | BPM Prospective Rider | (0.000078) | 2,501,147,732 | | | (195,090) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 36 | BPM True-Up Rider | 0.000067 | 2,501,147,732 | | | 167,577 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 37 | EDIT-1 | (0.001049) | 2,501,147,732 | | | (2,623,704) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 38 | Energy Efficiency Rider | 0.008286 | 848,184,673 | | | 12,857,726 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 39 | Existing DSM Program Costs Adjustment | (0.000055) | 2,501,147,732 | | | (137,563) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 40 | Job Retention Recovery Rider | 0.000410 | 2,501,147,732 | | | 1,025,471 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 41 | | | | | | | | | | |
| 42 | Riders in Present Revenue $/kWh | 0.000398 | | | | | | | | |
| 43 | Total Riders $/kWh and $/bill (REPS) | 1.037979 | | | | 10,196,188 | | | | |
| 44 | | | | | | | | | | |
| 45 | | | | | | | | | | |
| 46 | Total Bills | | | | 3,464 | | | | | |
| 47 | Total KWH | | | | 2,501,147,732 | | | | | |
| 48 | Per Book kWh | | | | 2,500,588,532 | | | | | |
| 49 | kWh Variance | | | | 559,200 | | | | | |
| 50 | | | | | | | | | | |
| 51 | **Spread Factor Calculation** | Variance per kWh | kWh Affected | | | | | | | |
| 52 | Unadjusted Present Revenue | | | | | | | | | |
| 53 | add booked riders including REPS and DSM credits | | | | | | | | | |
| 54 | add Price Variance from 1/1/17 Rates [1] | | | | | | | | | |
| 55 | | | | | | | | | | |
| 56 | Equals estimated booked revenue (base rates) | | | | | | | | | |
| 57 | Reported Booked Revenue | | | | $ 150,271,376 | | | | | |
| 58 | Spread Factor (Reported to Estimated) | | | | | | | | | |
| 59 | | | | | | | | | | |
| 60 | **Notes** | | | | | | | | | |
| 61 | [1] Correction for 1/1/17 Tax Law Base Rate change applied to all billing Units | | | | | | | | | |
| 62 | | | | | | | | | | |

North Carolina Present and Proposed Revenue

12 Months Ended December 2018





Schedule OPTVSL - Secondary Large (General and Industrial)

| OPTVSL | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVSL) | Test Year Billing Units (HP with OPTVSL baseline) | Total Billing Units All Sources OPTVSL | Present Revenue Billed on OPTVSL | | | Proposed Rate (OPTVSL) | Proposed Revenue for OPTVSL |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Facilities Charge** | 32.17 | 937 | 12 | 949 | 30,529 | | | 32.17 | 30,529 |
| 2 | | | | | | | | | | |
| 3 | **Demand Charges** | | | | | | | | | |
| 4 | Summer On-Peak Demand Charge | | | | | | | | | |
| 5 | First 2000 KW | 13.1846 | 611,786 | 9,043 | 620,829 | 8,185,377 | | | 14.2590 | 8,852,396 |
| 6 | Next 3000 KW | 13.1846 | 641,484 | 4,971 | 646,455 | 8,523,255 | | | 14.2590 | 9,217,807 |
| 7 | All KW over 5000 KW | 13.1846 | 489,183 | 0 | 489,183 | 6,449,683 | | | 14.2590 | 6,975,261 |
| 8 | Winter On-Peak Demand Charge | | | | | | | | | |
| 9 | First 2000 KW | 7.2008 | 1,219,588 | 17,155 | 1,236,743 | 8,905,540 | | | 8.0723 | 9,983,361 |
| 10 | Next 3000 KW | 7.2008 | 1,133,199 | 7,963 | 1,141,163 | 8,217,284 | | | 8.0723 | 9,211,807 |
| 11 | All KW over 5000 KW | 7.2008 | 870,504 | 0 | 870,504 | 6,268,326 | | | 8.0723 | 7,026,970 |
| 12 | Economy Demand | 1.6141 | 58,482 | 640 | 59,122 | 95,429 | | | 2.2815 | 134,887 |
| 13 | | | | | | | | | | |
| 14 | **Energy Charges** | | | | | | | | | |
| 15 | On-Peak | 0.061433 | 646,418,453 | 5,197,022 | 651,615,475 | 40,030,694 | | | 0.066799 | 43,527,262 |
| 16 | Off-Peak | 0.030243 | 2,187,470,143 | 19,316,641 | 2,206,786,784 | 66,739,853 | | | 0.032420 | 71,544,028 |
| 17 | **Minimum Bill per kW of Contract Demand** | 1.99 | | | | | | | 2.17 | |
| 18 | | | | | | | | | | |
| 19 | Present Revenue from Billing Units and Present Rates | | | | | 153,445,969 | 0 | | | 166,504,308 |
| 20 | Revenue adjusted for Spread Factor | | | | | 153,236,357 | | | | 166,276,856 |
| 21 | | | | | | | | | | |
| 22 | add adjustments to base rate | | | on pk | off pk | | Row | Col | | |
| 23 | Adjustment to Base Fuel | 0.000398 | 2,858,402,259 | | | (2,352,362) | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 24 | | 0.000000 | 2,858,402,259 | | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 25 | | | | (532,907) | (1,819,455) | | | | | |
| 26 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | 166,276,856 |
| 27 | Revenue Increase (Decrease) | | | | | | | | | 15,392,861 |
| 28 | Percent Revenue Increase (Decrease) | | | | | | | | | 10.20% |
| 29 | Equals Annualized Present Revenue | | | | | $ 150,883,995 | | | | |
| 30 | | | | | | | | | | |
| 31 | REPS | 1.03 | 937 | | | (4,070) | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 32 | BPM Prospective Rider | (0.000078) | 2,858,402,259 | | | (222,955) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 33 | BPM True-Up Rider | 0.000067 | 2,858,402,259 | | | 191,513 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 34 | EDIT-1 | (0.001049) | 2,858,402,259 | | | (2,998,464) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 35 | Energy Efficiency Rider | 0.008286 | 1,645,226,156 | | | 13,632,344 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 36 | Existing DSM Program Costs Adjustment | (0.000055) | 2,858,402,259 | | | (157,212) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 37 | Job Retention Recovery Rider | 0.000410 | 2,858,402,259 | | | 1,171,945 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | |
| 36 | | | | | | | | | | |
| 37 | Riders in Present Revenue $/kWh | 0.000398 | | | | | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | 1.037979 | | | | | | | | |
| 39 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| 41 | Total Bills | | | | 949 | | | | | |
| 42 | Total KWH | | | | 2,858,402,259 | | | | | |
| 43 | Per Book kWh | | | | 2,858,402,259 | | | | | |
| 44 | kWh Variance | | | | - | | | | | |
| 45 | | | | | | | | | | |
| 46 | **Spread Factor Calculation** | Variance per kWh | kWh Affected | | | | | | | |
| 47 | Unadjusted Present Revenue | | | | | | | | | |
| 48 | add booked riders including REPS and DSM credits | | | | | | | | | |
| 49 | add Price Variance from 1/1/17 Rates [1] | | | | | | | | | |
| 50 | | | | | | | | | | |
| 51 | Equals estimated booked revenue (base rates) | | | | | | | | | |
| 52 | Reported Booked Revenue | | | | $ 154,267,819 | | | | | |
| 53 | Spread Factor (Reported to Estimated) | | | | | | | | | |
| 54 | | | | | | | | | | |
| 55 | **Notes** | | | | | | | | | |
| 56 | [1] Correction for 1/1/17 Tax Law Base Rate change applied to all billing Units | | | | | | | | | |
| 57 | | | | | | | | | | |
| 58 | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule OPTVGT - General Transmission**

| OPTVGT | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVGT) | Jan-Jul 2018 Billing Units (HP with OPTVGT baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVGT) | Test Year Billing Units (HP with OPTVGT baseline) | Total Billing Units All Sources OPTVGT | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVGT | Row | Col | Proposed Rate (OPTVGT) | Proposed Revenue for OPTVGT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 22 | 0 | 32.17 | 35 | 0 | 35 | 0 | 1,126 | | | 32.17 | 1,126 |
| 3 | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | |
| 6 | First 2000 KW | 12.2084 | 12,000 | 0 | 10.4799 | 23,957 | 0 | 23,957 | 20,742 | 251,067 | | | 11.1304 | 266,651 |
| 7 | Next 3000 KW | 12.2084 | 13,922 | 0 | 10.4799 | 27,086 | 0 | 27,086 | 24,064 | 283,864 | | | 11.1304 | 301,483 |
| 8 | All KW over 5000 KW | 12.2084 | 217,231 | 0 | 10.4799 | 453,527 | 0 | 453,527 | 375,484 | 4,752,918 | | | 11.1304 | 5,047,937 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | |
| 10 | First 2000 KW | 6.6677 | 34,710 | 0 | 5.7236 | 48,043 | 0 | 48,043 | 32,769 | 274,979 | | | 6.2580 | 300,653 |
| 11 | Next 3000 KW | 6.6677 | 34,562 | 0 | 5.7236 | 50,043 | 0 | 50,043 | 32,630 | 286,423 | | | 6.2580 | 313,166 |
| 12 | All KW over 5000 KW | 6.6677 | 595,995 | 0 | 5.7236 | 823,421 | 0 | 823,421 | 562,679 | 4,712,932 | | | 6.2580 | 5,152,969 |
| 13 | Economy Demand | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0.0000 | 0 |
| 14 | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 131,098,560 | 0 | 0.061023 | 209,144,050 | 0 | 209,144,050 | 240,828 | 12,762,597 | | | 0.065816 | 13,765,025 |
| 17 | Off-Peak | 0.033736 | 489,122,911 | 0 | 0.029853 | 766,071,500 | 0 | 766,071,500 | 1,899,264 | 22,869,532 | | | 0.032221 | 24,683,590 |
| 18 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 3,188,460 | 46,195,439 | | | | 49,832,600 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 46,054,620 | | | | 49,680,694 |
| 22 | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | on pk | off pk | | | Row | Col | | |
| 24 | Adjustment to Base Fuel | | | | 0.000398 | 975,215,550 | 83,239 | 304,896 | | 388,136 | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 25 | | | | | 0.000000 | 975,215,550 | - | - | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 26 | | | | | 0.000398 | | 83,239 | 304,896 | | | | | | |
| 27 | | | | | | | | | | | | | | |
| 28 | Annualized Present Revenue | | | | | | | | | $ 46,442,756 | | | | |
| 29 | | | | | | | | | | | | | | |
| 30 | REPS | | | | 1.03 | 33 | | | | 34 | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 31 | BPM Prospective Rider | | | | -0.000078 | 975,215,550 | | | | (76,067) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 32 | BPM True-Up Rider | | | | 0.000067 | 975,215,550 | | | | 65,339 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 33 | EDIT-1 | | | | -0.001049 | 975,215,550 | | | | (1,023,001) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 34 | Energy Efficiency Rider | | | | 0.008286 | - | | | | 0 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 35 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 975,215,550 | | | | (53,637) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 36 | Job Retention Recovery Rider | | | | 0.000410 | 975,215,550 | | | | 399,838 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 37 | | | | | | | | | | (687,493) | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | 1.037979 | | | | | | | | | |
| 39 | | | | | | | | | | | | | | |
| 40 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | | | | | 49,680,694 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | 3,237,938 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | 6.97% |
| 43 | Total Bills | | | | | | | 35 | | | | | | |
| 44 | Total KWH | | | | | | | 975,215,550 | | | | | | |
| 45 | Per Book kWh | | | | | | | 975,215,550 | | | | | | |
| 46 | kWh Variance | | | | | | | - | | | | | | |
| 47 | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | |
| 49 | **Spread Factor Calculation** | | | | | | | | | | | | | |
| 50 | Unadjusted Present Revenue | | | | | | | | | | | | | |
| 51 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | |
| 53 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | |
| 54 | Reported Booked Revenue | | | | | | | $ 44,025,623 | | | | | | |
| 55 | | | | | | | | | | | | | | |
| 56 | **Notes** | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule OPTVGPS - General Primary Small**

| OPTVGPS | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVGPS) | Jan-Jul 2018 Billing Units (HP with OPTVGPS baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVGPS) | Test Year Billing Units (HP with OPTVGPS baseline) | Total Billing Units All Sources OPTVGPS | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVGPS | Row | Col | Proposed Rate (OPTVGPS) | Proposed Revenue for OPTVGPS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 754 | 14 | 32.17 | 1,203 | 24 | 1,227 | 0 | 39,473 | | | 32.17 | 39,473 |
| 3 | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | |
| 6 | First 2000 KW | 15.7905 | 64,344 | 1,015 | 13.8294 | 126,478 | 4,121 | 130,598 | 128,176 | 1,806,094 | | | 15.5243 | 2,027,444 |
| 7 | Next 3000 KW | 15.7905 | 0 | 0 | 13.8294 | 0 | 0 | 0 | 0 | 0 | | | 15.5243 | 0 |
| 8 | Over 5000 KW | 15.7905 | 0 | 0 | 13.8294 | 0 | 0 | 0 | 0 | 0 | | | 15.5243 | 0 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | |
| 10 | First 2000 KW | 8.2481 | 161,269 | 6,090 | 7.2237 | 233,161 | 8,059 | 241,221 | 171,442 | 1,742,506 | | | 8.4773 | 2,044,901 |
| 11 | Next 3000 KW | 8.2481 | 0 | 0 | 7.2237 | 0 | 0 | 0 | 0 | 0 | | | 8.4773 | 0 |
| 12 | Over 5000 KW | 8.2481 | 0 | 0 | 7.2237 | 0 | 0 | 0 | 0 | 0 | | | 8.4773 | 0 |
| 13 | Economy Demand | 1.0456 | 87,964 | 0 | 0.8809 | 134,651 | 0 | 134,651 | 14,488 | 118,614 | | | 1.3993 | 188,417 |
| 14 | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 21,487,508 | 945,000 | 0.060893 | 35,010,024 | 1,669,500 | 36,679,524 | 44,125 | 2,233,526 | | | 0.071276 | 2,614,370 |
| 17 | Off-Peak | 0.033736 | 99,086,107 | 3,611,700 | 0.030213 | 159,718,480 | 6,214,500 | 165,932,980 | 361,804 | 5,013,333 | | | 0.034868 | 5,785,751 |
| 18 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 720,035 | 10,953,546 | | | | 12,700,355 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 10,920,156 | | | | 12,661,641 |
| 22 | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | on pk | off pk | | | Row | Col | | |
| 24 | Adjustment to Base Fuel | | | | 0.000398 | 202,612,504 | 14,598 | 66,041 | | 80,640 | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | |
| 25 | | | | | 0.000000 | 202,612,504 | - | - | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | |
| 26 | | | | | 0.000398 | | 14,598 | 66,041 | | | | | | |
| 27 | | | | | | | | | | | | | | |
| 28 | Annualized Present Revenue | | | | | | | | | $ 11,000,796 | | | | |
| 29 | | | | | | | | | | | | | | |
| 30 | REPS | | | | 1.03 | 1,194 | | | | 1,230 | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | |
| 31 | BPM Prospective Rider | | | | -0.000078 | 202,612,504 | | | | (15,804) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | |
| 32 | BPM True-Up Rider | | | | 0.000067 | 202,612,504 | | | | 13,575 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | |
| 33 | EDIT-1 | | | | -0.001049 | 202,612,504 | | | | (212,541) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | |
| 34 | Energy Efficiency Rider | | | | 0.008286 | 126,081,757 | | | | 1,044,713 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | |
| 35 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 202,612,504 | | | | (11,144) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | |
| 36 | Job Retention Recovery Rider | | | | 0.000410 | 202,612,504 | | | | 83,071 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | |
| 37 | | | | | | | | | | 903,101 | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | 1.037979 | | | | | | | | | |
| 39 | | | | | | | | | | | | | | |
| 40 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | | | | | 12,661,641 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | 1,660,845 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | 15.10% |
| 43 | Total Bills | | | | | | | 1,227 | | | | | | |
| 44 | Total KWH | | | | | | | 202,612,504 | | | | | | |
| 45 | Per Book kWh | | | | | | | 202,612,504 | | | | | | |
| 46 | kWh Variance | | | | | | | - | | | | | | |
| 47 | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | |
| 49 | **Spread Factor Calculation** | | | | | | | | | | | | | |
| 50 | Unadjusted Present Revenue | | | | | | | | | | | | | |
| 51 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | |
| 53 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | |
| 54 | Reported Booked Revenue | | | | | | | $ 11,658,429 | | | | | | |
| 55 | | | | | | | | | | | | | | |
| 56 | **Notes** | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** | **12 Months Ended December 2018**

**Schedule OPTVGPM - General Primary Medium**

| OPTVGPM | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVGPM) | Jan-Jul 2018 Billing Units (HP with OPTVGPM baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVGPM) | Test Year Billing Units (HP with OPTVGPM baseline) | Total Billing Units All Sources OPTVGPM | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVGPM | Row | Col | Proposed Rate (OPTVGPM) | Proposed Revenue for OPTVGPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 341 | 0 | 32.17 | 534 | 0 | 534 | 0 | 17,181 | | | 32.17 | 17,181 |
| 3 | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | |
| 6 | First 2000 KW | 15.9117 | 128,202 | 0 | 14.0567 | 256,071 | 0 | 256,071 | 237,814 | 3,599,506 | | | 15.0507 | 3,854,040 |
| 7 | Next 3000 KW | 15.9117 | 8,930 | 0 | 14.0567 | 18,176 | 0 | 18,176 | 16,566 | 255,489 | | | 15.0507 | 273,555 |
| 8 | All KW over 5000 KW | 15.9117 | 1,000 | 0 | 14.0567 | 1,989 | 0 | 1,989 | 1,855 | 27,962 | | | 15.0507 | 29,940 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | |
| 10 | First 2000 KW | 8.6903 | 328,000 | 0 | 7.6772 | 472,351 | 0 | 472,351 | 332,296 | 3,626,331 | | | 8.4649 | 3,998,401 |
| 11 | Next 3000 KW | 8.6903 | 27,704 | 0 | 7.6772 | 41,325 | 0 | 41,325 | 28,067 | 317,259 | | | 8.4649 | 349,811 |
| 12 | All KW over 5000 KW | 8.6903 | 2,677 | 0 | 7.6772 | 4,011 | 0 | 4,011 | 2,712 | 30,791 | | | 8.4649 | 33,951 |
| 13 | Economy Demand | 1.0456 | 34,817 | 0 | 0.8809 | 51,674 | 0 | 51,674 | 5,734 | 45,520 | | | 1.3993 | 72,307 |
| 14 | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 57,575,480 | 0 | 0.061103 | 93,278,307 | 0 | 93,278,307 | 101,160 | 5,699,584 | | | 0.065978 | 6,154,316 |
| 17 | Off-Peak | 0.033736 | 203,039,057 | 0 | 0.029903 | 323,891,031 | 0 | 323,891,031 | 778,249 | 9,685,313 | | | 0.032189 | 10,425,728 |
| 18 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 1,504,454 | 23,304,937 | | | | 25,209,231 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 23,233,896 | | | | 25,132,385 |
| 22 | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | on pk | off pk | | | Row | Col | | |
| 24 | Adjustment to Base Fuel | | | | 0.000398 | 417,169,338 | 37,125 | 128,909 | | 166,033 | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 25 | | | | | 0.000000 | 417,169,338 | - | - | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 26 | | | | | 0.000398 | | 37,125 | 128,909 | | | | | | |
| 27 | | | | | | | | | | | | | | |
| 28 | Equals Annualized Present Revenue | | | | | | | | | $ 23,399,929 | | | | |
| 29 | | | | | | | | | | | | | | |
| 30 | REPS | | | | 1.03 | 532 | | | | 548 | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 31 | BPM Prospective Rider | | | | -0.000078 | 417,169,338 | | | | (32,539) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 32 | BPM True-Up Rider | | | | 0.000067 | 417,169,338 | | | | 27,950 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 33 | EDIT-1 | | | | -0.001049 | 417,169,338 | | | | (437,611) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 34 | Energy Efficiency Rider | | | | 0.008286 | 344,925,633 | | | | 2,858,054 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 35 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 417,169,338 | | | | (22,944) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 36 | Job Retention Recovery Rider | | | | 0.000410 | 417,169,338 | | | | 171,039 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 37 | | | | | | | | | | 2,564,497 | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | 1.037979 | | | | | | | | | |
| 39 | | | | | | | | | | | | | | |
| 40 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | | | | | 25,132,385 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | 1,732,456 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | 7.40% |
| 43 | Total Bills | | | | | | | 534 | | | | | | |
| 44 | Total KWH | | | | | | | 417,169,338 | | | | | | |
| 45 | Per Book kWh | | | | | | | 417,169,338 | | | | | | |
| 46 | kWh Variance | | | | | | | - | | | | | | |
| 47 | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | |
| 49 | **Spread Factor Calculation** | | | | | | | | | | | | | |
| 50 | Unadjusted Present Revenue | | | | | | | | | | | | | |
| 51 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | |
| 53 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | |
| 54 | Reported Booked Revenue | | | | | | | $ 24,558,557 | | | | | | |
| 55 | | | | | | | | | | | | | | |
| 56 | **Notes** | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule OPTVGPL - General Primary Large**

| OPTVGPL | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVGPL) | Jan-Jul 2018 Billing Units (HP with OPTVGPL baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVGPL) | Test Year Billing Units (HP with OPTVGPL baseline) | Total Billing Units All Sources OPTVGPL | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVGPL | Row | Col | Proposed Rate (OPTVGPL) | Proposed Revenue for OPTVGPL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 383 | 7 | 32.17 | 595 | 13 | 608 | 0 | 19,559 | | | 32.17 | 19,559 |
| 3 | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | |
| 6 | First 2000 KW | 15.9117 | 200,016 | 2,000 | 15.0272 | 395,468 | 10,000 | 405,468 | 178,683 | 6,093,042 | | | 16.2520 | 6,589,658 |
| 7 | Next 3000 KW | 15.9117 | 264,692 | 3,000 | 15.0272 | 524,577 | 12,949 | 537,526 | 236,774 | 8,077,510 | | | 16.2520 | 8,735,871 |
| 8 | All KW over 5000 KW | 11.2521 | 536,299 | 48,113 | 10.6209 | 1,094,743 | 193,587 | 1,288,330 | 368,881 | 13,683,224 | | | 11.4696 | 14,776,630 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | |
| 10 | First 2000 KW | 8.6903 | 567,332 | 12,000 | 8.2080 | 796,532 | 18,000 | 814,532 | 279,412 | 6,685,682 | | | 9.1374 | 7,442,709 |
| 11 | Next 3000 KW | 8.6903 | 718,343 | 18,000 | 8.2080 | 1,006,096 | 27,000 | 1,033,096 | 355,138 | 8,479,653 | | | 9.1374 | 9,439,812 |
| 12 | All KW over 5000 KW | 6.1454 | 1,305,669 | 213,492 | 5.7995 | 1,838,039 | 300,282 | 2,138,320 | 525,478 | 12,401,189 | | | 6.4663 | 13,827,021 |
| 13 | Economy Demand | 1.0456 | 90,767 | 0 | 0.8809 | 136,142 | 0 | 136,142 | 14,949 | 119,927 | | | 1.3993 | 190,504 |
| 14 | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 455,363,899 | 36,772,806 | 0.061343 | 729,742,890 | 72,270,715 | 802,013,605 | 746,571 | 49,197,921 | | | 0.066492 | 53,327,489 |
| 17 | Off-Peak | 0.033736 | 1,615,819,709 | 139,142,158 | 0.030163 | 2,537,760,546 | 267,495,384 | 2,805,255,930 | 6,270,479 | 84,614,935 | | | 0.032362 | 90,783,692 |
| 18 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 8,976,365 | 189,372,642 | | | | 205,132,946 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 188,795,373 | | | | 204,507,635 |
| 22 | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | On Pk | Off Pk | | | Row | Col | | |
| 24 | Adjustment to Base Fuel | | | | 0.000398 | 3,607,269,535 | 319,201 | 1,116,492 | | 1,435,693 | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 25 | | | | | 0.000000 | 3,607,269,535 | - | - | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 26 | | | | | 0.000398 | | 319,201 | 1,116,492 | | | | | | |
| 27 | | | | | | | | | | | | | | |
| 28 | Equals Annualized Present Revenue | | | | | | | | | $ 190,231,067 | | | | |
| 29 | | | | | | | | | | | | | | |
| 30 | REPS | | | | 1.03 | 595 | | | | 613 | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 31 | BPM Prospective Rider | | | | -0.000078 | 3,607,269,535 | | | | (281,367) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 32 | BPM True-Up Rider | | | | 0.000067 | 3,607,269,535 | | | | 241,687 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 33 | EDIT-1 | | | | -0.001049 | 3,607,269,535 | | | | (3,784,026) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 34 | Energy Efficiency Rider | | | | 0.008286 | 1,636,139,800 | | | | 13,557,054 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 35 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 3,607,269,535 | | | | (198,400) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 36 | Job Retention Recovery Rider | | | | 0.000410 | 3,607,269,535 | | | | 1,478,981 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 37 | | | | | | | | | | 11,014,542 | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | 1.037979 | | | | | | | | | |
| 39 | | | | | | | | | | | | | | |
| 40 | Proposed Revenue adjusted for Spread Factor and Base Rate Adjustments | | | | | | | | | | | | | 204,507,635 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | 14,276,568 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | 7.50% |
| 43 | Total Bills | | | | | | | 608 | | | | | | |
| 44 | Total KWH | | | | | | | 3,607,269,535 | | | | | | |
| 45 | Per Book kWh | | | | | | | 3,607,269,535 | | | | | | |
| 46 | kWh Variance | | | | | | | - | | | | | | |
| 47 | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | |
| 49 | **Spread Factor Calculation** | | | | | | | | | | | | | |
| 50 | Unadjusted Present Revenue | | | | | | | | | | | | | |
| 51 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | |
| 53 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | |
| 54 | Reported Booked Revenue | | | | | | | $ 189,225,614 | | | | | | |
| 55 | | | | | | | | | | | | | | |
| 56 | **Notes** | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule OPTVGSS - General Secondary Small**

| OPTVGSS Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVGSS) | Jan-Jul 2018 Billing Units (HP with OPTVGSS baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVGSS) | Test Year Billing Units (HP with OPTVGSS baseline) | Total Billing Units All Sources OPTVGSS | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVGSS | Row | Col | | Proposed Rate (OPTVGSS) | Proposed Revenue for OPTVGSS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Facilities Charge** | 32.17 | 119,418 | 7 | 32.17 | 190,451 | 8 | 190,459 | 0 | 6,127,055 | | | | 32.17 | 6,127,055 |
| **Demand Charges** | | | | | | | | | | | | | | |
| Summer On-Peak Demand Charge | | | | | | | | | | | | | | |
| First 2000 KW | 16.619 | 2,605,472 | 20 | 15.8246 | 5,131,910 | 35 | 5,131,945 | 2,069,802 | 81,210,971 | | | | 17.0117 | 87,303,103 |
| Next 3000 KW | 16.619 | 0 | 0 | 15.8246 | 0 | 0 | 0 | 0 | 0 | | | | 17.0117 | 0 |
| All KW over 5000 KW | 16.619 | 0 | 0 | 15.8246 | 0 | 0 | 0 | 0 | 0 | | | | 17.0117 | 0 |
| Winter On-Peak Demand Charge | | | | | | | | | | | | | | |
| First 2000 KW | 9.0765 | 6,478,904 | 85 | 8.6426 | 9,334,494 | 85 | 9,334,579 | 2,811,233 | 80,675,036 | | | | 9.6158 | 89,759,449 |
| Next 3000 KW | 9.0765 | 140 | 0 | 8.6426 | 140 | 0 | 140 | 61 | 1,210 | | | | 9.6158 | 1,346 |
| All KW over 5000 KW | 9.0765 | 0 | 0 | 8.6426 | 0 | 0 | 0 | 0 | 0 | | | | 9.6158 | 0 |
| Economy Demand | 1.2527 | 385,741 | 2,757 | 1.6141 | 551,391 | 3,010 | 554,401 | -140,403 | 894,858 | | | | 2.2815 | 1,264,865 |
| **Energy Charges** | | | | | | | | | | | | | | |
| On-Peak | 0.062860 | 961,660,699 | 0 | 0.060903 | 1,560,998,182 | 0 | 1,560,998,182 | 1,881,970 | 95,069,472 | | | | 0.066421 | 103,683,060 |
| Off-Peak | 0.033736 | 3,165,811,504 | 302,555 | 0.029723 | 5,014,304,424 | 320,436 | 5,014,624,860 | 12,705,616 | 149,049,695 | | | | 0.032504 | 162,995,366 |
| **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | | 2.17 | |
| Present Revenue from Billing Units and Present Rates | | | | | | | | 19,328,279 | 413,028,297 | | | | | 451,134,244 |
| Revenue adjusted for Spread Factor | | | | | | | | | 411,769,254 | | | | | 449,759,042 |
| add adjustments to base rate | | | | | | on pk | off pk | | | Row | Col | | | |
| Adjustment to Base Fuel | | | | 0.000398 | 6,575,623,042 | 621,277 | 1,995,821 | | 2,617,098 | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | | |
| | | | | 0.000000 | 6,575,623,042 | - | - | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | | |
| | | | | 0.000398 | | 621,277 | 1,995,821 | | | | | | | |
| Equals Annualized Present Revenue | | | | | | | | | $ 414,386,352 | | | | | |
| REPS | | | | 1.03 | 186,276 | | | | 191,864 | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | | |
| BPM Prospective Rider | | | | -0.000078 | 6,575,623,042 | | | | (512,899) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | | |
| BPM True-Up Rider | | | | 0.000067 | 6,575,623,042 | | | | 440,567 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | | |
| EDIT-1 | | | | -0.001049 | 6,575,623,042 | | | | (6,897,829) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | | |
| Energy Efficiency Rider | | | | 0.008286 | 4,962,877,070 | | | | 41,122,399 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | | |
| Existing DSM Program Costs Adjustment | | | | -0.000055 | 6,575,623,042 | | | | (361,659) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | | |
| Job Retention Recovery Rider | | | | 0.000410 | 6,575,623,042 | | | | 2,696,005 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG | | |
| | | | | | | | | | 36,678,449 | | | | | |
| Total Riders $/kWh and $/bill (REPS) | | | | 1.037979 | | | | | | | | | | |
| Proposed Revenue adjusted for Spread Factor and Base Rate Adjustments | | | | | | | | | | | | | | 449,759,042 |
| Revenue Increase (Decrease) | | | | | | | | | | | | | | 35,372,690 |
| Percent Revenue Increase (Decrease) | | | | | | | | | | | | | | 8.54% |
| Total Bills | | | | | | | 190,459 | | | | | | | |
| Total KWH | | | | | | | 6,575,623,042 | | | | | | | |
| Per Book kWh | | | | | | | 6,575,623,038 | | | | | | | |
| kWh Variance | | | | | | | 4 | | | | | | | |

| **Spread Factor Calculation** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Unadjusted Present Revenue | | | | | | | |
| add booked riders including REPS and DSM credits | | | | | | | |
| | | | | | | | |
| Equals estimated booked revenue (base rates) | | | | | | | |
| Reported Booked Revenue | | | | | | | $ 437,114,396 |

**Notes**

**North Carolina Present and Proposed Revenue** | **12 Months Ended December 2018**

**Schedule OPTVGSM - General Secondary Medium**

| OPTVGSM | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVGSM) | Jan-Jul 2018 Billing Units (HP with OPTVGSM baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVGSM) | Test Year Billing Units (HP with OPTVGSM baseline) | Test Year Billing Units Adjustment (Schedule OPTVGSM) | Total Billing Units All Sources OPTVGSM | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVGSM | Row | Col | Proposed Rate (OPTVGSM) | Proposed Revenue for OPTVGSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 1,008 | 0 | 32.17 | 1,581 | 0 | | 1,581 | 0 | 50,854 | | | 32.17 | 50,854 |
| 3 | | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | | |
| 6 | First 2000 KW | 16.0622 | 358,606 | 0 | 15.3333 | 707,639 | 0 | | 707,639 | 261,388 | 10,850,438 | | | 16.3747 | 11,587,373 |
| 7 | Next 3000 KW | 16.0622 | 11,546 | 0 | 15.3333 | 24,142 | 0 | | 24,142 | 8,416 | 370,179 | | | 16.3747 | 395,321 |
| 8 | All KW over 5000 KW | 16.0622 | 0 | 0 | 15.3333 | 0 | 0 | | 0 | 0 | 0 | | | 16.3747 | 0 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | | |
| 10 | First 2000 KW | 8.7724 | 902,669 | 0 | 8.3744 | 1,286,605 | 0 | | 1,286,605 | 359,262 | 10,774,547 | | | 9.2160 | 11,857,354 |
| 11 | Next 3000 KW | 8.7724 | 31,359 | 0 | 8.3744 | 44,755 | 0 | | 44,755 | 12,481 | 374,793 | | | 9.2160 | 412,458 |
| 12 | All KW over 5000 KW | 8.7724 | 0 | 0 | 8.3744 | 0 | 0 | | 0 | 0 | 0 | | | 9.2160 | 0 |
| 13 | Economy Demand | 1.2527 | 30,286 | 0 | 1.6141 | 44,602 | 0 | | 44,602 | -10,945 | 71,993 | | | 2.2815 | 101,760 |
| 14 | | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 158,039,498 | 0 | 0.061303 | 254,797,700 | 0 | -725,177 | 254,072,523 | 246,067 | 15,575,408 | | | 0.065657 | 16,681,640 |
| 17 | Off-Peak | 0.033736 | 529,000,105 | 0 | 0.030113 | 838,052,022 | 0 | -2,385,171 | 835,666,851 | 1,916,567 | 25,164,436 | | | 0.031960 | 26,707,913 |
| 18 | | | | | | | | | | | | | | | |
| 19 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | | 2.17 | |
| 20 | | | | | | | | | | | | | | | |
| 21 | Present Revenue from Billing Units and Present Rates | | | | | | | | | 2,793,236 | 63,232,647 | | | | 67,794,673 |
| 22 | Revenue adjusted for Spread Factor | | | | | | | | | | 63,039,894 | | | | 67,588,012 |
| 23 | | | | | | | | | | | | | | | |
| 24 | add adjustments to base rate | | | | | | on pk | | off pk | | | Row | Col | | |
| 25 | Adjustment to Base Fuel | | | | 0.000398 | 1,089,739,374 | 101,121 | | 332,595 | | 433,716 | 1 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | |
| 26 | | | | | 0.000000 | 1,089,739,374 | - | | - | | 0 | 2 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | |
| 27 | | | | | 0.000398 | | 101,121 | | 332,595 | | | | | | |
| 28 | | | | | | | | | | | | | | | |
| 29 | Equals Annualized Present Revenue | | | | | | | | | | $ 63,473,610 | | | | |
| 30 | | | | | | | | | | | | | | | |
| 31 | REPS | | | | 1.03 | 1,559 | | | | | 1,606 | 5 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | |
| 32 | BPM Prospective Rider | | | | -0.000078 | 1,089,739,374 | | | | | (85,000) | 6 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | |
| 33 | BPM True-Up Rider | | | | 0.000067 | 1,089,739,374 | | | | | 73,013 | 7 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | |
| 34 | EDIT-1 | | | | -0.001049 | 1,089,739,374 | | | | | (1,143,137) | 8 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | |
| 35 | Energy Efficiency Rider | | | | 0.008286 | 703,556,358 | | | | | 5,829,668 | 9 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | |
| 36 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 1,089,739,374 | | | | | (59,936) | 10 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | |
| 37 | Job Retention Recovery Rider | | | | 0.000410 | 1,089,739,374 | | | | | 446,793 | 11 | 7 SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG (GEN) | | |
| 38 | | | | | | | | | | | 5,063,007 | | | | |
| 39 | Total Riders $/kWh and $/bill (REPS) | | | | 1.037979 | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | |
| 41 | Proposed Revenue adjusted for Spread Factor and Base Rate Adjustments | | | | | | | | | | | | | | 67,588,012 |
| 42 | Revenue Increase (Decrease) | | | | | | | | | | | | | | 4,114,402 |
| 43 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | | 6.48% |
| 44 | Total Bills | | | | | | | | 1,581 | | | | | | |
| 45 | Total KWH | | | | | | | | 1,089,739,374 | | | | | | |
| 46 | Per Book kWh | | | | | | | | 1,089,739,374 | | | | | | |
| 47 | kWh Variance | | | | | | | | - | | | | | | |
| 48 | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | |
| 50 | **Spread Factor Calculation** | | | | | | | | | | | | | | |
| 51 | Unadjusted Present Revenue | | | | | | | | | | | | | | |
| 52 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | |
| 54 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | | |
| 55 | Reported Booked Revenue | | | | | | | | $ 64,858,907 | | | | | | |
| 56 | | | | | | | | | | | | | | | |
| 57 | **Notes** | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule OPTVGSL - General Secondary Large**

| OPTVGSL | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVGSL) | Jan-Jul 2018 Billing Units (HP with OPTVGSL baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVGSL) | Test Year Billing Units (HP with OPTVGSL baseline) | Total Billing Units All Sources OPTVGSL | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVGSL | Row | Col | | Proposed Rate (OPTVGSL) | Proposed Revenue for OPTVGSL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 163 | 0 | 32.17 | 263 | 0 | 263 | 0 | 8,461 | | | | 32.17 | 8,461 |
| 3 | | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | | |
| 6 | First 2000 KW | 13.9066 | 81,199 | 0 | 13.1846 | 165,519 | 0 | 165,519 | 58,626 | 2,182,306 | | | | 14.2590 | 2,360,140 |
| 7 | Next 3000 KW | 13.9066 | 81,188 | 0 | 13.1846 | 163,395 | 0 | 163,395 | 58,617 | 2,154,296 | | | | 14.2590 | 2,329,847 |
| 8 | All KW over 5000 KW | 13.9066 | 84,625 | 0 | 13.1846 | 168,462 | 0 | 168,462 | 61,100 | 2,221,102 | | | | 14.2590 | 2,402,097 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | | |
| 10 | First 2000 KW | 7.5951 | 219,086 | 0 | 7.2008 | 314,334 | 0 | 314,334 | 86,386 | 2,263,457 | | | | 8.0723 | 2,537,400 |
| 11 | Next 3000 KW | 7.5951 | 188,434 | 0 | 7.2008 | 269,789 | 0 | 269,789 | 74,300 | 1,942,697 | | | | 8.0723 | 2,177,818 |
| 12 | All KW over 5000 KW | 7.5951 | 212,004 | 0 | 7.2008 | 295,699 | 0 | 295,699 | 83,593 | 2,129,267 | | | | 8.0723 | 2,386,969 |
| 13 | Economy Demand | 1.2527 | 10,417 | 0 | 1.6141 | 15,023 | 0 | 15,023 | -3,765 | 24,249 | | | | 2.2815 | 34,275 |
| 14 | | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 109,582,485 | 0 | 0.061433 | 177,498,158 | 0 | 177,498,158 | 156,374 | 10,904,244 | | | | 0.066799 | 11,856,699 |
| 17 | Off-Peak | 0.033736 | 372,230,276 | 0 | 0.030243 | 592,330,797 | 0 | 592,330,797 | 1,300,200 | 17,913,860 | | | | 0.032420 | 19,203,364 |
| 18 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 1,875,431 | 41,743,939 | | | | | 45,297,071 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 41,616,690 | | | | | 45,158,991 |
| 22 | | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | on pk | off pk | | | Row | Col | | | |
| 24 | Adjustment to Base Fuel | | | | 0.000398 | 769,828,955 | 70,644 | 235,748 | | 306,392 | 1 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 25 | | | | | 0.000000 | 769,828,955 | - | - | | 0 | 2 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 26 | | | | | 0.000398 | | 70,644 | 235,748 | | | | | | | |
| 27 | | | | | | | | | | | | | | | |
| 28 | Equals Annualized Present Revenue | | | | | | | | | $ 41,923,082 | | | | | |
| 29 | | | | | | | | | | | | | | | |
| 30 | REPS | | | | 1.03 | 263 | | | | 271 | 5 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 31 | BPM Prospective Rider | | | | -0.000078 | 769,828,955 | | | | (60,047) | 6 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 32 | BPM True-Up Rider | | | | 0.000067 | 769,828,955 | | | | 51,579 | 7 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 33 | EDIT-1 | | | | -0.001049 | 769,828,955 | | | | (807,551) | 8 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 34 | Energy Efficiency Rider | | | | 0.008286 | 601,009,955 | | | | 4,979,968 | 9 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 35 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 769,828,955 | | | | (42,341) | 10 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 36 | Job Retention Recovery Rider | | | | 0.000410 | 769,828,955 | | | | 315,630 | 11 | 7 | SGS,BC,LGS,TS,S,OPT-E,OPT-V,PG ( | | |
| 37 | | | | | | | | | | 4,437,510 | | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | 1.037979 | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | |
| 40 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | | | | | | 45,158,991 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | | 3,235,908 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | | 7.72% |
| 43 | Total Bills | | | | | | | 263 | | | | | | | |
| 44 | Total KWH | | | | | | | 769,828,955 | | | | | | | |
| 45 | Per Book kWh | | | | | | | 769,828,955 | | | | | | | |
| 46 | kWh Variance | | | | | | | - | | | | | | | |
| 47 | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | |
| 49 | **Spread Factor Calculation** | | | | | | | | | | | | | | |
| 50 | Unadjusted Present Revenue | | | | | | | | | | | | | | |
| 51 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | |
| 53 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | | |
| 54 | Reported Booked Revenue | | | | | | | $ 41,700,701 | | | | | | | |
| 55 | Spread Factor (Reported to Estimated) | | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | | |
| 57 | **Notes** | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule OPTVIT - Industrial Transmission**

| OPTVIT | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVIT) | Jan-Jul 2018 Billing Units (HP with OPTVIT baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVIT) | Test Year Billing Units (HP with OPTVIT baseline) | Total Billing Units All Sources OPTVIT | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVIT | Row | Col | Proposed Rate (OPTVIT) | Proposed Revenue for OPTVIT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 7 | 0 | 32.17 | 12 | 0 | 12 | 0 | 386 | | | 32.17 | 386 |
| 3 | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | |
| 6 | First 2000 KW | 12.2084 | 4,000 | 0 | 10.4799 | 7,957 | 0 | 7,957 | 6,914 | 83,388 | | | 11.1304 | 88,564 |
| 7 | Next 3000 KW | 12.2084 | 6,000 | 0 | 10.4799 | 11,935 | 0 | 11,935 | 10,371 | 125,083 | | | 11.1304 | 132,847 |
| 8 | All KW over 5000 KW | 12.2084 | 55,909 | 0 | 10.4799 | 114,586 | 0 | 114,586 | 96,639 | 1,200,848 | | | 11.1304 | 1,275,386 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | |
| 10 | First 2000 KW | 6.6677 | 10,710 | 0 | 5.7236 | 16,043 | 0 | 16,043 | 10,111 | 91,824 | | | 6.2580 | 100,397 |
| 11 | Next 3000 KW | 6.6677 | 16,065 | 0 | 5.7236 | 24,065 | 0 | 24,065 | 15,167 | 137,736 | | | 6.2580 | 150,596 |
| 12 | All KW over 5000 KW | 6.6677 | 131,266 | 0 | 5.7236 | 205,441 | 0 | 205,441 | 123,928 | 1,175,861 | | | 6.2580 | 1,285,649 |
| 13 | Economy Demand | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0.0000 | 0 |
| 14 | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 32,345,774 | 0 | 0.061023 | 55,540,000 | 0 | 55,540,000 | 59,419 | 3,389,217 | | | 0.065816 | 3,655,421 |
| 17 | Off-Peak | 0.033736 | 121,535,484 | 0 | 0.029853 | 205,864,000 | 0 | 205,864,000 | 471,922 | 6,145,658 | | | 0.032221 | 6,633,144 |
| 18 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 794,472 | 12,350,002 | | | | 13,322,390 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 12,340,895 | | | | 13,312,567 |
| 22 | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | on pk | off pk | | | Row | Col | | |
| 24 | Adjustment to Base Fuel | | | | -0.001273 | 261,404,000 | (70,702) | (262,065) | | (332,767) | 1 | 8 I,OPT-V,PG(IND) | | |
| 25 | | | | | 0.000000 | 261,404,000 | - | - | | 0 | 2 | 8 I,OPT-V,PG(IND) | | |
| 26 | | | | | -0.001273 | | (70,702) | (262,065) | | | | | | |
| 27 | | | | | | | | | | | | | | |
| 28 | Equals Annualized Present Revenue | | | | | | | | | $ 12,008,128 | | | | |
| 29 | | | | | | | | | | | | | | |
| 30 | REPS | | | | -6.44 | 12 | | | | (77) | 5 | 8 I,OPT-V,PG(IND) | | |
| 31 | BPM Prospective Rider | | | | -0.000078 | 261,404,000 | | | | (20,390) | 6 | 8 I,OPT-V,PG(IND) | | |
| 32 | BPM True-Up Rider | | | | 0.000067 | 261,404,000 | | | | 17,514 | 7 | 8 I,OPT-V,PG(IND) | | |
| 33 | EDIT-1 | | | | -0.001049 | 261,404,000 | | | | (274,213) | 8 | 8 I,OPT-V,PG(IND) | | |
| 34 | Energy Efficiency Rider | | | | 0.008286 | - | | | | 0 | 9 | 8 I,OPT-V,PG(IND) | | |
| 35 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 261,404,000 | | | | (14,377) | 10 | 8 I,OPT-V,PG(IND) | | |
| 36 | Job Retention Recovery Rider | | | | 0.000410 | 261,404,000 | | | | 107,176 | 11 | 8 I,OPT-V,PG(IND) | | |
| 37 | | | | | | | | | | (184,367) | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | (6.433692) | | | | | | | | | |
| 39 | | | | | | | | | | | | | | |
| 40 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | | | | | 13,312,567 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | 1,304,439 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | 10.86% |
| 43 | Total Bills | | | | | | | 12 | | | | | | |
| 44 | Total KWH | | | | | | | 261,404,000 | | | | | | |
| 45 | Per Book kWh | | | | | | | 261,404,000 | | | | | | |
| 46 | kWh Variance | | | | | | | - | | | | | | |
| 47 | | | | | | | | | | | | | | |
| 48 | **Spread Factor Calculation** | | | | | | | | | | | | | |
| 49 | Unadjusted Present Revenue | | | | | | | | | | | | | |
| 50 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | |
| 52 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | |
| 53 | Reported Booked Revenue | | | | | | | $ 12,405,775 | | | | | | |
| 54 | | | | | | | | | | | | | | |
| 55 | **Notes** | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule OPTVIPS - Industrial Primary Small**

| OPTVIPS | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVIPS) | Jan-Jul 2018 Billing Units (HP with OPTVIPS baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVIPS) | Test Year Billing Units (HP with OPTVIPS baseline) | Total Billing Units All Sources OPTVIPS | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVIPS | Row | Col | Proposed Rate (OPTVIPS) | Proposed Revenue for OPTVIPS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 156 | 7 | 32.17 | 240 | 12 | 252 | 0 | 8,105 | | | 32.17 | 8,105 |
| 3 | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | |
| 6 | First 2000 KW | 15.7905 | 18,301 | 118 | 13.8294 | 36,435 | 162 | 36,598 | 36,122 | 506,127 | | | 15.5243 | 568,157 |
| 7 | Next 3000 KW | 15.7905 | 0 | 0 | 13.8294 | 0 | 0 | 0 | 0 | 0 | | | 15.5243 | 0 |
| 8 | All KW over 5000 KW | 15.7905 | 0 | 0 | 13.8294 | 0 | 0 | 0 | 0 | 0 | | | 15.5243 | 0 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | |
| 10 | First 2000 KW | 8.2481 | 52,711 | 12,000 | 7.2237 | 71,620 | 16,000 | 87,621 | 66,290 | 632,944 | | | 8.4773 | 742,785 |
| 11 | Next 3000 KW | 8.2481 | 0 | 7,661 | 7.2237 | 0 | 10,249 | 10,249 | 7,848 | 74,036 | | | 8.4773 | 86,884 |
| 12 | All KW over 5000 KW | 8.2481 | 0 | 0 | 7.2237 | 0 | 0 | 0 | 0 | 0 | | | 8.4773 | 0 |
| 13 | Economy Demand | 1.0456 | 5,673 | 188,546 | 0.8809 | 7,708 | 329,288 | 336,996 | 31,988 | 296,860 | | | 1.3993 | 471,559 |
| 14 | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 8,052,390 | 230,736 | 0.060893 | 12,400,711 | 310,200 | 12,710,911 | 16,293 | 774,006 | | | 0.071276 | 905,983 |
| 17 | Off-Peak | 0.033736 | 26,626,781 | 74,235,532 | 0.030213 | 40,361,839 | 126,514,716 | 166,876,555 | 355,338 | 5,041,841 | | | 0.034868 | 5,818,652 |
| 18 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 513,879 | 7,333,919 | | | | 8,602,124 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 7,328,511 | | | | 8,595,781 |
| 22 | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | on pk | off pk | | | Row | Col | | |
| 24 | Adjustment to Base Fuel | | | | -0.001273 | 179,587,466 | (16,181) | (212,434) | | (228,615) | 1 | 8 I,OPT-V,PG(IND) | | |
| 25 | 0 | | | | 0.000000 | 179,587,466 | - | - | | 0 | 4 | 8 I,OPT-V,PG(IND) | | |
| 26 | | | | | -0.001273 | | (16,181) | (212,434) | | | | | | |
| 27 | | | | | | | | | | | | | | |
| 28 | Annualized Present Revenue | | | | | | | | | $ 7,099,896 | | | | |
| 29 | | | | | | | | | | | | | | |
| 30 | REPS | | | | -6.44 | 230 | | | | (1,484) | 5 | 8 I,OPT-V,PG(IND) | | |
| 31 | BPM Prospective Rider | | | | -0.000078 | 179,587,466 | | | | (14,008) | 6 | 8 I,OPT-V,PG(IND) | | |
| 32 | BPM True-Up Rider | | | | 0.000067 | 179,587,466 | | | | 12,032 | 7 | 8 I,OPT-V,PG(IND) | | |
| 33 | EDIT-1 | | | | -0.001049 | 179,587,466 | | | | (188,387) | 8 | 8 I,OPT-V,PG(IND) | | |
| 34 | Energy Efficiency Rider | | | | 0.008286 | 29,463,791 | | | | 244,137 | 9 | 8 I,OPT-V,PG(IND) | | |
| 35 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 179,587,466 | | | | (9,877) | 10 | 8 I,OPT-V,PG(IND) | | |
| 36 | Job Retention Recovery Rider | | | | 0.000410 | 179,587,466 | | | | 73,631 | 11 | 8 I,OPT-V,PG(IND) | | |
| 37 | | | | | | | | | | 116,044 | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | (6.433692) | | | | | | | | | |
| 39 | | | | | | | | | | | | | | |
| 40 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | | | | | 8,595,781 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | 1,495,885 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | 21.07% |
| 43 | Total Bills | | | | | | | 252 | | | | | | |
| 44 | Total KWH | | | | | | | 179,587,466 | | | | | | |
| 45 | Per Book kWh | | | | | | | 180,146,666 | | | | | | |
| 46 | kWh Variance | | | | | | | (559,200) | | | | | | |
| 47 | | | | | | | | | | | | | | |
| 48 | **Spread Factor Calculation** | | | | | | | | | | | | | |
| 49 | Unadjusted Present Revenue | | | | | | | | | | | | | |
| 50 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | |
| 52 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | |
| 53 | Reported Booked Revenue | | | | | | | $ 7,462,081 | | | | | | |
| 54 | | | | | | | | | | | | | | |
| 55 | **Notes** | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule OPTVIPM - Industrial Primary Medium**

| OPTVIPM | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVIPM) | Jan-Jul 2018 Billing Units (HP with OPTVIPM baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVIPM) | Test Year Billing Units (HP with OPTVIPM baseline) | Total Billing Units All Sources OPTVIPM | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVIPM | Row | Col | | Proposed Rate (OPTVIPM) | Proposed Revenue for OPTVIPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 152 | 0 | 32.17 | 250 | 0 | 250 | 0 | 8,043 | | | | 32.17 | 8,043 |
| 3 | | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | | |
| 6 | First 2000 KW | 15.9117 | 69,234 | 0 | 14.0567 | 141,893 | 0 | 141,893 | 128,430 | 1,994,545 | | | | 15.0507 | 2,135,586 |
| 7 | Next 3000 KW | 15.9117 | 5,968 | 0 | 14.0567 | 11,669 | 0 | 11,669 | 11,071 | 164,029 | | | | 15.0507 | 175,628 |
| 8 | All KW over 5000 KW | 15.9117 | 0 | 0 | 14.0567 | 0 | 0 | 0 | 0 | 0 | | | | 15.0507 | 0 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | | |
| 10 | First 2000 KW | 8.6903 | 188,044 | 0 | 7.6772 | 287,378 | 0 | 287,378 | 190,507 | 2,206,258 | | | | 8.4649 | 2,432,626 |
| 11 | Next 3000 KW | 8.6903 | 4,558 | 0 | 7.6772 | 8,336 | 0 | 8,336 | 4,618 | 63,999 | | | | 8.4649 | 70,565 |
| 12 | All KW over 5000 KW | 8.6903 | 0 | 0 | 7.6772 | 0 | 0 | 0 | 0 | 0 | | | | 8.4649 | 0 |
| 13 | Economy Demand | 1.0456 | 4,460 | 0 | 0.8809 | 7,160 | 0 | 7,160 | 735 | 6,307 | | | | 1.3993 | 10,019 |
| 14 | | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 33,084,085 | 0 | 0.061103 | 58,269,494 | 0 | 58,269,494 | 58,129 | 3,560,441 | | | | 0.065978 | 3,844,505 |
| 17 | Off-Peak | 0.033736 | 109,796,457 | 0 | 0.029903 | 186,111,186 | 0 | 186,111,186 | 420,850 | 5,565,283 | | | | 0.032189 | 5,990,733 |
| 18 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 814,340 | 13,568,905 | | | | | 14,667,706 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 13,558,900 | | | | | 14,656,890 |
| 22 | | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | on pk | off pk | | | Row | Col | | | |
| 24 | Adjustment to Base Fuel | | | | -0.001273 | 244,380,680 | (74,177) | (236,920) | | (311,097) | 1 | 8 | I,OPT-V,PG(IND) | | |
| 25 | | | | | 0.000000 | 244,380,680 | - | - | | 0 | 2 | 8 | I,OPT-V,PG(IND) | | |
| 26 | | | | | -0.001273 | | (74,177) | (236,920) | | | | | | | |
| 27 | | | | | | | | | | | | | | | |
| 28 | Annualized Present Revenue | | | | | | | | | $ 13,247,804 | | | | | |
| 29 | | | | | | | | | | | | | | | |
| 30 | REPS | | | | -6.44 | 246 | | | | (1,584) | 5 | 8 | I,OPT-V,PG(IND) | | |
| 31 | BPM Prospective Rider | | | | -0.000078 | 244,380,680 | | | | (19,062) | 6 | 8 | I,OPT-V,PG(IND) | | |
| 32 | BPM True-Up Rider | | | | 0.000067 | 244,380,680 | | | | 16,374 | 7 | 8 | I,OPT-V,PG(IND) | | |
| 33 | EDIT-1 | | | | -0.001049 | 244,380,680 | | | | (256,355) | 8 | 8 | I,OPT-V,PG(IND) | | |
| 34 | Energy Efficiency Rider | | | | 0.008286 | 98,962,439 | | | | 820,003 | 9 | 8 | I,OPT-V,PG(IND) | | |
| 35 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 244,380,680 | | | | (13,441) | 10 | 8 | I,OPT-V,PG(IND) | | |
| 36 | Job Retention Recovery Rider | | | | 0.000410 | 244,380,680 | | | | 100,196 | 11 | 8 | I,OPT-V,PG(IND) | | |
| 37 | | | | | | | | | | 646,130 | | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | (6.433692) | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | |
| 40 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | | | | | | 14,656,890 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | | 1,409,087 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | | 10.64% |
| 43 | Total Bills | | | | | | | 250 | | | | | | | |
| 44 | Total KWH | | | | | | | 244,380,680 | | | | | | | |
| 45 | Per Book kWh | | | | | | | 244,380,680 | | | | | | | |
| 46 | kWh Variance | | | | | | | - | | | | | | | |
| 47 | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | |
| 49 | **Spread Factor Calculation** | | | | Variance per kWh | kWh Affected | | | | | | | | | |
| 50 | Unadjusted Present Revenue | | | | | | | | | | | | | | |
| 51 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | |
| 53 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | | |
| 54 | Reported Booked Revenue | | | | | | | $ 13,988,303 | | | | | | | |
| 55 | | | | | | | | | | | | | | | |
| 56 | **Notes** | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** **12 Months Ended December 2018**

**Schedule OPTVIPL - Industrial Primary Large**

| OPTVIPL | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVIPL) | Jan-Jul 2018 Billing Units (HP with OPTVIPL baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVIPL) | Test Year Billing Units (HP with OPTVIPL baseline) | Test Year Total Billing Units All Sources OPTVIPL | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVIPL | Row | Col | Proposed Rate (OPTVIPL) | Proposed Revenue for OPTVIPL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 600 | 32 | 32.17 | 940 | 57 | 997 | 0 | 32,073 | | | 32.17 | 32,073 |
| 3 | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | |
| 6 | First 2000 KW | 15.9117 | 304,753 | 10,609 | 15.0272 | 603,740 | 41,552 | 645,292 | 278,938 | 9,696,929 | | | 16.2520 | 10,487,282 |
| 7 | Next 3000 KW | 15.9117 | 395,339 | 13,690 | 15.0272 | 789,491 | 54,760 | 844,251 | 361,786 | 12,686,730 | | | 16.2520 | 13,720,769 |
| 8 | All KW over 5000 KW | 11.2521 | 671,522 | 10,980 | 10.6209 | 1,341,242 | 45,988 | 1,387,230 | 430,795 | 14,733,633 | | | 11.4696 | 15,910,975 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | |
| 10 | First 2000 KW | 8.6903 | 878,520 | 54,000 | 8.2080 | 1,242,193 | 74,642 | 1,316,834 | 449,755 | 10,808,577 | | | 9.1374 | 12,032,443 |
| 11 | Next 3000 KW | 8.6903 | 1,072,915 | 72,928 | 8.2080 | 1,544,488 | 99,713 | 1,644,201 | 552,640 | 13,495,602 | | | 9.1374 | 15,023,722 |
| 12 | All KW over 5000 KW | 6.1454 | 1,643,270 | 47,529 | 5.7995 | 2,358,419 | 71,106 | 2,429,525 | 584,847 | 14,090,031 | | | 6.4663 | 15,710,038 |
| 13 | Economy Demand | 1.0456 | 217,887 | 213,712 | 0.8809 | 311,672 | 389,267 | 700,939 | 71,084 | 617,457 | | | 1.3993 | 980,824 |
| 14 | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 643,937,273 | 27,906,864 | 0.061343 | 1,042,055,508 | 53,611,840 | 1,095,667,348 | 1,019,188 | 67,211,522 | | | 0.066492 | 72,853,113 |
| 17 | Off-Peak | 0.033736 | 2,294,865,319 | 187,409,730 | 0.030163 | 3,639,273,829 | 345,568,067 | 3,984,841,896 | 8,869,169 | 120,194,786 | | | 0.032362 | 128,957,453 |
| 18 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 12,618,202 | 263,567,340 | | | | 285,708,694 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 263,373,001 | | | | 285,498,028 |
| 22 | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | on pk | off pk | | | Row | Col | | |
| 24 | Adjustment to Base Fuel | | | | -0.001273 | 5,080,509,244 | (1,394,785) | (5,072,704) | | (6,467,488) | 1 | 8 I,OPT-V,PG(IND) | | |
| 25 | | | | | 0.000000 | 5,080,509,244 | - | - | | 0 | 2 | 8 I,OPT-V,PG(IND) | | |
| 26 | | | | | -0.001273 | | (1,394,785) | (5,072,704) | | | | | | |
| 27 | | | | | | | | | | | | | | |
| 28 | Annualized Present Revenue | | | | | | | | | $ 256,905,512 | | | | |
| 29 | | | | | | | | | | | | | | |
| 30 | REPS | | | | -6.44 | 916 | | | | (5,899) | 5 | 8 I,OPT-V,PG(IND) | | |
| 31 | BPM Prospective Rider | | | | -0.000078 | 5,080,509,244 | | | | (396,280) | 6 | 8 I,OPT-V,PG(IND) | | |
| 32 | BPM True-Up Rider | | | | 0.000067 | 5,080,509,244 | | | | 340,394 | 7 | 8 I,OPT-V,PG(IND) | | |
| 33 | EDIT-1 | | | | -0.001049 | 5,080,509,244 | | | | (5,329,454) | 8 | 8 I,OPT-V,PG(IND) | | |
| 34 | Energy Efficiency Rider | | | | 0.008286 | 1,815,920,525 | | | | 15,046,717 | 9 | 8 I,OPT-V,PG(IND) | | |
| 35 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 5,080,509,244 | | | | (279,428) | 10 | 8 I,OPT-V,PG(IND) | | |
| 36 | Job Retention Recovery Rider | | | | 0.000410 | 5,080,509,244 | | | | 2,083,009 | 11 | 8 I,OPT-V,PG(IND) | | |
| 37 | | | | | | | | | | 11,459,059 | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | (6.433692) | | | | | | | | | |
| 39 | | | | | | | | | | | | | | |
| 40 | Proposed Revenue adjusted for Spread Factor and Base Rate Adjustments | | | | | | | | | | | | | 285,498,028 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | 28,592,516 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | 11.13% |
| 43 | Total Bills | | | | | | | 997 | | | | | | |
| 44 | Total KWH | | | | | | | 5,080,509,244 | | | | | | |
| 45 | Per Book kWh | | | | | | | 5,080,509,244 | | | | | | |
| 46 | kWh Variance | | | | | | | - | | | | | | |
| 47 | | | | | | | | | | | | | | |
| 48 | **Spread Factor Calculation** | | | | | | | | | | | | | |
| 49 | Unadjusted Present Revenue | | | | | | | | | | | | | |
| 50 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | |
| 53 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | |
| 54 | Reported Booked Revenue | | | | | | | $ 263,807,531 | | | | | | |
| 55 | | | | | | | | | | | | | | |
| 56 | **Notes** | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule OPTVISS - Industrial Secondary Small**

| OPTVISS | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVISS) | Jan-Jul 2018 Billing Units (HP with OPTVISS baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVISS) | Test Year Billing Units (HP with OPTVISS baseline) | Total Billing Units All Sources OPTVISS | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVISS | Row | Col | Proposed Rate (OPTVISS) | Proposed Revenue for OPTVISS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 5,864 | 14 | 32.17 | 9,341 | 24 | 9,365 | 0 | 301,287 | | | 32.17 | 301,287 |
| 3 | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | |
| 6 | First 2000 KW | 16.6190 | 453,245 | 586 | 15.8246 | 903,388 | 1,715 | 905,103 | 360,524 | 14,322,894 | | | 17.0117 | 15,397,342 |
| 7 | Next 3000 KW | 16.6190 | 0 | 0 | 15.8246 | 0 | 0 | 0 | 0 | 0 | | | 17.0117 | 0 |
| 8 | Over 5000 KW | 16.6190 | 0 | 0 | 15.8246 | 0 | 0 | 0 | 0 | 0 | | | 17.0117 | 0 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | |
| 10 | First 2000 KW | 9.0765 | 1,179,633 | 2,424 | 8.6426 | 1,707,395 | 3,445 | 1,710,840 | 512,895 | 14,786,109 | | | 9.6158 | 16,451,099 |
| 11 | Next 3000 KW | 9.0765 | 0 | 0 | 8.6426 | 0 | 0 | 0 | 0 | 0 | | | 9.6158 | 0 |
| 12 | Over 5000 KW | 9.0765 | 0 | 0 | 8.6426 | 0 | 0 | 0 | 0 | 0 | | | 9.6158 | 0 |
| 13 | Economy Demand | 1.2527 | 38,417 | 3,500 | 1.6141 | 56,148 | 6,000 | 62,148 | -15,149 | 100,314 | | | 2.2815 | 141,791 |
| 14 | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | |
| 16 | On-Peak | 0.062860 | 179,098,695 | 351,677 | 0.060903 | 290,115,870 | 617,715 | 290,733,585 | 351,184 | 17,706,548 | | | 0.066421 | 19,310,815 |
| 17 | Off-Peak | 0.033736 | 551,146,018 | 1,899,386 | 0.029723 | 881,967,408 | 3,250,136 | 885,217,544 | 2,219,371 | 26,311,321 | | | 0.032504 | 28,773,111 |
| 18 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 3,428,825 | 73,528,472 | | | | 80,375,446 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 73,474,257 | | | | 80,316,181 |
| 22 | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | on pk | | | | Row | Col | | |
| 24 | Adjustment to Base Fuel | | | | -0.001273 | 1,175,951,129 | (370,104) | (1,126,882) | | (1,496,986) | 1 | 8 I,OPT-V,PG(IND) | | |
| 25 | | | | | 0.000000 | 1,175,951,129 | - | - | | 0 | 2 | 8 I,OPT-V,PG(IND) | | |
| 26 | | | | | -0.001273 | Totals: | (370,104) | (1,126,882) | | | | | | |
| 27 | | | | | | | | | | | | | | |
| 28 | Equals Annualized Present Revenue | | | | | | | | | $ 71,977,271 | | | | |
| 29 | | | | | | | | | | | | | | |
| 30 | REPS | | | | -6.44 | 9,208 | | | | (59,301) | 5 | 8 I,OPT-V,PG(IND) | | |
| 31 | BPM Prospective Rider | | | | -0.000078 | 1,175,951,129 | | | | (91,724) | 6 | 8 I,OPT-V,PG(IND) | | |
| 32 | BPM True-Up Rider | | | | 0.000067 | 1,175,951,129 | | | | 78,789 | 7 | 8 I,OPT-V,PG(IND) | | |
| 33 | EDIT-1 | | | | -0.001049 | 1,175,951,129 | | | | (1,233,573) | 8 | 8 I,OPT-V,PG(IND) | | |
| 34 | Energy Efficiency Rider | | | | 0.008286 | 824,538,239 | | | | 6,832,124 | 9 | 8 I,OPT-V,PG(IND) | | |
| 35 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 1,175,951,129 | | | | (64,677) | 10 | 8 I,OPT-V,PG(IND) | | |
| 36 | Job Retention Recovery Rider | | | | 0.000410 | 1,175,951,129 | | | | 482,140 | 11 | 8 I,OPT-V,PG(IND) | | |
| 37 | | | | | | | | | | 5,943,777 | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | (6.433692) | | | | | | | | | |
| 39 | | | | | | | | | | | | | | |
| 40 | Proposed Revenue adjusted for Spread Factor and Base Rate Adjustments | | | | | | | | | | | | | 80,316,181 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | 8,338,911 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | 11.59% |
| 43 | Total Bills | | | | | | | 9,365 | | | | | | |
| 44 | Total KWH | | | | | | | 1,175,951,129 | | | | | | |
| 45 | Per Book kWh | | | | | | | 1,175,951,129 | | | | | | |
| 46 | kWh Variance | | | | | | | - | | | | | | |
| 47 | | | | | | | | | | | | | | |
| 48 | **Spread Factor Calculation** | | | | Variance per kWh | kWh Affected | | | | | | | | |
| 49 | Unadjusted Present Revenue | | | | | | | | | | | | | |
| 50 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | |
| 52 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | |
| 53 | Reported Booked Revenue | | | | | | | $ 77,884,100 | | | | | | |
| 54 | | | | | | | | | | | | | | |
| 55 | **Notes** | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule OPTVISM - Industrial Secondary Medium**

| OPTVISM | Billing Determinants | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVISM) | Jan-Jul 2018 Billing Units (HP with OPTVISM baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVISM) | Test Year Billing Units (HP with OPTVISM baseline) | Total Billing Units All Sources OPTVISM | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVISM | Row | Col | | Proposed Rate (OPTVISM) | Proposed Revenue for OPTVISM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | 32.17 | 1,204 | 0 | 32.17 | 1,883 | 0 | 1,883 | 0 | 60,576 | | | | 32.17 | 60,576 |
| 3 | | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | | |
| 6 | First 2000 KW | 16.0622 | 454,832 | 0 | 15.3333 | 900,931 | 0 | 900,931 | 331,527 | 13,814,242 | | | | 16.3747 | 14,752,472 |
| 7 | Next 3000 KW | 16.0622 | 25,036 | 0 | 15.3333 | 51,088 | 0 | 51,088 | 18,249 | 783,353 | | | | 16.3747 | 836,556 |
| 8 | Over 5000 KW | 16.0622 | 0 | 0 | 15.3333 | 0 | 0 | 0 | 0 | 0 | | | | 16.3747 | 0 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | | |
| 10 | First 2000 KW | 8.7724 | 1,202,280 | 0 | 8.3744 | 1,710,729 | 0 | 1,710,729 | 478,508 | 14,326,325 | | | | 9.2160 | 15,766,074 |
| 11 | Next 3000 KW | 8.7724 | 56,364 | 0 | 8.3744 | 83,106 | 0 | 83,106 | 22,433 | 695,961 | | | | 9.2160 | 765,903 |
| 12 | Over 5000 KW | 8.7724 | 0 | 0 | 8.3744 | 0 | 0 | 0 | 0 | 0 | | | | 9.2160 | 0 |
| 13 | Economy Demand | 1.2527 | 26,689 | 0 | 1.6141 | 40,237 | 0 | 40,237 | -9,645 | 64,947 | | | | 2.2815 | 91,801 |
| 15 | | | | | | | | | | | | | | | |
| 16 | **Energy Charges** | | | | | | | | | | | | | | |
| 17 | On-Peak | 0.062860 | 209,009,284 | 0 | 0.061303 | 336,373,772 | 0 | 336,373,772 | 325,427 | 20,620,721 | | | | 0.065657 | 22,085,293 |
| 18 | Off-Peak | 0.033736 | 678,042,606 | 0 | 0.030113 | 1,075,034,586 | 0 | 1,075,034,586 | 2,456,548 | 32,372,516 | | | | 0.031960 | 34,358,105 |
| 14 | **Minimum Bill per kW of Contract Demand** | 2.00 | | | 1.99 | | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | 3,623,046 | 82,738,642 | | | | | 88,716,780 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | 82,677,635 | | | | | 88,651,365 |
| 22 | | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | on pk | off pk | | | Row | Col | | | |
| 24 | Adjustment to Base Fuel | | | | -0.001273 | 1,411,408,358 | (428,204) | (1,368,519) | | (1,796,723) | 1 | 8 | I,OPT-V,PG(IND) | | |
| 25 | | | | | 0.000000 | 1,411,408,358 | - | - | | 0 | 2 | 8 | I,OPT-V,PG(IND) | | |
| 26 | | | | | 0.000000 | 1,411,408,358 | - | - | | 0 | 3 | 8 | I,OPT-V,PG(IND) | | |
| 27 | 0 | | | | 0.000000 | 1,411,408,358 | - | - | | 0 | 4 | 8 | I,OPT-V,PG(IND) | | |
| 28 | | | | | -0.001273 | | (428,204) | (1,368,519) | | | | | | | |
| 29 | | | | | | | | | | | | | | | |
| 30 | Equals Annualized Present Revenue | | | | | | | | | $ 80,880,912 | | | | | |
| 31 | | | | | | | | | | | | | | | |
| 32 | REPS | | | | -6.44 | 1,852 | | | | (11,927) | 5 | 8 | I,OPT-V,PG(IND) | | |
| 33 | BPM Prospective Rider | | | | -0.000078 | 1,411,408,358 | | | | (110,090) | 6 | 8 | I,OPT-V,PG(IND) | | |
| 34 | BPM True-Up Rider | | | | 0.000067 | 1,411,408,358 | | | | 94,564 | 7 | 8 | I,OPT-V,PG(IND) | | |
| 35 | EDIT-1 | | | | -0.001049 | 1,411,408,358 | | | | (1,480,567) | 8 | 8 | I,OPT-V,PG(IND) | | |
| 36 | Energy Efficiency Rider | | | | 0.008286 | 848,184,673 | | | | 7,028,058 | 9 | 8 | I,OPT-V,PG(IND) | | |
| 37 | Existing DSM Program Costs Adjustment | | | | -0.000055 | 1,411,408,358 | | | | (77,627) | 10 | 8 | I,OPT-V,PG(IND) | | |
| 38 | Job Retention Recovery Rider | | | | 0.000410 | 1,411,408,358 | | | | 578,677 | 11 | 8 | I,OPT-V,PG(IND) | | |
| 39 | | | | | | | | | | 6,021,088 | | | | | |
| 40 | Total Riders $/kWh and $/bill (REPS) | | | | (6.433692) | | | | | | | | | | |
| 41 | | | | | | | | | | | | | | | |
| 42 | Proposed Revenue adjusted for Spread Factor and Base Rate Adjustments | | | | | | | | | | | | | | 88,651,365 |
| 43 | Revenue Increase (Decrease) | | | | | | | | | | | | | | 7,770,453 |
| 44 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | | 9.61% |
| 45 | Total Bills | | | | | | | 1,883 | | | | | | | |
| 46 | Total KWH | | | | | | | 1,411,408,358 | | | | | | | |
| 47 | Per Book kWh | | | | | | | 1,410,849,158 | | | | | | | |
| 48 | kWh Variance | | | | | | | 559,200 | | | | | | | |
| 49 | | | | | | | | | | | | | | | |
| 50 | **Spread Factor Calculation** | | | | Variance per kWh | kWh Affected | | | | | | | | | |
| 51 | Unadjusted Present Revenue | | | | | | | | | | | | | | |
| 52 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | |
| 54 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | | |
| 55 | Reported Booked Revenue | | | | | | | $ 85,412,469 | | | | | | | |
| 56 | | | | | | | | | | | | | | | |
| 57 | **Notes** | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue**

**12 Months Ended December 2018**

**Schedule OPTVISL - Industrial Secondary Large**

| OPTVISL | Billing Determinants | | Previous Rate as of 1/1/2018 | Jan-Jul 2018 Billing Units (Schedule OPTVISL) | Jan-Jul 2018 Billing Units (HP with OPTVISL baseline) | Present Rate Effective 1/1/2019 | Test Year Billing Units (Schedule OPTVISL) | Test Year Billing Units (HP with OPTVISL baseline) | Total Billing Units All Sources OPTVISL | Price Variance ($) of Jan-Jul Billing Units from Booked Revenue | Present Revenue Billed on OPTVISL | Row | Col | Proposed Rate (OPTVISL) | Proposed Revenue for OPTVISL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | **Facilities Charge** | | 32.17 | 432 | 7 | 32.17 | 674 | 12 | 686 | 0 | 22,069 | | | 32.17 | 22,069 |
| 3 | | | | | | | | | | | | | | | |
| 4 | **Demand Charges** | | | | | | | | | | | | | | |
| 5 | Summer On-Peak Demand Charge | | | | | | | | | | | | | | |
| 6 | | First 2000 KW | 13.9066 | 225,397 | 3,043 | 13.1846 | 446,267 | 9,043 | 455,309 | 164,933 | 6,003,071 | | | 14.2590 | 6,492,255 |
| 7 | | Next 3000 KW | 13.9066 | 241,040 | 1,492 | 13.1846 | 478,089 | 4,971 | 483,061 | 175,108 | 6,368,959 | | | 14.2590 | 6,887,960 |
| 8 | | Over 5000 KW | 13.9066 | 162,627 | 0 | 13.1846 | 320,721 | 0 | 320,721 | 117,416 | 4,228,581 | | | 14.2590 | 4,573,164 |
| 9 | Winter On-Peak Demand Charge | | | | | | | | | | | | | | |
| 10 | | First 2000 KW | 7.5951 | 642,583 | 12,000 | 7.2008 | 905,254 | 17,155 | 922,409 | 258,102 | 6,642,082 | | | 8.0723 | 7,445,962 |
| 11 | | Next 3000 KW | 7.5951 | 610,205 | 5,639 | 7.2008 | 863,410 | 7,963 | 871,374 | 242,828 | 6,274,587 | | | 8.0723 | 7,033,989 |
| 12 | | Over 5000 KW | 7.5951 | 407,901 | 0 | 7.2008 | 574,805 | 0 | 574,805 | 160,835 | 4,139,058 | | | 8.0723 | 4,640,001 |
| 13 | Economy Demand | | 1.2527 | 30,092 | 372 | 1.6141 | 43,459 | 640 | 44,099 | -11,010 | 71,180 | | | 2.2815 | 100,612 |
| 14 | | | | | | | | | | | | | | | |
| 15 | **Energy Charges** | | | | | | | | | | | | | | |
| 16 | | On-Peak | 0.062860 | 292,950,439 | 2,850,182 | 0.061433 | 468,920,295 | 5,197,022 | 474,117,317 | 422,107 | 29,126,449 | | | 0.066799 | 31,670,563 |
| 17 | | Off-Peak | 0.033736 | 1,015,409,194 | 11,171,873 | 0.030243 | 1,595,139,346 | 19,316,641 | 1,614,455,987 | 3,585,848 | 48,825,992 | | | 0.032420 | 52,340,663 |
| 18 | **Minimum Bill per kW of Contract Demand** | | 2.00 | | | 1.99 | | | | | | | | 2.17 | |
| 19 | | | | | | | | | | | | | | | |
| 20 | Present Revenue from Billing Units and Present Rates | | | | | | | | | 5,116,168 | 111,702,030 | | | | 121,207,237 |
| 21 | Revenue adjusted for Spread Factor | | | | | | | | | | 111,619,667 | | | | 121,117,866 |
| 22 | | | | | | | | | | | | | | | |
| 23 | add adjustments to base rate | | | | | | | on pk | off pk | | | Row | Col | | |
| 24 | Adjustment to Base Fuel | | | | | -0.001273 | 2,088,573,304 | (603,551) | (2,055,202) | | (2,658,754) | 1 | 8 I,OPT-V,PG(IND) | | |
| 25 | | | | | | 0.000000 | 2,088,573,304 | - | - | | 0 | 2 | 8 I,OPT-V,PG(IND) | | |
| 26 | | | | | Totals: | -0.001273 | | (603,551) | (2,055,202) | | | | | | |
| 27 | | | | | | | | | | | | | | | |
| 28 | Equals Annualized Present Revenue | | | | | | | | | | $ 108,960,913 | | | | |
| 29 | | | | | | | | | | | | | | | |
| 30 | REPS | | | | | -6.44 | 674 | | | | (4,341) | 5 | 8 I,OPT-V,PG(IND) | | |
| 31 | BPM Prospective Rider | | | | | -0.000078 | 2,088,573,304 | | | | (162,909) | 6 | 8 I,OPT-V,PG(IND) | | |
| 32 | BPM True-Up Rider | | | | | 0.000067 | 2,088,573,304 | | | | 139,934 | 7 | 8 I,OPT-V,PG(IND) | | |
| 33 | EDIT-1 | | | | | -0.001049 | 2,088,573,304 | | | | (2,190,913) | 8 | 8 I,OPT-V,PG(IND) | | |
| 34 | Energy Efficiency Rider | | | | | 0.008286 | 1,044,216,201 | | | | 8,652,375 | 9 | 8 I,OPT-V,PG(IND) | | |
| 35 | Existing DSM Program Costs Adjustment | | | | | -0.000055 | 2,088,573,304 | | | | (114,872) | 10 | 8 I,OPT-V,PG(IND) | | |
| 36 | Job Retention Recovery Rider | | | | | 0.000410 | 2,088,573,304 | | | | 856,315 | 11 | 8 I,OPT-V,PG(IND) | | |
| 37 | | | | | | | | | | | 7,175,591 | | | | |
| 38 | Total Riders $/kWh and $/bill (REPS) | | | | | (6.433692) | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | |
| 40 | Proposed Revenue from Billing Units and Proposed Rates | | | | | | | | | | | | | | 121,117,866 |
| 41 | Revenue Increase (Decrease) | | | | | | | | | | | | | | 12,156,953 |
| 42 | Percent Revenue Increase (Decrease) | | | | | | | | | | | | | | 11.16% |
| 43 | Total Bills | | | | | | | | 686 | | | | | | |
| 44 | Total KWH | | | | | | | | 2,088,573,304 | | | | | | |
| 45 | Per Book kWh | | | | | | | | 2,088,573,304 | | | | | | |
| 46 | kWh Variance | | | | | | | | - | | | | | | |
| 47 | | | | | | | | | | | | | | | |
| 48 | **Spread Factor Calculation** | | | | | Variance per kWh | kWh Affected | | | | | | | | |
| 49 | Unadjusted Present Revenue | | | | | | | | | | | | | | |
| 50 | add booked riders including REPS and DSM credits | | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | | |
| 52 | Equals estimated booked revenue (base rates) | | | | | | | | | | | | | | |
| 53 | Reported Booked Revenue | | | | | | | | $ 112,567,119 | | | | | | |
| 54 | | | | | | | | | | | | | | | |
| 55 | **Notes** | | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | | |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule HPLGS - Hourly Pricing Commercial Customers**

| HPLGS | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units | Booked Revenue | Row | Col | | Proposed Rate | Proposed Revenues |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | |
| 2 | Bills | | 37 | | | | | | |
| 3 | | | | | | | | | |
| 4 | Energy | | | | | | | | |
| 5 | New Load KWH | | 11,513,118 | 520,545 | | | | | 520,545 |
| 6 | Reduced Load KWH | | - | - | | | | | |
| 7 | Net New Load KWH | | 11,513,118 | | | | | | |
| 8 | | | | | | | | | |
| 9 | Incentive Charges | 0.005 | 11,513,118 | 57,566 | | | | 0.005 | 57,566 |
| 10 | | | | | | | | | |
| 11 | New Load Rationing Charges | | | 328 | | | | | 328 |
| 12 | Reduced Load Rationing Charges | | | - | | | | | 0 |
| 13 | | | | | | | | | |
| 14 | HP Incremental Demand | 0.5299 | 126,778 | 71,067 | | | | 0.8755 | 110,994 |
| 15 | Standby Demand Charges | | | - | | | | 1.7510 | 0 |
| 16 | Minimum Bill Charges | | | 52,404 | | | | | 52,404 |
| 17 | Power Factor Adjustment Charges | | | - | | | | | 0 |
| 18 | REP Charges | | | 108 | | | | | 108 |
| 19 | | | | | | | | | |
| 20 | Calculated **Booked Revenue** from HP Bills (includes rider charges and minimum bill charges) | | | 702,017 | | | | | 741,945 |
| 21 | Revenue adjusted for Spread Factor | | | 701,127 | | | | | |
| 22 | | | | | | | | | |
| 23 | Rider adjustments (baseline + HP) | | - | | | | | | |
| 24 | % allocated to HP (in proportion of HP kWh to total kWh) | 100% | - | | | | | | |
| 25 | % allocated to LGS (carried forward to LGS schedule) | 0% | - | | | | | | |
| 26 | | | | | | | | | |
| 27 | add adjustments to base rate | | | | Row | Col | | | |
| 28 | Adjustment to Base Fuel | 0.000398 | 11,513,118 | 4,582 | 1 | 10 | HPG (baseline) | | |
| 29 | | 0.000000 | 11,513,118 | 0 | 2 | 10 | HPG (baseline) | | |
| 30 | | | | | | | | | |
| 31 | Annualized Present Revenue | | | $ 705,709 | | | | | |
| 32 | | | | | | | | | |
| 33 | BPM Prospective Rider | -0.000078 | 11,513,118 | (898) | 6 | 10 | HPG (baseline) | | |
| 34 | BPM True-Up Rider | 0.000067 | 11,513,118 | 771 | 7 | 10 | HPG (baseline) | | |
| 35 | EDIT-1 | -0.001049 | 11,513,118 | (12,077) | 8 | 10 | HPG (baseline) | | |
| 36 | Energy Efficiency Rider | 0.008286 | - | 0 | 9 | 10 | HPG (baseline) | | |
| 37 | Existing DSM Program Costs Adjustment | -0.000055 | 11,513,118 | (633) | 10 | 10 | HPG (baseline) | | |
| 38 | Job Retention Recovery Rider | 0.000410 | 11,513,118 | 4,720 | 11 | 10 | HPG (baseline) | | |
| 39 | | | | (8,117) | | | | | |
| 40 | | | | | | | | | |
| 41 | Total Bills | | 37 | | | | | | |
| 42 | Total KWH | | 11,513,118 | | | | | | |
| 43 | Per Book kWh | | 11,434,576 | | | | | | |
| 44 | kWh Variance | | -78,542 | | | | | | |
| 45 | | | | | | | | | |
| 46 | **Spread Factor Calculation** [2] | | | | | | | | |
| 47 | Estimated Booked Revenue from Line 18 | | | $ 702,017 | | | | | |
| 48 | Deduct Standby Charges included in Baseline Revenue | | | $ - | | | | | |
| 49 | Calculated Booked Revenue from HP Bills (includes rider charges) | | | $ 702,017 | | | | | |
| 50 | | | | | | | | | |
| 51 | Reported Booked Revenue (excludes Standby Demand Charges) | | | $ 701,127 | | | | | |
| 52 | Spread Factor (Reported to Estimated) | | | **0.9987** | | | | | |
| 53 | | | | | | | | | |
| 54 | **Notes** | | | | | | | | |
| 55 | [1] Projected rider adjustments applicable to schedule | | | | | | | | |
| 56 | [2] Attributable to the difference in booked revenue and calculated booked using booked billing determinants | | | | | | | | |
| 57 | | | | | | | | | |
| 58 | | | | | | | | | |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule HPI - Hourly Pricing Commercial Customers**

| HPI | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units | Booked Revenue | Row | Col | | Proposed Rate | Proposed Revenues |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | |
| 2 | Bills | | 12 | | | | | | |
| 3 | | | | | | | | | |
| 4 | Energy | | | | | | | | |
| 5 | New Load KWH | | 1,769,662 | 79,910 | | | | | 79,910 |
| 6 | Reduced Load KWH | | 342,528 | (14,257) | | | | | -14,257 |
| 7 | Net New Load KWH | | 1,427,134 | | | | | | |
| 8 | | | | | | | | | |
| 9 | Incentive Charges | 0.005 | 1,427,134 | 7,136 | | | | 0.005 | 7,136 |
| 10 | | | | | | | | | |
| 11 | New Load Rationing Charges | | | 236 | | | | | 236 |
| 12 | Reduced Load Rationing Charges | | | (943) | | | | | -943 |
| 13 | | | | | | | | | |
| 14 | HP Incremental Demand | 0.5299 | 1,394 | 754 | | | | 0.8755 | 1,220 |
| 15 | Standby Demand Charges | | | - | | | | 1.7510 | 0 |
| 16 | Minimum Bill Charges | | | - | | | | | 0 |
| 17 | Power Factor Adjustment Charges | | | - | | | | | 0 |
| 18 | REP Charges | | | 102 | | | | | 102 |
| 19 | | | | | | | | | |
| 20 | Calculated **Booked Revenue** from HP Bills (includes rider charges and minimum bill charges) | | | 72,938 | | | | | 73,404 |
| 21 | Revenue adjusted for Spread Factor | | | 72,517 | | | | | |
| 22 | | | | | | | | | |
| 23 | Rider adjustments (baseline + HP) | | - | | | | | | |
| 24 | % allocated to HP (in proportion of HP kWh to total kWh) | 21% | - | | | | | | |
| 25 | % allocated to LGS (carried forward to LGS schedule) | 79% | - | | | | | | |
| 26 | | | | | | | | | |
| 27 | add adjustments to base rate | | | | Row | Col | | | |
| 28 | Adjustment to Base Fuel | -0.001273 | 1,427,134 | (1,817) | 1 | 12 | HPI (baseline) | | |
| 29 | | 0.000000 | 1,427,134 | 0 | 2 | 12 | HPI (baseline) | | |
| 30 | | | | | | | | | |
| 31 | Annualized Present Revenue | | | $ 70,700 | | | | | |
| 32 | | | | | | | | | |
| 33 | BPM Prospective Rider | -0.000078 | 1,427,134 | (111) | 6 | 12 | HPI (baseline) | | |
| 34 | BPM True-Up Rider | 0.000067 | 1,427,134 | 96 | 7 | 12 | HPI (baseline) | | |
| 35 | EDIT-1 | -0.001049 | 1,427,134 | (1,497) | 8 | 12 | HPI (baseline) | | |
| 36 | Energy Efficiency Rider | 0.008286 | - | 0 | 9 | 12 | HPI (baseline) | | |
| 37 | Existing DSM Program Costs Adjustment | -0.000055 | 1,427,134 | (78) | 10 | 12 | HPI (baseline) | | |
| 38 | Job Retention Recovery Rider | 0.000410 | 1,427,134 | 585 | 11 | 12 | HPI (baseline) | | |
| 39 | | | | (1,006) | | | | | |
| 40 | | | | | | | | | |
| 41 | Total Bills | | 12 | | | | | | |
| 42 | Total KWH | | 1,427,134 | | | | | | |
| 43 | Per Book kWh | | 1,427,133 | | | | | | |
| 44 | kWh Variance | | -1 | | | | | | |
| 45 | | | | | | | | | |
| 46 | **Spread Factor Calculation** [2] | | | | | | | | |
| 47 | Estimated Booked Revenue from Line 18 | | | $ 72,938 | | | | | |
| 48 | Deduct Standby Charges included in Baseline Revenue | | | $ - | | | | | |
| 49 | Calculated Booked Revenue from HP Bills (includes rider charges) | | | $ 72,938 | | | | | |
| 50 | | | | | | | | | |
| 51 | Reported Booked Revenue (excludes Standby Demand Charges) | | | $ 72,517 | | | | | |
| 52 | Spread Factor (Reported to Estimated) | | | **0.9942** | | | | | |
| 53 | | | | | | | | | |
| 54 | **Notes** | | | | | | | | |
| 55 | [1] Projected rider adjustments applicable to schedule | | | | | | | | |
| 56 | [2] Attributable to the difference in booked revenue and calculated booked using booked billing determinants | | | | | | | | |
| 57 | | | | | | | | | |
| 58 | | | | | | | | | |

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule HPOPTVG**

| HPOPTVG | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units | Booked Revenue | Row | Col | | Proposed Rate | Proposed Revenues |
|---|---|---|---|---|---|---|---|---|---|
| 2 | Bills | | 45 | | | | | | |
| 4 | Energy | | | | | | | | |
| 5 | New Load KWH | | 121,926,694 | 4,708,068 | | | | | 4,708,068 |
| 6 | Reduced Load KWH | | 18,635,923 | (1,240,440) | | | | | -1,240,440 |
| 7 | Net New Load KWH | | 103,290,771 | | | | | | |
| 9 | Incentive Charges | 0.005 | 112,409,157 | 562,046 | | | | 0.005 | 562,046 |
| 11 | New Load Rationing Charges | | | 33,746 | | | | | 33,746 |
| 12 | Reduced Load Rationing Charges | | | (6,941) | | | | | -6,941 |
| 14 | HP Incremental Demand | 0.5299 | 81,754 | 45,923 | | | | 0.8755 | 71,576 |
| 15 | Standby Demand charges | | | 490,278 | | | | 1.7510 | 490,278 |
| 16 | Minimum Bill Charges | | | 213,493 | | | | | 213,493 |
| 17 | Power Factor Adjustment Charges | | | - | | | | | 0 |
| 18 | REP Charges | | | 140 | | | | | 140 |
| 20 | Calculated **Booked Revenue** from HP Bills (includes rider charges and minimum bill charges) | | | 4,806,313 | | | | | 4,831,966 |
| 21 | Revenue adjusted for Spread Factor | | | 4,828,040 | | | | | |
| 23 | rider adjustments (baseline + HP) | | (1,222,322) | | | | | | |
| 24 | % allocated to HP (in proportion of HP kWh to total kWh) | 23% | (279,782) | | | | | | |
| 25 | % allocated to OPTVG (carried forward to OPTVG schedule booked riders) | 77% | (942,541) | | | | | | |
| 27 | add adjustments to base rate | | | | Row | Col | | | |
| 28 | Adjustment to Base Fuel | 0.000398 | 103,290,771 | 41,110 | 1 | 10 | HPG (baseline) | | |
| 29 | | 0.000000 | 103,290,771 | 0 | 2 | 10 | HPG (baseline) | | |
| 31 | Annualized Present Revenue | | | $ 4,869,150 | | | | | |
| 32 | | | | | Row | Col | | | |
| 33 | BPM Prospective Rider | -0.000078 | 103,290,771 | (8,057) | 6 | 10 | HPG (baseline) | | |
| 34 | BPM True-Up Rider | 0.000067 | 103,290,771 | 6,920 | 7 | 10 | HPG (baseline) | | |
| 35 | EDIT-1 | -0.001049 | 103,290,771 | (108,352) | 8 | 10 | HPG (baseline) | | |
| 36 | Energy Efficiency Rider | 0.008286 | - | 0 | 9 | 10 | HPG (baseline) | | |
| 37 | Existing DSM Program Costs Adjustment | -0.000055 | 103,290,771 | (5,681) | 10 | 10 | HPG (baseline) | | |
| 38 | Job Retention Recovery Rider | 0.000410 | 103,290,771 | 42,349 | 11 | 10 | HPG (baseline) | | |
| 39 | | | | (72,820) | | | | | |
| 41 | Total Bills | | 45 | | | | | | |
| 42 | Total KWH | | 103,290,771 | | | | | | |
| 43 | Per Book kWh | | 103,290,772 | | | | | | |
| 44 | kWh Variance | | 1 | | | | | | |

**Spread Factor Calculation** [1]

| Line | | | | |
|---|---|---|---|---|
| 47 | Estimated Booked Revenue from Line 18 | | | $ 4,806,313 |
| 48 | Deduct Standby Charges included in Baseline Revenue | | | $ (490,278) |
| 49 | Calculated Booked Revenue from HP Bills (includes rider charges) | | | $ 4,316,035 |
| 50 | Reported Booked Revenue (excludes Standby Demand Charges) | | | $ 4,335,546 |
| 51 | Spread Factor (Reported to Estimated) | | | **1.0045** |

**Included Schedule**
HPVGPL
HPVGPS
HPVGSS

**Notes**

[1] Attributable to the difference in booked revenue and calculated booked using booked billing determinants

**North Carolina Present and Proposed Revenue** — **12 Months Ended December 2018**

**Schedule HPOPTVI**

| HPOPTVI | Billing Determinants | Present Rate Effective 1/1/2019 | Test Year Billing Units | Booked Revenue | Row | Col | | Proposed Rate | Proposed Revenues |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | |
| 2 | Bills | | 105 | | | | | | |
| 3 | | | | | | | | | |
| 4 | Energy | | | | | | | | |
| 5 | New Load KWH | | 174,228,785 | 7,431,817 | | | | | 7,431,817 |
| 6 | Reduced Load KWH | | 108,630,321 | (4,444,725) | | | | | -4,444,725 |
| 7 | Net New Load KWH | | 65,598,464 | | | | | | |
| 8 | | | | | | | | | |
| 9 | Incentive Charges | 0.005 | 102,562,003 | 512,810 | | | | 0.005 | 512,810 |
| 10 | | | | | | | | | |
| 11 | New Load Rationing Charges | | | 140,599 | | | | | 140,599 |
| 12 | Reduced Load Rationing Charges | | | (37,287) | | | | | -37,287 |
| 13 | | | | | | | | | |
| 14 | HP Incremental Demand | 0.5299 | 112,545 | 62,009 | | | | 0.8755 | 98,533 |
| 15 | Standby Demand charges | | | 113,258 | | | | 1.7510 | 113,258 |
| 16 | Minimum Bill Charges | | | 239,859 | | | | | 239,859 |
| 17 | Power Factor Adjustment Charges | | | 7,278 | | | | | 7,278 |
| 18 | REP Charges | | | 992 | | | | | 992 |
| 19 | | | | | | | | | |
| 20 | Calculated **Booked Revenue** from HP Bills (includes rider charges and minimum bill charges) | | | 4,026,609 | | | | | 4,063,133 |
| 21 | Revenue adjusted for Spread Factor | | | 4,041,279 | | | | | |
| 22 | | | | | | | | | |
| 23 | rider adjustments (baseline + HP) | | (1,796,230) | | | | | | |
| 24 | % allocated to HP (in proportion of HP kWh to total kWh) | 11% | (190,053) | | | | | | |
| 25 | % allocated to OPTVI (carried forward to OPTVI schedule booked riders) | 89% | (1,606,177) | | | | | | |
| 26 | | | | | | | | | |
| 27 | add adjustments to base rate | | | | | | | | |
| 28 | | | | | Row | Col | | | |
| 29 | Adjustment to Base Fuel | -0.001273 | 65,598,464 | (83,507) | 1 | 12 | HPI (baseline) | | |
| 30 | | 0.000000 | 65,598,464 | 0 | 2 | 12 | HPI (baseline) | | |
| 31 | | | | | | | | | |
| 32 | Annualized Present Revenue | | | $ 3,957,772 | | | | | |
| 33 | | | | | Row | Col | | | |
| 34 | BPM Prospective Rider | -0.000078 | 65,598,464 | (5,117) | 6 | 12 | HPI (baseline) | | |
| 35 | BPM True-Up Rider | 0.000067 | 65,598,464 | 4,395 | 7 | 12 | HPI (baseline) | | |
| 36 | EDIT-1 | -0.001049 | 65,598,464 | (68,813) | 8 | 12 | HPI (baseline) | | |
| 37 | Energy Efficiency Rider | 0.008286 | - | 0 | 9 | 12 | HPI (baseline) | | |
| 38 | Existing DSM Program Costs Adjustment | -0.000055 | 65,598,464 | (3,608) | 10 | 12 | HPI (baseline) | | |
| 39 | Job Retention Recovery Rider | 0.000410 | 65,598,464 | 26,895 | 11 | 12 | HPI (baseline) | | |
| 40 | | | | (46,247) | | | | | |
| 41 | Proposed Revenue(using spread factor) | | | | | | | | |
| 42 | Revenue Increase (Decrease) | | | | | | | | |
| 43 | Percent Revenue Increase (Decrease) | | | | | | | | |
| 44 | Total Bills | | 105 | | | | | | |
| 45 | Total KWH | | 65,598,464 | | | | | | |
| 46 | Per Book kWh | | 65,598,462 | | | | | | |
| 47 | kWh Variance | | -2 | | | | | | |
| 48 | | | | | | | | | |
| 49 | **Spread Factor Calculation** [1] | | | | | | | | |
| 50 | Estimated Booked Revenue from Line 18 | | | $ 4,026,609 | | | | | <u>**Included Schedule**</u> |
| 51 | Deduct Standby Charges included in Baseline Revenue | | | $ (113,258) | | | | | HPVIPL |
| 52 | Calculated Booked Revenue from HP Bills (includes rider charges) | | | $ 3,913,351 | | | | | HPVIPS |
| 53 | Reported Booked Revenue (excludes Standby Demand Charges) | | | $ 3,927,608 | | | | | HPVISL |
| 54 | Spread Factor (Reported to Estimated) | | | **1.0036** | | | | | HPVISS |
| 55 | | | | | | | | | |
| 56 | **Notes** | | | | | | | | |
| 57 | [1] Attributable to the difference in booked revenue and calculated booked using booked billing determinants | | | | | | | | |
| 58 | | | | | | | | | |

**DECNC Rate Pilot Charge Updates**

| | RS-CPP Non-BFC Adjustment: | | | 13.24% | RE-CPP Non-BFC Adjustment: | | | 11.27% | SGS-CPP Non-BFC Adjustment: | | | 8.56% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **RS-CPP Option 1** | | | | **RE-CPP Option 1** | | | | **SGS-CPP Option 1** | | | |
| | Present | Present + Adj | Proposed | Increase | Present | Present + Adj | Proposed | Increase | Present | Present + Adj | Proposed | Increase |
| BFC | $14.00 | $14.00 | $14.00 | 0.00% | $14.00 | $14.00 | $14.00 | 0.00% | $19.39 | $19.39 | $19.39 | 0.00% |
| On-Peak Winter kW | $2.50 | $2.50 | $2.83 | 13.20% | $2.00 | $2.00 | $2.23 | 11.50% | $3.50 | $3.50 | $3.80 | 8.57% |
| On-Peak Summer kW | $2.00 | $2.00 | $2.26 | 13.00% | $1.75 | $1.75 | $1.95 | 11.43% | $3.00 | $3.00 | $3.26 | 8.67% |
| Distribution kW | $1.18 | $1.18 | $1.34 | 13.56% | $1.33 | $1.33 | $1.48 | 11.28% | $1.40 | $1.40 | $1.52 | 8.57% |
| Critical Day On-Peak kWh | $0.400000 | $0.400298 | $0.453299 | 13.32% | $0.400000 | $0.400298 | $0.445399 | 11.35% | $0.400000 | $0.400398 | $0.434665 | 8.67% |
| High Day On-Peak kWh | $0.132169 | $0.132467 | $0.150006 | 13.50% | $0.100000 | $0.100298 | $0.111598 | 11.60% | $0.145000 | $0.145398 | $0.157842 | 8.86% |
| Low Day On-Peak kWh | $0.068077 | $0.068375 | $0.077428 | 13.74% | $0.057830 | $0.058128 | $0.064677 | 11.84% | $0.072870 | $0.073268 | $0.079539 | 9.15% |
| All Other / Off-Peak kWh | $0.056000 | $0.056298 | $0.063752 | 13.84% | $0.050000 | $0.050298 | $0.055965 | 11.93% | $0.059500 | $0.059898 | $0.065024 | 9.28% |
| | **RS-CPP Option 2** | | | | **RE-CPP Option 2** | | | | **SGS-CPP Option 2** | | | |
| | Present | Present + Adj | Proposed | Increase | Present | Present + Adj | Proposed | Increase | Present | Present + Adj | Proposed | Increase |
| BFC | $14.00 | $14.00 | $14.00 | 0.00% | $14.00 | $14.00 | $14.00 | 0.00% | $19.39 | $19.39 | $19.39 | 0.00% |
| Critical Day On-Peak kWh | $0.400000 | $0.400298 | $0.453299 | 13.32% | $0.400000 | $0.400298 | $0.445399 | 11.35% | $0.400000 | $0.400398 | $0.434665 | 8.67% |
| All Other / Off-Peak kWh | $0.079408 | $0.079706 | $0.090259 | 13.66% | $0.072198 | $0.072496 | $0.080664 | 11.73% | $0.083188 | $0.083586 | $0.090740 | 9.08% |
| | **RS-CPP Option 3** | | | | **RE-CPP Option 3** | | | | **SGS-CPP Option 3** | | | |
| | Present | Present + Adj | Proposed | Increase | Present | Present + Adj | Proposed | Increase | Present | Present + Adj | Proposed | Increase |
| BFC | $14.00 | $14.00 | $14.00 | 0.00% | $14.00 | $14.00 | $14.00 | 0.00% | $19.39 | $19.39 | $19.39 | 0.00% |
| Critical Day On-Peak kWh | $0.400000 | $0.400298 | $0.453299 | 13.32% | $0.400000 | $0.400298 | $0.445399 | 11.35% | $0.400000 | $0.400398 | $0.434665 | 8.67% |
| Winter On-Peak kWh | $0.125000 | $0.125298 | $0.141888 | 13.51% | $0.125000 | $0.125298 | $0.139415 | 11.53% | $0.125000 | $0.125398 | $0.136130 | 8.90% |
| Summer On-Peak kWh | $0.120000 | $0.120298 | $0.136226 | 13.52% | $0.120000 | $0.120298 | $0.133852 | 11.54% | $0.120000 | $0.120398 | $0.130702 | 8.92% |
| All Other / Off-Peak kWh | $0.067731 | $0.068029 | $0.077036 | 13.74% | $0.058673 | $0.058971 | $0.065615 | 11.83% | $0.072811 | $0.073209 | $0.079474 | 9.15% |

* Present + Adj refers to the Present Rate plus any adjustments to the base rate.

**Table 3-A: Load Forecast with Energy Efficiency Programs**

| YEAR | SUMMER (MW) | WINTER (MW) | ENERGY (GWh) |
|---|---|---|---|
| **2019** | 18,136 | 17,776 | 90,721 |
| **2020** | 18,270 | 17,924 | 91,423 |
| **2021** | 18,381 | 18,017 | 91,825 |
| **2022** | 18,460 | 18,128 | 92,132 |
| **2023** | 18,547 | 18,173 | 92,515 |
| **2024** | 18,764 | 18,373 | 93,614 |
| **2025** | 18,954 | 18,478 | 94,490 |
| **2026** | 19,192 | 18,778 | 95,529 |
| **2027** | 19,409 | 18,970 | 96,397 |
| **2028** | 19,737 | 19,241 | 97,823 |
| **2029** | 19,984 | 19,494 | 98,857 |
| **2030** | 20,218 | 19,657 | 99,806 |
| **2031** | 20,501 | 19,873 | 100,937 |
| **2032** | 20,792 | 20,242 | 102,248 |
| **2033** | 20,986 | 20,423 | 102,955 |
| **Avg. Annual Growth Rate** | 1.0% | 0.9% | 0.8% |

Note: Tables 12-E and 12-F differ from these values due to a 47 MW Piedmont Municipal Power Agency (PMPA) backstand contract through 2020.

A detailed discussion of the electric load forecast is provided in Appendix C.

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Duke Energy Carolinas
North Carolina Integrated Resource Plan
2018 Biennial Report
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# Table 12-E: Carbon Constrained Load, Capacity and Reserves Table - Winter

## Winter Projections of Load, Capacity, and Reserves
## For Duke Energy Carolinas 2018 Annual Plan

| | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Load Forecast* | | | | | | | | | | | | | | | | |
| 1 | DEC System Winter Peak | 17,871 | 18,060 | 18,145 | 18,291 | 18,386 | 18,621 | 18,762 | 19,096 | 19,320 | 19,611 | 19,877 | 20,047 | 20,265 | 20,636 | 20,821 |
| 2 | Catawba Owner Backstand - NCEMC | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| 3 | Cumulative New EE Programs | (48) | (89) | (128) | (163) | (214) | (248) | (284) | (318) | (350) | (370) | (383) | (390) | (392) | (394) | (398) |
| **4** | **Adjusted Duke System Peak** | **17,905** | **18,053** | **18,099** | **18,210** | **18,255** | **18,455** | **18,560** | **18,860** | **19,052** | **19,323** | **19,576** | **19,739** | **19,954** | **20,324** | **20,505** |
| *Existing and Designated Resources* | | | | | | | | | | | | | | | | |
| 5 | Generating Capacity | 21,418 | 21,418 | 21,418 | 21 483 | 21,548 | 21,613 | 21,678 | 21,476 | 21,476 | 21,476 | 21 476 | 20,950 | 20,950 | 20 777 | 20,777 |
| 6 | Designated Additions / Uprates | - | - | 65 | 65 | 65 | 65 | 402 | - | - | - | - | - | - | - | - |
| 7 | Retirements / Derates | - | - | - | - | - | - | (604) | - | - | - | (526) | - | (173) | - | (547) |
| **8** | **Cumulative Generating Capacity** | **21,418** | **21,418** | **21,483** | **21,548** | **21,613** | **21,678** | **21,476** | **21,476** | **21,476** | **21,476** | **20,950** | **20,950** | **20,777** | **20,777** | **20,230** |
| *Purchase Contracts* | | | | | | | | | | | | | | | | |
| **9** | **Cumulative Purchase Contracts** | **259** | **259** | **173** | **151** | **151** | **152** | **147** | **148** | **148** | **146** | **132** | **132** | **132** | **124** | **123** |
| | Non-Compliance Renewable Purchases | 27 | 29 | 28 | 12 | 12 | 13 | 8 | 8 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Non-Renewables Purchases | 233 | 231 | 145 | 139 | 138 | 139 | 139 | 140 | 141 | 139 | 125 | 125 | 125 | 117 | 117 |
| *Undesignated Future Resources* | | | | | | | | | | | | | | | | |
| 10 | Nuclear | | | | | | | | | | | | | | | |
| 11 | Combined Cycle | | | | | | | | | | 1,338 | | | 1,338 | | |
| 12 | Combustion Turbine | | | | | | | | | | | | | | | 460 |
| 13 | Solar | | | | | | | | | | | | | | | |
| *Renewables* | | | | | | | | | | | | | | | | |
| **14** | **Cumulative Renewables Capacity** | 104 | 127 | 109 | 108 | 96 | 95 | 90 | 90 | 86 | 110 | 104 | 98 | 81 | 79 | 79 |
| **15** | **Combined Heat & Power** | - | 22 | 22 | - | - | - | - | - | - | - | - | - | - | - | - |
| **16** | **Energy Storage** | | 4 | 16 | 20 | 20 | 20 | 20 | 20 | - | - | - | - | - | - | - |
| **17** | **Cumulative Production Capacity** | **21,782** | **21,830** | **21,829** | **21,892** | **21,964** | **22,050** | **21,857** | **21,878** | **21,874** | **23,234** | **22,688** | **22,682** | **23,830** | **23,820** | **23,733** |
| *Demand-Side Management (DSM)* | | | | | | | | | | | | | | | | |
| **18** | **Cumulative DSM Capacity** | **447** | **450** | **454** | **458** | **462** | **458** | **458** | **458** | **458** | **458** | **458** | **458** | **458** | **458** | **458** |
| **19** | **Cumulative Capacity w/ DSM** | **22,229** | **22,280** | **22,283** | **22,350** | **22,425** | **22,507** | **22,314** | **22,336** | **22,332** | **23,692** | **23,145** | **23,140** | **24,287** | **24,278** | **24,190** |
| *Reserves w/ DSM* | | | | | | | | | | | | | | | | |
| 20 | Generating Reserves | 4,324 | 4,227 | 4,184 | 4,140 | 4,171 | 4,052 | 3,755 | 3,476 | 3,280 | 4,369 | 3,569 | 3,401 | 4,333 | 3,954 | 3,686 |
| **21** | **% Reserve Margin** | **24.1%** | **23.4%** | **23.1%** | **22.7%** | **22.8%** | **22.0%** | **20.2%** | **18.4%** | **17.2%** | **22.6%** | **18.2%** | **17.2%** | **21.7%** | **19.5%** | **18.0%** |



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# Table 12-F: Carbon Constrained Load, Capacity and Reserves Table – Summer

## Summer Projections of Load, Capacity, and Reserves For Duke Energy Carolinas 2018 Annual Plan

| | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Load Forecast* | | | | | | | | | | | | | | | | |
| 1 | DEC System Summer Peak | 18,294 | 18,494 | 18,618 | 18,755 | 18,899 | 19,175 | 19,428 | 19,727 | 20,004 | 20,374 | 20,652 | 20,909 | 21,209 | 21,516 | 21,727 |
| 2 | Catawba Owner Backstand - NCEMC | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| 3 | Cumulative New EE Programs | (112) | (176) | (237) | (295) | (351) | (411) | (474) | (535) | (595) | (637) | (668) | (691) | (708) | (724) | (741) |
| **4** | **Adjusted Duke System Peak** | **18,264** | **18,399** | **18,463** | **18,542** | **18,629** | **18,846** | **19,036** | **19,274** | **19,491** | **19,818** | **20,066** | **20,300** | **20,582** | **20,874** | **21,067** |
| *Existing and Designated Resources* | | | | | | | | | | | | | | | | |
| 5 | Generating Capacity | 20,388 | 20,388 | 20,453 | 20,518 | 20,583 | 20,648 | 20,648 | 20,431 | 20,431 | 20,431 | 20,431 | 19,915 | 19,915 | 19,755 | 19,755 |
| 6 | Designated Additions / Uprates | 0 | 65 | 65 | 65 | 65 | 0 | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Retirements / Derates | 0 | 0 | 0 | 0 | 0 | 0 | (582) | 0 | 0 | 0 | (516) | 0 | (160) | 0 | (545) |
| **8** | **Cumulative Generating Capacity** | **20,388** | **20,453** | **20,518** | **20,583** | **20,648** | **20,648** | **20,431** | **20,431** | **20,431** | **20,431** | **19,915** | **19,915** | **19,755** | **19,755** | **19,210** |
| *Purchase Contracts* | | | | | | | | | | | | | | | | |
| **9** | **Cumulative Purchase Contracts** | **353** | **397** | **313** | **294** | **304** | **324** | **344** | **343** | **342** | **338** | **322** | **320** | **319** | **310** | **309** |
| | Non Compliance Renewable Purchases | 120 | 167 | 168 | 154 | 166 | 184 | 205 | 203 | 201 | 199 | 197 | 196 | 194 | 193 | 192 |
| | Non-Renewables Purchases | 233 | 231 | 145 | 139 | 138 | 139 | 139 | 140 | 141 | 139 | 125 | 125 | 125 | 117 | 117 |
| *Undesignated Future Resources* | | | | | | | | | | | | | | | | |
| 10 | Nuclear | | | | | | | | | | | | | | | |
| 11 | Combined Cycle | | | | | | | | | | 1,198 | | | 1,198 | | |
| 12 | Combustion Turbine | | | | | | | | | | | | | | | 426 |
| 13 | Solar | | | | | | | | | | | | | | | |
| *Renewables* | | | | | | | | | | | | | | | | |
| **14** | **Cumulative Renewables Capacity** | 403 | 470 | 537 | 615 | 650 | 689 | 680 | 709 | 733 | 785 | 807 | 829 | 815 | 817 | 820 |
| **15** | **Combined Heat & Power** | 0 | 16 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **16** | **Energy Storage** | 0 | 4 | 16 | 20 | 20 | 20 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **17** | **Cumulative Production Capacity** | **21,144** | **21,340** | **21,420** | **21,563** | **21,694** | **21,773** | **21,587** | **21,635** | **21,658** | **22,904** | **22,394** | **22,415** | **23,438** | **23,430** | **23,312** |
| *Demand-Side Management (DSM)* | | | | | | | | | | | | | | | | |
| **18** | **Cumulative DSM Capacity** | **1,035** | **1,059** | **1,082** | **1,104** | **1,111** | **1,109** | **1,109** | **1,109** | **1,109** | **1,109** | **1,109** | **1,109** | **1,109** | **1,109** | **1,109** |
| **19** | **Cumulative Capacity w/ DSM** | **22,180** | **22,400** | **22,502** | **22,667** | **22,805** | **22,882** | **22,696** | **22,744** | **22,767** | **24,013** | **23,503** | **23,524** | **24,547** | **24,539** | **24,421** |
| *Reserves w/ DSM* | | | | | | | | | | | | | | | | |
| 20 | Generating Reserves | 3,915 | 4,001 | 4,039 | 4,125 | 4,176 | 4,036 | 3,660 | 3,470 | 3,276 | 4,195 | 3,438 | 3,224 | 3,964 | 3,665 | 3,354 |
| **21** | **% Reserve Margin** | **21.4%** | **21.7%** | **21.9%** | **22.2%** | **22.4%** | **21.4%** | **19.2%** | **18.0%** | **16.8%** | **21 2%** | **17.1%** | **15.9%** | **19.3%** | **17.6%** | **15.9%** |

**DEC - Assumptions of Load, Capacity, and Reserves Table**

The following notes are numbered to match the line numbers on the Winter Projections of Load, Capacity, and Reserves tables. All values are MW (winter ratings) except where shown as a percent. Dates represented are commercial operation dates (COD), unless otherwise noted.

1. Planning is done for the peak demand for the Duke Energy Carolinas System including Nantahala.

   A firm wholesale backstand agreement for 47 MW between Duke Energy Carolinas and Piedmont Municipal Power Agency (PMPA) starts on 1/1/2014 and continues through the end of 2020. This backstand is included in Line 1.

2. Firm sale of Catawba backstand for NCEMC. (481 MW * 17% RM) = 82 MW

3. Cumulative new energy efficiency and conservation programs (does not include demand response programs).

4. Peak load adjusted for firm sales and cumulative energy efficiency.

5. Existing generating capacity reflecting designated additions, planned uprates, retirements and derates as of July 1, 2018.

   Includes 103 MW Nantahala hydro capacity. Only DEC portion of Catawba Nuclear Station capacity is included. Lee CC capacity of 683 MW (net of NCEMC ownership of 100 MW) is included.

6. Designated Capacity Additions include:

   Planned runner upgrades on each of the four Bad Creek pumped storage units. Each upgrade is expected to be 65 MW and are projected in the 2020 2023 timeframe.
   One unit will be upgraded per year.

   402 MW Lincoln CT 17 included in December 2024.

**DEC - Assumptions of Load, Capacity, and Reserves Table (cont.)**

7. A planning assumption for coal retirements has been included in the 2018 IRP. Dates correspond to the depreciation study approved as part of the DEC rate case.

   Allen Steam Station Units 1-3 (604 MW) are assumed to retire in December 2024.

   Allen Steam Station Units 4-5 (526 MW) are assumed to retire in December 2028.

   Lee 3 Natural Gas Boiler (173 MW) is assumed to retire in December 2030.

   Cliffside Unit 5 (546 MW) is assumed to retire in December 2032.

   Planning assumptions for nuclear stations assume subsequent license renewal at the end of the current license. 2,618 MW Oconee 1-3 are assumed to be relicensed in 2033 and 2034. Base case assumption is that nuclear stations will acquire an SLR.

   The Hydro facilities for which Duke has submitted an application to Federal Energy Regulatory Commission (FERC) for license renewal are assumed to continue operation through the planning horizon.

   All retirement dates are subject to review on an ongoing basis. Dates used in the 2018 IRP are for planning purposes only, unless already planned for retirement.

8. Sum of lines 5 through 7.

9. Cumulative Purchase Contracts including purchased capacity from PURPA Qualifying Facilities, an 86 MW Cherokee County Cogeneration Partners contract which began in June 1998 and expires June 2020 and miscellaneous other QF projects.

   Additional line items shown under the total line item represent the amounts of renewable and traditional QF purchases.

   Renewable resources in these line items are not used for NC REPS compliance.

**DEC - Assumptions of Load, Capacity, and Reserves Table (cont.)**

10. New nuclear resources economically selected to meet load and minimum planning reserve margin.

    Capacity must be on-line by June 1 to be included in available capacity for the summer peak of that year and by December 1 to be included in available capacity for the winter peak of the next year.

    No nuclear resources were selected in the Base Case in the 15-year study period.

11. New combined cycle resources economically selected to meet load and minimum planning reserve margin.

    Capacity must be on-line by June 1 to be included in available capacity for the summer peak of that year and by December 1 to be included in available capacity for the winter peak of the next year.

    Addition of 1,338 MW of combined cycle capacity online December 2027.

    Addition of 1,338 MW of combined cycle capacity online December 2030.

12. New combustion turbine resources economically selected to meet load and minimum planning reserve margin.

    Capacity must be on-line by June 1 to be included in available capacity for the summer peak of that year and by December 1 to be included in available capacity for the winter peak of the next year.

    Addition of 460 MW of combustion turbine capacity online December 2032.

13. New solar resources economically selected to meet load and minimum planning reserve margin above the forecast in Section 5.

    No solar resources were economically selected in the Base Case.

**DEC - Assumptions of Load, Capacity, and Reserves Table (cont.)**

14. Resources to comply with NC REPS and HB 589. These resources include solar, landfill gas, poultry and swine resources. Solar resources reflect contribution to peak demand results from the most recent value of solar study.

15. New 22 MW of combined heat and power capacity included in both 2020 and 2021.

16. Addition of 120 MW of energy storage placeholders over the years 2020 through 2026 based on 80% contribution to peak assumption.

17. Sum of lines 8 through 16.

18. Cumulative demand response programs including wholesale demand response.

19. Sum of lines 17 and 18.

20. The difference between lines 19 and 4.

21. Reserve Margin = (Cumulative Capacity-System Peak Demand)/System Peak Demand.

    Line 20 divided by Line 4.

    Minimum winter target planning reserve margin is 17%.

A tabular presentation of the Base Case resource plan represented in the above LCR table is shown below:

**Table 12-G: DEC Carbon Constrained Base Case**

**Duke Energy Carolinas Resource Plan (1)**
**Base Case Winter**

| Year | Resource | | | | MW | | | |
|---|---|---|---|---|---|---|---|---|
| 2019 | Solar | | | | 431 | | | |
| 2020 | CHP | Solar | Energy Storage | | 22 | 370 | 4 | |
| 2021 | Bad Creek Uprate | CHP | Solar | Energy Storage | 65 | 22 | 360 | 16 |
| 2022 | Bad Creek Uprate | Solar | Energy Storage | | 65 | 337 | 20 | |
| 2023 | Bad Creek Uprate | Solar | Energy Storage | | 65 | 247 | 20 | |
| 2024 | Bad Creek Uprate | Solar | Energy Storage | | 65 | 240 | 20 | |
| 2025 | Lincoln CT 17 | Solar | Energy Storage | | 402 | 91 | 20 | |
| 2026 | Energy Storage | Solar | | | 20 | 112 | | |
| 2027 | Solar | | | | 111 | | | |
| 2028 | New CC | Solar | | | 1,338 | 111 | | |
| 2029 | Solar | | | | 110 | | | |
| 2030 | Solar | | | | 109 | | | |
| 2031 | New CC | Solar | | | 1,338 | 8 | | |
| 2032 | Solar | | | | 8 | | | |
| 2033 | New CT | Solar | | | 460 | 8 | | |

Notes: (1) Table includes both designated and undesignated capacity additions
(2) Incremental solar additions represent nameplate ratings
(3) Future additions of other renewables, EE and DSM not included

Additionally, a summary of the above table is represented below in Table 12-H.

**Table 12-H: Summary of DEC Carbon Constrained Base Case Winter Resources**

**DEC Base Case Resources**
**Cumulative Winter Totals - 2019 - 2033**

| | |
|---|---|
| Nuclear | 0 |
| Solar | 2,653 |
| CC | 2,676 |
| CT | 862 |
| Pumped Storage | 260 |
| CHP | 44 |
| Energy Storage | 120 |
| Total | 6,615 |

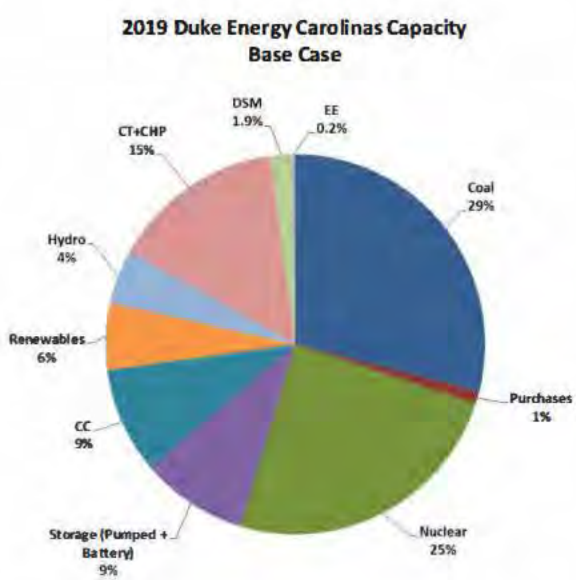
/A





The following figures illustrate both the current and forecasted capacity for the DEC system, as projected by the Carbon Constrained Base Case. As demonstrated in Figure 12-E, the capacity mix for the DEC system changes with the passage of time. In 2033, the Carbon Constrained Base Case projects that DEC will have a smaller reliance on coal and a higher reliance on gas-fired resources, nuclear, renewable resources and EE as compared to the current state. It should be noted that the Company's Carbon Constrained Base Case resources depicted in Figure 12-E below reflect a significant amount of solar capacity with nameplate solar growing from 1,218 MW in 2019 to 3,440 MW by 2033. However, given that solar resources only contribute approximately 1% of nameplate capacity at the time of the Company's winter peak, solar capacity contribution to winter peak only grows from 16 MW in 2019 to 34 MW by 2033.

**Figure 12-E: Duke Energy Carolinas Capacity Over 15-Year Study Period – Carbon Constrained Base Case [5]**



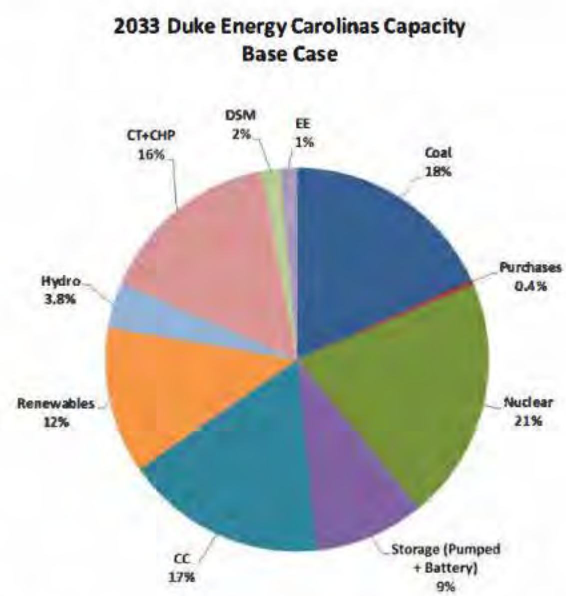




Figure 12-F represents the energy of both the DEC and DEP Carbon Constrained Base Cases over time. Due to the joint dispatch agreement (JDA), it is prudent to combine the energy of both utilities to develop a meaningful Carbon Constrained Base Case energy figure. From 2019 to 2033, the figure shows that nuclear resources will continue to serve almost half of DEC and DEP energy

[5] All capacity based on winter ratings (renewables which are based on nameplate).

/A

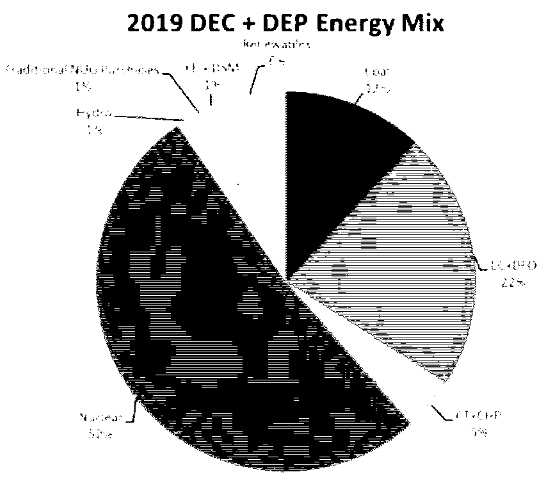


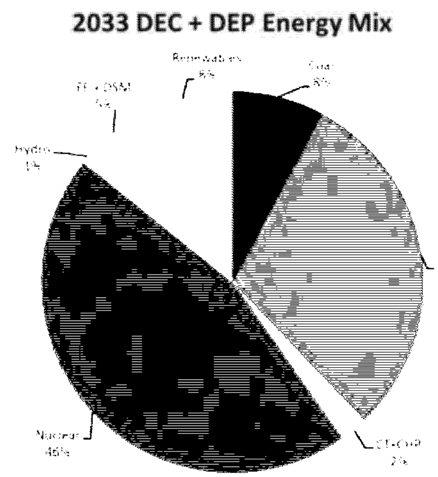




needs, a reduction in the energy served by coal, and an increase in energy served by natural gas, renewables and EE.

**Figure 12-F: DEC and DEP Energy Over 15-Year Study Period – Carbon Constrained Base Case [6]**




A detailed discussion of the assumptions, inputs and analytics used in the development of the Base Cases are contained in Appendix A. As noted, the further out in time planned additions or retirements are within the 2018 IRP, the greater the opportunity for input assumptions to change. Thus, resource allocation decisions at the end of the planning horizon have a greater possibility for change as compared to those earlier in the planning horizon.

***No Carbon Base Case:***

While Duke Energy presents a base resource plan that was developed under a carbon constrained future, the Company also provides a No Carbon (or No $CO_2$) Base Case expansion plan that reflects a future without $CO_2$ constraints. In DEC, this expansion plan is represented by Portfolio 2 (Base No $CO_2$ Future). As shown in Tables 12-I and 12-J below, during the 15-year planning horizon, there is a significant shift towards CT technology from the Carbon Constrained Base Case. However, beyond the 15-year window there is a shift back to CC technology in Portfolio 2. Additionally, without a $CO_2$ constraint, incremental solar additions are delayed further beyond the planning horizon.

[6] All capacity based on winter ratings except renewables which are based on nameplate.

## Table 12-I: DEC No Carbon Base Case

| Duke Energy Carolinas Resource Plan (1) No $CO_2$ Case - Winter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Year** | **Resource** | | | | **MW** | | | |
| 2019 | Solar | | | | 431 | | | |
| 2020 | CHP | Solar | Energy Storage | | 22 | 370 | 4 | |
| 2021 | Bad Creek Uprate | CHP | Solar | Energy Storage | 65 | 22 | 360 | 16 |
| 2022 | Bad Creek Uprate | Solar | Energy Storage | | 65 | 337 | 20 | |
| 2023 | Bad Creek Uprate | Solar | Energy Storage | | 65 | 247 | 20 | |
| 2024 | Bad Creek Uprate | Solar | Energy Storage | | 65 | 240 | 20 | |
| 2025 | Lincoln CT 17 | Solar | Energy Storage | | 402 | 91 | 20 | |
| 2026 | Energy Storage | Solar | | | 20 | 112 | | |
| 2027 | Solar | | | | 111 | | | |
| 2028 | New CT | Solar | | | 460 | 111 | | |
| 2029 | New CT | Solar | | | 920 | 110 | | |
| 2030 | Solar | | | | 109 | | | |
| 2031 | New CT | Solar | | | 460 | 8 | | |
| 2032 | New CT | Solar | | | 460 | 8 | | |
| 2033 | New CT | Solar | | | 920 | 8 | | |

Notes: (1) Table includes both designated and undesignated capacity additions
(2) Incremental solar additions represent nameplate ratings
(3) Future additions of other renewables, EE and DSM not included

## Table 12-J: Summary of DEC No Carbon Case Winter Resources

| DEC No $CO_2$ Case Resources Cumulative Winter Totals - 2019 - 2033 | |
|---|---|
| Nuclear | 0 |
| | |
| CC | 0 |
| CT | 3,622 |
| Pumped Storage | 260 |
| CHP | 44 |
| Energy Storage | 120 |
| Total | 6,699 |

***Joint Planning Case:***

A Joint Planning Case that explores the potential for DEC and DEP to share firm capacity between the Companies was also developed. The focus of this case is to illustrate the potential for the Utilities to collectively defer generation investment by utilizing each other's capacity when available and by jointly owning or purchasing new capacity additions. This case does not address the specific implementation methods or issues required to implement shared capacity. Rather, this case illustrates the benefits of joint planning between DEC and DEP with the understanding that the actual execution of capacity sharing would require separate regulatory proceedings and approvals.

Table 12-K below represents the annual non-renewable incremental additions reflected in the combined DEC and DEP winter Base Cases as compared to the Joint Planning Case. The plan contains the undesignated additions for DEC and DEP over the planning horizon. As presented in Table 12-K, the Joint Planning Case allows for the delay of a CC resource and several blocks of CT resources through the 15-year study period. Though not shown below, the ability to share capacity between DEC and DEP would also limit the amount of undesignated short-term market purchases identified in the 2020 to 2024 timeframe in the DEP IRP.

**Table 12-K: DEC and DEP Joint Planning Case**

| DEC and DEP Combined Resource Plan (1) Base Case - Winter | | | | DEC and DEP Joint Planning Resource Plan (1) Base Case - Winter | | |
|---|---|---|---|---|---|---|
| Year | Resource | MW | | Year | Resource | MW |
| 2019 | | | | 2019 | | |
| 2020 | | | | 2020 | | |
| 2021 | | | | 2021 | | |
| 2022 | | | | 2022 | | |
| 2023 | | | | 2023 | | |
| 2024 | | | | 2024 | | |
| 2025 | New CC | 1,338 | | 2025 | New CC | 1,338 |
| 2026 | | | | 2026 | | |
| 2027 | New CC | 1,338 | | 2027 | New CC | 1,338 |
| 2028 | New CC | 1,338 | Delay | 2028 | | |
| 2029 | New CT | 1,840 | Delay 460 MW | 2029 | New CC / New CT | 1,338 / 1,380 |
| 2030 | | | | 2030 | | |
| 2031 | New CC | 1,338 | | 2031 | New CC | 1,338 |
| 2032 | New CT | 460 | Delay 460 MW | 2032 | | |
| 2033 | New CT | 920 | Delay 460 MW Beyond Study Period | 2033 | New CT | 1,380 |

Notes: (1) Table only includes undesignated conventional capacity additions.

A comparison of both the DEC and DEP Combined Base Case and Joint Planning Base Case by resource type is represented below in Table 12-L.

**Table 12-L: DEC and DEP Base Case and Joint Planning Case Comparison by Resource Type**

**DEC and DEP Combined Base Case Resources**

**DEC and DEP Combined Base Case Resources**

**Cumulative Winter Totals - 2019 - 2033**

| | |
|---|---|
| Nuclear | 0 |
| CC | 5,352 |
| CT | 3,220 |
| Total | 8,572 |

**DEC and DEP Joint Base Case Resources**

**DEC and DEP Joint Base Case Resources**

**Cumulative Winter Totals - 2019 - 2033**

| | |
|---|---|
| Nuclear | 0 |
| CC | 5,352 |
| CT | 2,760 |
| Total | 8,112 |

## 13. SHORT-TERM ACTION PLAN

The Company's Short-Term Action Plan, which identifies accomplishments in the past year and actions to be taken over the next five years, is summarized below:

***Continued Reliance on EE and DSM Resources:***

The Company is committed to continuing to grow the amount of EE and DSM resources utilized to meet customer growth. The following are the ways in which DEC will increase these resources:

- Continue to execute the Company's EE and DSM plan, which includes a diverse portfolio of EE and DSM programs spanning the residential, commercial, and industrial classes.

- Continue on-going collaborative work to develop and implement additional cost-effective EE and DSM products and services, such as: (1) adding new or expanding existing programs to include additional measures, (2) program modifications to account for changing market conditions and new measurement and verification (M&V) results and (3) other EE research and development pilots.

- Continue to seek additional DSM programs that will specifically benefit during winter peak situations.

***Continued Focus on Renewable Energy Resources:***

DEC is committed to the addition of significant renewable generation into its resource portfolio. Over the next five years DEC is projecting to grow its renewable portfolio from 1,337 MW to 2,615 MW. Supporting policy such as SC Act 236, and NC REPS and NC HB 589 have all contributed to DEC's aggressive plans to grow its renewable resources. DEC is committed to meeting its targets for the SC DER Program and under HB 589, DEC and DEP are responsible for procuring renewable energy and capacity through a competitive procurement program. These activities will be done in a manner that allows the Companies to continue to reliably and cost-effectively serve customers' future energy needs. The Companies, under the competitive procurement program, are required to procure energy and capacity from renewable energy facilities in the aggregate amount of 2,660 MW through request for proposals. DEC and DEP plan to jointly implement the CPRE Program across the NC and SC service territories. For further details, refer to Chapter 5, as well as, Attachments I and II.

***Integration of Battery Storage on System:***

The Company will begin investing in multiple grid connected storage systems dispersed throughout its North and South Carolina service territories that will be located on property owned by the Company or leased from its customers. These deployments will allow for a more complete evaluation of potential benefits to the distribution, transmission and generation system, while also providing actual operation and maintenance cost impacts of batteries deployed at a significant scale. Additionally, the Company continues to participate in an energy storage study to assess the economic potential for NC customers, mandated by HB 589. Results of the study are expected in December 2018.

***Continue to Find Opportunities to Enhance Existing Clean Resources:***

DEC is committed to continually looking for opportunities to improve and enhance its existing resources. DEC has committed to the replacement of the runners on each of its four Bad Creek pumped storage units. Each replacement is expected to gain approximately 65 MW of capacity. The first replacement is projected to be in 2020, available for the 2021 winter peak. The remaining units will be replaced at the rate of one per year for availability in the winter peaks from 2022 to 2024.

***Addition of Clean Natural Gas Resources:*** [7]

- The Company continues to consider advanced technology combined cycle units as excellent options to meet future demand. The improving efficiency and reliability of CCs coupled with the continued trend of lower natural gas prices make this resource very attractive. As older units on the DEC system are retired, CC units continue to play an important role in the Company's future diverse portfolio.
    - A combined cycle unit 683 MW (net of NCEMC 100 MW ownership) has recently come online at the Lee site in South Carolina. The CC's commercial operation date was April 5, 2018.
    - An advanced combustion turbine unit will begin extended commissioning at the Lincoln CT Plant in North Carolina in 2019. The Company will take care, custody, and control of the completed 402 MW unit in 2024.

[7] Capacities represent winter ratings.

- As mentioned previously, two 22 MW blocks of Combined Heat and Power are considered in the 2018 IRP and are included as resources for meeting future generation needs. DEC has signed agreements and obtained regulatory approval for a 15 MW CHP at Clemson University, which is expected to be in service by 2020. Filing for a CPCN for a 21 MW CHP at Duke University has been delayed pending the resolution of issues raised by the University. Discussions with other potential steam hosts are currently underway. Future IRP processes will incorporate additional CHP as appropriate.

A summarization of the capacity resource changes for the Base Plans in the 2018 IRP is shown in Table 13-A below. Capacity retirements and additions are presented as incremental values in the year in which the change impacts the winter peak. The values shown for renewable resources, EE and DSM represent cumulative totals.

**Table 13-A: DEC Short-Term Action Plan**

| Duke Energy Carolinas Short-Term Action Plan (1) (2) | | | | | | |
|---|---|---|---|---|---|---|
| | | | Compliance Renewable Resources (Cumulative Nameplate MW) | | | |
| **Year** | **Retirements** | **Additions (5)** | **Solar (3)** | **Biomass/Hydro** | **EE** | **DSM (4)** |
| 2019 | | | 1,218 | 119 | 48 | 447 |
| 2020 | | 22 MW CHP<br>4 MW Energy Storage | 1,588 | 140 | 89 | 450 |
| 2021 | | 22 MW CHP<br>16 MW Energy Storage<br>65 MW Bad Creek Upgrade | 1,948 | 118 | 128 | 454 |
| 2022 | | 20 MW Energy Storage<br>65 MW Bad Creek Upgrade | 2,285 | 98 | 163 | 458 |
| 2023 | | 20 MW Energy Storage<br>65 MW Bad Creek Upgrade | 2,532 | 83 | 214 | 462 |

Notes:

(1) Capacities shown in winter ratings unless otherwise noted.

(2) Dates represent when the project impacts the winter peak.

(3) Capacity is shown in nameplate ratings.

(4) Includes impacts of grid modernization.

(5) Energy Storage capacity represents 80% of nameplate.

***Continue with Plan for Subsequent License Renewal of Existing Nuclear Units:***

As discussed in Chapter 10, Duke Energy will continue to evaluate SLR for all its nuclear plants and is actively working on DEC's Oconee Nuclear Station SLR application to extend the licenses to 80 years. The remaining nuclear sites will do likewise where the cost/benefit balance proves acceptable.

***Continued Development and Implementation of Capacity Value of Solar:***

Conventional thermal resources are typically counted as 100% of net capability in reserve margin calculations for future generation planning since these resources are fully dispatchable resources when not on forced outage or planned maintenance. Due to the diurnal pattern and intermittent nature of solar energy resources, it is not reasonable to assume that these resources provide the same capacity credit as a fully dispatchable resource. An outside consultant calculated the incremental capacity credit of solar across five solar penetration levels for DEC and DEP for use in the resource planning process.

***Continued Transition Toward Integrated System and Operations Planning:***

As explained in Chapter 6, the traditional methods of utility resource planning are continuing to evolve. DEC is committed to moving toward an integrated planning process to meet the changing needs of planning in the future. The traditional methods of utility resource planning must be enhanced to address shifting trends through an Integrated System and Operations Planning (ISOP) effort.

In the 2018 IRP, DEC has begun to adapt its IRP to adjust to this changed world, recognizing that this process will continue to evolve. One key goal of ISOP is for the planning models to reasonably mimic the future operational realities to allow DEC to serve its customers with newer technologies. These enhancements in planning are expected to be addressed over the next several years, as soon as the modeling tools, processes and data development will allow.

***Continued Focus on Environmental Compliance:***

- Retire older coal generation.
    - As of April 2015, approximately 1,700 MW of older coal generation has been retired and replaced with clean-burning natural gas, renewable energy resources or energy efficiency.

  - The final older, un-scrubbed coal units at Lee Steam Station were retired in November 2014.
  - Currently, Duke Energy Carolinas has no remaining older, un-scrubbed coal units in operation.[8]

- Continue to investigate the future environmental control requirements and resulting operational impacts associated with existing and potential environmental regulations such as EPA's Clean Power Plan (Section 111d of Clean Air Act regulating $CO_2$ from existing power plants), Mercury Air Toxics Standard (MATS), the Coal Combustion Residuals (CCR) rule, the Cross-State Air Pollution Rule (CSAPR).

***Wholesale:***

- Continue to pursue existing and potential opportunities for wholesale power sales agreements within the Duke Energy balancing authority area.
- Over the next five years, DEC has 124 MW of contracts that expire under the current contract terms.

***Regulatory:***

- Continue to monitor energy-related statutory and regulatory activities.

- Continue to examine the benefits of joint capacity planning and pursue appropriate regulatory actions.

[8] The ultimate timing of unit retirements can be influenced by factors changing the economics of continued unit operations. Such factors include changes in relative fuel prices, operations and maintenance costs and the costs associated with compliance of evolving environmental regulations. As such, unit retirement schedules are expected change over time as market conditions change.

***DEC Request for Proposal (RFP) Activity:***

***Supply-Side RFP Activity:***

Outside of renewable solicitations, no supply-side RFPs have been issued since the filing of DEC's last IRP.

***Duke Energy Carolinas/Progress Swine Waste Fueled RFP – North Carolina:***

DEC and DEP released a Request for Proposals soliciting proposals for swine waste fueled biogas, the supply of electric power fueled by swine waste, or swine RECs (renewable energy certificates). Swine biogas projects must be sited in the state of North Carolina, Renewable Energy Facility proposals must be from swine projects sited within the NC/SC Duke Energy retail/wholesale service territory, and North Carolina qualifying in-state and out-of-state REC-Only proposals (electric swine RECs). This RFP solicited up to 750,000 MMBtu (million British thermal units), or the equivalent in MWh (megawatt hours) which is approximately 110,000 MWh from project developers. RECs secured under this RFP will be used for compliance with the swine waste set aside under REPS. Proposal structure allowed for this RFP was for Renewable Natural Gas Contracts or Purchase Power Agreements with terms of up to 20 years. RFP released December 15, 2017 and closed on January 29, 2018. Seven responses were received to the RFP, proposals have been evaluated, and have executed contracts with two of the projects. In addition, DEC/DEP is working with three other bids from the RFP while the respondents further develop their projects before moving forward.

***Duke Energy Carolinas South Carolina Distributed Energy Resource RFP – Solar PV:***

Duke Energy Carolinas, LLC released an RFP on August 1, 2018 to continue its efforts to solicit proposals for solar photovoltaic generation capacity located in and directly interconnected to DEC's retail service area in South Carolina. The previously-released South Carolina DER Utility Scale RFP, released in 2015, is still underway and projects on that shortlist are still being considered. This RFP was released to identify additional projects from which DEC may procure solar PV renewable energy capacity and all associated renewable attributes, such as Renewable Energy Certificates to comply with DEC's Utility Scale Program requirements under the South Carolina Distributed Energy Resource Program Act. DEC is seeking approximately 40 $MW_{AC}$ of nameplate solar PV capacity in total. Proposal structure allowed for this RFP is for Purchase Power Agreements with 15-year term duration. RFP scheduled to close on September 4, 2018.

***Duke Energy Carolinas Wind RFP:***

Duke Energy Carolinas, LLC released an RFP on August 15, 2017 soliciting proposals for delivered energy, capacity and associated Renewable Energy Certificates produced by wind generators. Energy had to be delivered on a firm basis into the DEC transmission system that was slated to be used to meet DEC's customers' load requirements as well as expand and diversify DEC's renewable generation portfolio and satisfy its "in state" General REC Requirement under the North Carolina Renewable Energy and Efficiency Portfolio Standard. RFP requested wind capacity to be delivered to DEC from 100 MW to 500 MW facilities with proposals in the form of Purchase Power Agreements (5 to 20-year term), Build-Own-Transfers, or Asset Purchases of Existing Facilities. Delivery of wind energy to DEC required to be delivered on or before December 31, 2022 inclusive of all environmental attributes. RFP closed on September 27, 2017 with no contracts executed.

***Competitive Procurement of Renewable Energy (CPRE):***

Pursuant to N.C. Gen. Stat. § 62-110.8, DEP has initiated the first RFP solicitation under the Competitive Procurement of Renewable Energy Program. This initial RFP solicitation was released on July 10, 2018 and is currently open. Details concerning the CPRE program can be found in the annual CPRE Plan filing, which is Attachment II to this document.

## APPENDIX B: DUKE ENERGY CAROLINAS OWNED GENERATION

Duke Energy Carolinas' generation portfolio includes a balanced mix of resources with different operating and fuel characteristics. This mix is designed to provide energy at the lowest reasonable cost to meet the Company's obligation to serve its customers. Duke Energy Carolinas-owned generation, as well as purchased power, is evaluated on a real-time basis in order to select and dispatch the lowest-cost resources to meet system load requirements.

The tables below list the Duke Energy Carolinas' plants in service in South Carolina and North Carolina with plant statistics, and the system's total generating capability.

**Existing Generating Units and Ratings [a, b, c, d, e]**
**All Generating Unit Ratings are as of July 1, 2018**

| Coal | | | | | | |
|---|---|---|---|---|---|---|
| | Unit | Winter (MW) | Summer (MW) | Location | Fuel Type | Resource Type |
| Allen | 1 | 167 | 162 | Belmont, N.C. | Coal | Peaking |
| Allen | 2 | 167 | 162 | Belmont, N.C. | Coal | Peaking |
| Allen | 3 | 270 | 258 | Belmont, N.C. | Coal | Peaking |
| Allen | 4 | 267 | 257 | Belmont, N.C. | Coal | Intermediate |
| Allen | 5 | 259 | 259 | Belmont, N.C. | Coal | Peaking |
| Belews Creek | 1 | 1110 | 1110 | Belews Creek, N.C. | Coal | Base |
| Belews Creek | 2 | 1110 | 1110 | Belews Creek, N.C. | Coal | Base |
| Cliffside | 5 | 546 | 544 | Cliffside, N.C. | Coal | Peaking |
| Cliffside | 6 | 844 | 844 | Cliffside, N.C. | Coal | Intermediate |
| Marshall | 1 | 380 | 370 | Terrell, N.C. | Coal | Intermediate |
| Marshall | 2 | 380 | 370 | Terrell, N.C. | Coal | Intermediate |
| Marshall | 3 | 658 | 658 | Terrell, N.C. | Coal | Base |
| Marshall | 4 | 660 | 660 | Terrell, N.C. | Coal | Base |
| Total Coal | | 6818 | 6764 | | | |

| Combustion Turbines | | | | | | |
|---|---|---|---|---|---|---|
| | Unit | Winter (MW) | Summer (MW) | Location | Fuel Type | Resource Type |
| Lee | 7C | 48 | 42 | Pelzer, S.C. | Natural Gas/Oil-Fired | Peaking |
| Lee | 8C | 48 | 42 | Pelzer, S.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 1 | 98 | 76 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 2 | 99 | 76 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 3 | 99 | 75 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 4 | 98 | 75 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 5 | 97 | 74 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 6 | 97 | 73 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 7 | 98 | 76 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 8 | 98 | 75 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 9 | 97 | 75 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 10 | 98 | 75 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 11 | 98 | 74 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 12 | 98 | 75 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 13 | 98 | 74 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 14 | 97 | 74 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 15 | 98 | 73 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 16 | 97 | 73 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 1 | 92 | 71 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 2 | 92 | 70 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 3 | 92 | 71 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 4 | 92 | 70 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 5 | 90 | 69 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 6 | 92 | 71 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 7 | 92 | 70 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 8 | 93 | 71 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Rockingham | 1 | 179 | 165 | Rockingham, N.C. | Natural Gas/Oil-Fired | Peaking |
| Rockingham | 2 | 179 | 165 | Rockingham, N.C. | Natural Gas/Oil-Fired | Peaking |
| Rockingham | 3 | 179 | 165 | Rockingham, N.C. | Natural Gas/Oil-Fired | Peaking |
| Rockingham | 4 | 179 | 165 | Rockingham, N.C. | Natural Gas/Oil-Fired | Peaking |
| Rockingham | 5 | 179 | 165 | Rockingham, N.C. | Natural Gas/Oil-Fired | Peaking |
| Total NC | | 2,460 | 2,018 | | | |
| Total SC | | 831 | 647 | | | |
| Total CT | | 3,291 | 2,665 | | | |

/A





| Natural Gas Fired Boiler | | | | | | |
|---|---|---|---|---|---|---|
| | | Winter (MW) | Summer (MW) | Location | Fuel Type | Resource Type |
| Lee | 3 | 173 | 160 | Pelzer, N.C. | Natural Gas | Peaking |
| Total Nat. Gas | | 173 | 160 | | | |

| Combined Cycle | | | | | | |
|---|---|---|---|---|---|---|
| | Unit | Winter (MW) | Summer (MW) | Location | Fuel Type | Resource Type |
| Buck | CT11 | 206 | 178 | Salisbury, N.C. | Natural Gas | Base |
| Buck | CT12 | 206 | 178 | Salisbury, N.C. | Natural Gas | Base |
| Buck | ST10 | 304 | 312 | Salisbury, N.C. | Natural Gas | Base |
| Buck CTCC | | 716 | 668 | | | |
| Dan River | CT8 | 199 | 171 | Eden, N.C. | Natural Gas | Base |
| Dan River | CT9 | 199 | 171 | Eden, N.C. | Natural Gas | Base |
| Dan River | ST7 | 320 | 320 | Eden, N.C. | Natural Gas | Base |
| Dan River CTCC | | 718 | 662 | | | |
| WS Lee | CT11 | 223 | 216 | Pelzer, N.C. | Natural Gas | Base |
| WS Lee | CT12 | 223 | 216 | Pelzer, N.C. | Natural Gas | Base |
| WS Lee | ST10 | 337 | 321 | Pelzer, N.C. | Natural Gas | Base |
| WS Lee CTCC | | 783 | 753 | | | |
| Total CTCC | | 2,217 | 2,083 | | | |

| Pumped Storage | | | | | | |
|---|---|---|---|---|---|---|
| | Unit | Winter (MW) | Summer (MW) | Location | Fuel Type | Resource Type |
| Jocassee | 1 | 195 | 195 | Salem, S.C. | Pumped Storage | Peaking |
| Jocassee | 2 | 195 | 195 | Salem, S.C. | Pumped Storage | Peaking |
| Jocassee | 3 | 195 | 195 | Salem, S.C. | Pumped Storage | Peaking |
| Jocassee | 4 | 195 | 195 | Salem, S.C. | Pumped Storage | Peaking |
| Bad Creek | 1 | 340 | 340 | Salem, S.C. | Pumped Storage | Peaking |
| Bad Creek | 2 | 340 | 340 | Salem, S.C. | Pumped Storage | Peaking |
| Bad Creek | 3 | 340 | 340 | Salem, S.C. | Pumped Storage | Peaking |
| Bad Creek | 4 | 340 | 340 | Salem, S.C. | Pumped Storage | Peaking |
| Total Pump. Storage | | 2,140 | 2,140 | | | |

/A





| Hydro | | | | | | |
|---|---|---|---|---|---|---|
| | Unit | Winter (MW) | Summer (MW) | Location | Fuel Type | Resource Type |
| 99 Islands | 1 | 4.2 | 4.2 | Blacksburg, S.C. | Hydro | Peaking |
| 99 Islands | 2 | 3.4 | 3.4 | Blacksburg, S.C. | Hydro | Peaking |
| 99 Islands | 3 | 4.2 | 4.2 | Blacksburg, S.C. | Hydro | Peaking |
| 99 Islands | 4 | 3.4 | 3.4 | Blacksburg, S.C. | Hydro | Peaking |
| 99 Islands | 5 | 0 | 0 | Blacksburg, S.C. | Hydro | Peaking |
| 99 Islands | 6 | 0 | 0 | Blacksburg, S.C. | Hydro | Peaking |
| Bear Creek | 1 | 9.5 | 9.5 | Tuckasegee, N.C. | Hydro | Peaking |
| Bridgewater | 1 | 15 | 15 | Morganton, N.C. | Hydro | Peaking |
| Bridgewater | 2 | 15 | 15 | Morganton, N.C. | Hydro | Peaking |
| Bridgewater | 3 | 1.5 | 1.5 | Morganton, N.C. | Hydro | Peaking |
| Bryson City | 1 | 0.5 | 0.5 | Whittier, N.C. | Hydro | Peaking |
| Bryson City | 2 | 0.4 | 0.4 | Whittier, N.C. | Hydro | Peaking |
| Cedar Cliff | 1 | 6.4 | 6.4 | Tuckasegee, N.C. | Hydro | Peaking |
| Cedar Cliff | 2 | 0.4 | 0.4 | Tuckasegee, N.C. | Hydro | Peaking |
| Cedar Creek | 1 | 15 | 15 | Great Falls, S.C. | Hydro | Peaking |
| Cedar Creek | 2 | 15 | 15 | Great Falls, S.C. | Hydro | Peaking |
| Cedar Creek | 3 | 15 | 15 | Great Falls, S.C. | Hydro | Peaking |
| Cowans Ford | 1 | 81 | 81 | Stanley, N.C. | Hydro | Peaking |
| Cowans Ford | 2 | 81 | 81 | Stanley, N.C. | Hydro | Peaking |
| Cowans Ford | 3 | 81 | 81 | Stanley, N.C. | Hydro | Peaking |
| Cowans Ford | 4 | 81 | 81 | Stanley, N.C. | Hydro | Peaking |
| Dearborn | 1 | 14 | 14 | Great Falls, S.C. | Hydro | Peaking |
| Dearborn | 2 | 14 | 14 | Great Falls, S.C. | Hydro | Peaking |
| Dearborn | 3 | 14 | 14 | Great Falls, S.C. | Hydro | Peaking |
| Fishing Creek | 1 | 11 | 11 | Great Falls, S.C. | Hydro | Peaking |
| Fishing Creek | 2 | 10 | 10 | Great Falls, S.C. | Hydro | Peaking |
| Fishing Creek | 3 | 10 | 10 | Great Falls, S.C. | Hydro | Peaking |
| Fishing Creek | 4 | 11 | 11 | Great Falls, S.C. | Hydro | Peaking |
| Fishing Creek | 5 | 8 | 8 | Great Falls, S.C. | Hydro | Peaking |
| Franklin | 1 | 0.5 | 0.5 | Franklin, N.C. | Hydro | Peaking |
| Franklin | 2 | 0.5 | 0.5 | Franklin, N.C. | Hydro | Peaking |
| Gaston Shoals | 3 | 0 | 0 | Blacksburg, S.C. | Hydro | Peaking |
| Gaston Shoals | 4 | 0 | 0 | Blacksburg, S.C. | Hydro | Peaking |
| Gaston Shoals | 5 | 2 | 2 | Blacksburg, S.C. | Hydro | Peaking |
| Gaston Shoals | 6 | 2.5 | 2.5 | Blacksburg, S.C. | Hydro | Peaking |

| Hydro (Cont.) | | | | | | |
|---|---|---|---|---|---|---|
| | **Unit** | **Winter (MW)** | **Summer (MW)** | **Location** | **Fuel Type** | **Resource Type** |
| Great Falls | 1 | 3 | 3 | Great Falls, S.C. | Hydro | Peaking |
| Great Falls | 2 | 3 | 3 | Great Falls, S.C. | Hydro | Peaking |
| Great Falls | 5 | 3 | 3 | Great Falls, S.C. | Hydro | Peaking |
| Great Falls | 6 | 3 | 3 | Great Falls, S.C. | Hydro | Peaking |
| Keowee | 1 | 76 | 76 | Seneca, S.C. | Hydro | Peaking |
| Keowee | 2 | 76 | 76 | Seneca, S.C. | Hydro | Peaking |
| Lookout Shoals | 1 | 9.0 | 9.0 | Statesville, N.C. | Hydro | Peaking |
| Lookout Shoals | 2 | 9.0 | 9.0 | Statesville, N.C. | Hydro | Peaking |
| Lookout Shoals | 3 | 9.0 | 9.0 | Statesville, N.C. | Hydro | Peaking |
| Mission | 1 | 0.6 | 0.6 | Murphy, N.C. | Hydro | Peaking |
| Mission | 2 | 0.6 | 0.6 | Murphy, N.C. | Hydro | Peaking |
| Mission | 3 | 0.6 | 0.6 | Murphy, N.C. | Hydro | Peaking |
| Mountain Island | 1 | 14 | 14 | Mount Holly, N.C. | Hydro | Peaking |
| Mountain Island | 2 | 14 | 14 | Mount Holly, N.C. | Hydro | Peaking |
| Mountain Island | 3 | 17 | 17 | Mount Holly, N.C. | Hydro | Peaking |
| Mountain Island | 4 | 17 | 17 | Mount Holly, N.C. | Hydro | Peaking |
| Nantahala | 1 | 50 | 50 | Topton, N.C. | Hydro | Peaking |
| Oxford | 1 | 20 | 20 | Conover, N.C. | Hydro | Peaking |
| Oxford | 2 | 20 | 20 | Conover, N.C. | Hydro | Peaking |
| Queens Creek | 1 | 1.4 | 1.4 | Topton, N.C. | Hydro | Peaking |
| Rhodhiss | 1 | 9.5 | 9.5 | Rhodhiss, N.C. | Hydro | Peaking |
| Rhodhiss | 2 | 11.5 | 11.5 | Rhodhiss, N.C. | Hydro | Peaking |
| Rhodhiss | 3 | 12.4 | 12.4 | Rhodhiss, N.C. | Hydro | Peaking |
| Tuxedo | 1 | 3.2 | 3.2 | Flat Rock, N.C. | Hydro | Peaking |
| Tuxedo | 2 | 3.2 | 3.2 | Flat Rock, N.C. | Hydro | Peaking |
| Tennessee Creek | 1 | 9.8 | 9.8 | Tuckasegee, N.C. | Hydro | Peaking |
| Thorpe | 1 | 19.7 | 19.7 | Tuckasegee, N.C. | Hydro | Peaking |
| Tuckasegee | 1 | 2.5 | 2.5 | Tuckasegee, N.C. | Hydro | Peaking |
| Wateree | 1 | 17 | 17 | Ridgeway, S.C. | Hydro | Peaking |
| Wateree | 2 | 17 | 17 | Ridgeway, S.C. | Hydro | Peaking |
| Wateree | 3 | 17 | 17 | Ridgeway, S.C. | Hydro | Peaking |
| Wateree | 4 | 17 | 17 | Ridgeway, S.C. | Hydro | Peaking |
| Wateree | 5 | 17 | 17 | Ridgeway, S.C. | Hydro | Peaking |

| Hydro (cont.) | | | | | | |
|---|---|---|---|---|---|---|
| | Unit | Winter (MW) | Summer (MW) | Location | Fuel Type | Resource Type |
| Wylie | 1 | 18 | 18 | Fort Mill, S.C. | Hydro | Peaking |
| Wylie | 2 | 18 | 18 | Fort Mill, S.C. | Hydro | Peaking |
| Wylie | 3 | 18 | 18 | Fort Mill, S.C. | Hydro | Peaking |
| Wylie | 4 | 18 | 18 | Fort Mill, S.C. | Hydro | Peaking |
| Total NC | | 627.7 | 627.7 | | | |
| Total SC | | 477.7 | 477.7 | | | |
| Total Hydro | | 1,105.4 | 1,105.4 | | | |

| Solar | | | | | | |
|---|---|---|---|---|---|---|
| | | Winter (MW) | Summer (MW) | Location | Fuel Type | Resource Type |
| NC Solar | | 4.19 | 38.6 | N.C. | Solar | Intermediate |
| Total Solar | | 4.19 | 38.6 | | | |

| Nuclear | | | | | | |
|---|---|---|---|---|---|---|
| | Unit | Winter (MW) | Summer (MW) | Location | Fuel Type | Resource Type |
| McGuire | 1 | 1199.0 | 1158.0 | Huntersville, N.C. | Nuclear | Base |
| McGuire | 2 | 1187.2 | 1157.6 | Huntersville, N.C. | Nuclear | Base |
| Catawba | 1 | 1198.7 | 1160.1 | York, S.C. | Nuclear | Base |
| Catawba | 2 | 1179.8 | 1150.1 | York, S.C. | Nuclear | Base |
| Oconee | 1 | 865 | 847 | Seneca, S.C. | Nuclear | Base |
| Oconee | 2 | 872 | 848 | Seneca, S.C. | Nuclear | Base |
| Oconee | 3 | 881 | 859 | Seneca, S.C. | Nuclear | Base |
| Total NC | | 2,386.2 | 2,315.6 | | | |
| Total SC | | 4,996.5 | 4,864.2 | | | |
| Total Nuclear | | 7,382.7 | 7,179.8 | | | |

| Total Generation Capability | | |
|---|---|---|
| | Winter Capacity (MW) | Summer Capacity (MW) |
| TOTAL DEC SYSTEM - N.C. | 14,686.1 | 14,016.9 |
| TOTAL DEC SYSTEM S.C. | 8,445.2 | 8,128.9 |
| TOTAL DEC SYSTEM | 23,131.3 | 22,145.8 |

Note a: Unit information is provided by State, but resources are dispatched on a system-wide basis.

Note b: Cliffside also called the Rogers Energy Center

Note c: Catawba Units 1 and 2 capacity reflects 100% of the station's capability.
Note d: The Catawba units' multiple owners and their effective ownership percentages are:

| Catawba Owner | Percent Of Ownership |
|---|---|
| Duke Energy Carolinas | 19.246% |
| North Carolina Electric Membership Corporation (NCEMC) | 30.754% |
| NCMPA#1 | 37.5% |
| PMPA | 12.5% |

Note e: WS Lee Combined Cycle (CC) Units CT11, CT12 and ST10 reflects 100% of the CC's capability and does not factor in the 100 MW of capacity owned by NCEMC. The DEC – NCEMC Joint-Owner contract includes an energy buyback provision for DEC of the capacity owned by NCEMC in the WS Lee CC facility.
Note f: Solar capacity ratings reflect contribution to winter and summer peak values.

| Planned Uprates | | | |
|---|---|---|---|
| Unit | Date | Winter MW | Summer MW |
| N/A | N/A | N/A | N/A |

Note a: The capacity represented in this table is the total operating capacity addition and is not adjusted for the Joint Exchange Agreement for Catawba and McGuire. The adjusted values are utilized in the resource plan.
Note b: Capacity not reflected in Existing Generating Units and Ratings section.

| Planned Additions | | | |
|---|---|---|---|
| **Unit** | **Date** | **Winter MW** | **Summer MW** |
| Bad Creek 1 | June 2023 | 65.0 | 65.0 |
| Bad Creek 2 | June 2020 | 65.0 | 65.0 |
| Bad Creek 3 | June 2021 | 65.0 | 65.0 |
| Bad Creek 4 | June 2022 | 65.0 | 65.0 |
| Clemson CHP | Nov 2020 | 15.0 | 15.0 |

| Retirements | | | | |
|---|---|---|---|---|
| **Unit and Plant Name** | **Location** | **Capacity (MW) Summer** | **Fuel Type** | **Retirement Date** |
| Buck 3[a] | Salisbury, N.C. | 75 | Coal | 05/15/11 |
| Buck 4[a] | Salisbury, N.C. | 38 | Coal | 05/15/11 |
| Cliffside 1[a] | Cliffside, N.C. | 38 | Coal | 10/1/11 |
| Cliffside 2[a] | Cliffside, N.C. | 38 | Coal | 10/1/11 |
| Cliffside 3[a] | Cliffside, N.C. | 61 | Coal | 10/1/11 |
| Cliffside 4[a] | Cliffside, N.C. | 61 | Coal | 10/1/11 |
| Dan River 1[a] | Eden, N.C. | 67 | Coal | 04/1/12 |
| Dan River 2[a] | Eden, N.C. | 67 | Coal | 04/1/12 |
| Dan River 3[a] | Eden, N.C. | 142 | Coal | 04/1/12 |
| Buzzard Roost 6C[b] | Chappels, S.C. | 22 | Combustion Turbine | 10/1/12 |
| Buzzard Roost 7C[b] | Chappels, S.C. | 22 | Combustion Turbine | 10/1/12 |
| Buzzard Roost 8C | Chappels, S.C. | 22 | Combustion Turbine | 10/1/12 |
| Buzzard Roost 9C[b] | Chappels, S.C. | 22 | Combustion Turbine | 10/1/12 |
| Buzzard Roost 10C[b] | Chappels, S.C. | 18 | Combustion Turbine | 10/1/12 |
| Buzzard Roost 11C[b] | Chappels, S.C. | 18 | Combustion Turbine | 10/1/12 |
| Buzzard Roost 12C[b] | Chappels, S.C. | 18 | Combustion Turbine | 10/1/12 |
| Buzzard Roost 13C[b] | Chappels, S.C. | 18 | Combustion Turbine | 10/1/12 |
| Buzzard Roost 14C[b] | Chappels, S.C. | 18 | Combustion Turbine | 10/1/12 |
| Buzzard Roost 15C[b] | Chappels, S.C. | 18 | Combustion Turbine | 10/1/12 |
| Riverbend 8C[b] | Mt. Holly, N.C. | 0 | Combustion Turbine | 10/1/12 |
| Riverbend 9C[b] | Mt. Holly, N.C. | 22 | Combustion Turbine | 10/1/12 |
| Riverbend 10C[b] | Mt. Holly, N.C. | 22 | Combustion Turbine | 10/1/12 |
| Riverbend 11C[b] | Mt. Holly, N.C. | 20 | Combustion Turbine | 10/1/12 |

| Retirements (cont.) | | | | |
|---|---|---|---|---|
| Buck 7C [b] | Spencer, N.C. | 25 | Combustion Turbine | 10/1/12 |
| Buck 8C [b] | Spencer, N.C. | 25 | Combustion Turbine | 10/1/12 |
| Buck 9C [b] | Spencer, N.C. | 12 | Combustion Turbine | 10/1/12 |
| Dan River 4C [b] | Eden, N.C. | 0 | Combustion Turbine | 10/1/12 |
| Dan River 5C [b] | Eden, N.C. | 24 | Combustion Turbine | 10/1/12 |
| Dan River 6C [b] | Eden, N.C. | 24 | Combustion Turbine | 10/1/12 |
| Riverbend 4 [a] | Mt. Holly, N.C. | 94 | Coal | 04/1/13 |
| Riverbend 5 [a] | Mt. Holly, N.C. | 94 | Coal | 04/1/13 |
| Riverbend 6 [c] | Mt. Holly, N.C. | 133 | Coal | 04/1/13 |
| Riverbend 7 [c] | Mt. Holly, N.C. | 133 | Coal | 04/1/13 |
| Buck 5 [c] | Spencer, N.C. | 128 | Coal | 04/1/13 |
| Buck 6 [c] | Spencer, N.C. | 128 | Coal | 04/1/13 |
| Lee 1 [d] | Pelzer, S.C. | 100 | Coal | 11/6/14 |
| Lee 2 [d] | Pelzer, S.C. | 100 | Coal | 11/6/14 |
| Lee 3 [e] | Pelzer, S.C. | 170 | Coal | 05/12/15* |
| Great Falls 3 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Great Falls 4 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Great Falls 7 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Great Falls 8 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Rocky Creek 1 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Rocky Creek 2 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Rocky Creek 3 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Rocky Creek 4 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Rocky Creek 5 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Rocky Creek 6 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Rocky Creek 7 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| Rocky Creek 8 | Great Falls, S.C. | 0 | Hydro | 05/31/18 |
| | Total | 2037 MW | | |

*converted to NG

**Note a:** Retirement assumptions associated with the conditions in the NCUC Order in Docket No. E-7, Sub 790, granting a CPCN to build Cliffside Unit 6.

**Note b:** The old fleet combustion turbines retirement dates were accelerated in 2009 based on derates, availability of replacement parts and the general condition of the remaining units.

**Note c:** The decision was made to retire Buck 5 and 6 and Riverbend 6 and 7 early on April 1, 2013. The original expected retirement date was April 15, 2015.

**Note d:** Lee Steam Units 1 and 2 were retired November 6, 2014.

**Note e:** The conversion of the Lee 3 coal unit to a natural gas unit was effective March 12, 2015.

**Planning Assumptions – Unit Retirements [a,b]**

| Unit & Plant Name | Location | Winter Capacity (MW) | Summer Capacity (MW) | Fuel Type | Expected Retirement |
|---|---|---|---|---|---|
| Allen 1 | Belmont, NC | 167 | 162 | Coal | 12/2024 |
| Allen 2 | Belmont, NC | 167 | 162 | Coal | 12/2024 |
| Allen 3 | Belmont, NC | 270 | 261 | Coal | 12/2024 |
| Allen 4 | Belmont, NC | 282 | 276 | Coal | 12/2028 |
| Allen 5 | Belmont, NC | 275 | 266 | Coal | 12/2028 |
| Belews Creek 1 | Belews Creek, NC | 1,110 | 1,110 | Coal | 12/2038 |
| Belews Creek 2 | Belews Creek, NC | 1,110 | 1,110 | Coal | 12/2038 |
| Cliffside 5 | Cliffside, NC | 546 | 544 | Coal | 12/2032 |
| Cliffside 6 | Cliffside, NC | 844 | 844 | Coal | 12/2048 |
| Marshall 1 | Terrell, NC | 380 | 370 | Coal | 12/2034 |
| Marshall 2 | Terrell, NC | 380 | 370 | Coal | 12/2034 |
| Marshall 3 | Terrell, NC | 658 | 658 | Coal | 12/2034 |
| Marshall 4 | Terrell, NC | 660 | 660 | Coal | 12/2034 |
| Lee 3 | Pelzer, SC | 173 | 160 | NG | 12/2030 |
| Queens Creek | Topton, NC | 1.4 | 1.4 | Hydro | 12/2032 |
| Total | | 9,641 | 9,508 | | |

**Note a:** Retirement assumptions are for planning purposes only; retirement dates based on the most recent depreciation study approved as part of the most recent DEC rate case.

**Note b:** For planning purposes, the 2018 IRP Base Case assumes subsequent license renewal for existing nuclear facilities beginning at end of current operating licenses. Total planning retirements exclude nuclear capacities.

***Operating License Renewal:***

| Operating License Renewal - Nuclear | | | | |
|---|---|---|---|---|
| **Plant and Unit Name** | **Location** | **Original Operating License Expiration** | **Date of Approval** | **Extended Operating License Expiration** |
| Catawba Unit 1 | York, SC | 12/6/2024 | 12/5/2003 | 12/5/2043 |
| Catawba Unit 2 | York, SC | 2/24/2026 | 12/5/2003 | 12/5/2043 |
| McGuire Unit 1 | Huntersville, NC | 6/12/2021 | 12/5/2003 | 6/12/2041 |
| McGuire Unit 2 | Huntersville, NC | 3/3/2023 | 12/5/2003 | 3/3/2043 |
| Oconee Unit 1 | Seneca, SC | 2/6/2013 | 5/23/2000 | 2/6/2033 |
| Oconee Unit 2 | Seneca, SC | 10/6/2013 | 5/23/2000 | 10/6/2033 |
| Oconee Unit 3 | Seneca, SC | 7/19/2014 | 5/23/2000 | 7/19/2034 |

**Note a:** Base assumption is that all nuclear units will receive a subsequent license renewal.
**Note b:** Nuclear retirements based on the expiration of current operating license only used in sensitivity case.

| **Planned Operating License Renewal - Hydro** | | | | |
|---|---|---|---|---|
| Bad Creek (PS)(1-4) | Salem, SC | N/A | 8/1/1977 | 7//31/2027 |
| Jocassee (PS) (1-4) | Salem, SC | N/A | 9/1/1966 | 8/31/2016 |
| Cowans Ford (1-4) | Stanley, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Keowee (1&2) | Seneca, SC | N/A | 9/1/1966 | 8/31/2016 |
| Rhodhiss (1-3) | Rhodhiss, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Bridge Water (1-3) | Morganton, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Oxford (1&2) | Conover, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Lookout Shoals (1-3) | Statesville, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Mountain Island (1-4) | Mount Holly, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Wylie (1-4) | Fort Mill, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Fishing Creek (1-5) | Great Falls, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Great Falls (1-8) | Great Falls, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Dearborn (1-3) | Great Falls, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Rocky Creek (1-8) | Great Falls, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Cedar Creek (1-3) | Great Falls, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |

| **Planned Operating License Renewal – Hydro (cont.)** | | | | |
|---|---|---|---|---|
| Wateree (1-5) | Ridgeway, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Gaston Shoals (3-6) | Blacksburg, SC | 12/31/1993 | 6/1/1996 | 5/31/2036 |
| Tuxedo (1&2) | Flat Rock, NC | N/A | N/A | N/A |
| Ninety Nine (1-6) | Blacksburg, SC | 12/31/1993 | 6/1/1996 | 5/31/2036 |
| Cedar Cliff (1) | Tuckasegee, NC | 1/31/2006 | 5/1/2011 | 4/30/2041 |
| Bear Creek (1) | Tuckasegee, NC | 1/31/2006 | 5/1/2011 | 4/30/2041 |
| Tennessee Creek (1) | Tuckasegee, NC | 1/31/2006 | 5/1/2011 | 4/30/2041 |
| Nantahala (1) | Topton, NC | 2/28/2006 | 2/1/2012 | 1/31/2042 |
| Queens Creek (1) | Topton, NC | 9/30/2001 | 3/1/2002 | 2/29/2032 |
| Thorpe (1) | Tuckasegee, NC | 1/31/2006 | 5/1/2011 | 4/30/2041 |
| Tuckasegee (1) | Tuckasegee, NC | 1/31/2006 | 5/1/2011 | 4/30/2041 |
| Bryson City (1&2) | Whittier, NC | 7/31/2005 | 7/1/2011 | 6/30/2041 |
| Franklin (1&2) | Franklin, NC | 7/31/2005 | 9/1/2011 | 8/31/2041 |
| Mission (1-3) | Murphy, NC | 7/31/2005 | 10/1/2011 | 9/30/2041 |

## Projected MW Load Impacts of DSM Programs

| Year | Summer Peak MW Reduction | | | | | |
|---|---|---|---|---|---|---|
| | IS | SG | PowerShare | PowerManager | EnergyWise for Business | Total Summer Peak |
| 2018 | 103 | 10 | 327 | 525 | 8 | 973 |
| 2019 | 98 | 9 | 330 | 539 | 16 | 992 |
| 2020 | 93 | 9 | 337 | 552 | 24 | 1,015 |
| 2021 | 89 | 9 | 344 | 564 | 33 | 1,038 |
| 2022 | 84 | 8 | 352 | 575 | 41 | 1,060 |
| 2023 | 80 | 8 | 355 | 575 | 49 | 1,067 |
| 2024 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2025 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2026 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2027 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2028 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2029 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2030 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2031 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2032 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2033 | 79 | 8 | 355 | 575 | 49 | 1,065 |

*Note: For DSM programs, Gross and Net are the same.*

## Projected MW Load Impacts of DSM Programs

| Year | Winter Peak MW Reduction | | | | | |
|---|---|---|---|---|---|---|
| | IS | SG | PowerShare | PowerManager | EnergyWise for Business | Total Winter Peak |
| 2018 | 104 | 10 | 313 | 0 | 1 | 428 |
| 2019 | 96 | 9 | 310 | 0 | 2 | 417 |
| 2020 | 91 | 9 | 316 | 0 | 4 | 420 |
| 2021 | 86 | 8 | 323 | 0 | 5 | 424 |
| 2022 | 82 | 8 | 331 | 0 | 7 | 427 |
| 2023 | 78 | 7 | 337 | 0 | 8 | 431 |
| 2024 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2025 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2026 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2027 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2028 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2029 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2030 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2031 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2032 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2033 | 75 | 7 | 337 | 0 | 8 | 427 |

*Note: For DSM programs, Gross and Net are the same.*

The following forecast is presented without the effects of "rolloff":

## Projected MWh Impacts of EE Programs
### Base Case

| Year | Annual MWh Load Reduction - Net | |
|---|---|---|
| | Including measures added in 2018 and beyond | Including measures added since 2009 |
| 2009-17 | | 4,096,214 |
| 2018 | 457,007 | 4,553,221 |
| 2019 | 887,403 | 4,983,616 |
| 2020 | 1,300,965 | 5,397,178 |
| 2021 | 1,679,020 | 5,775,233 |
| 2022 | 2,053,771 | 6,149,984 |
| 2023 | 2,429,142 | 6,525,356 |
| 2024 | 2,805,135 | 6,901,349 |
| 2025 | 3,181,749 | 7,277,963 |
| 2026 | 3,558,985 | 7,655,198 |
| 2027 | 3,936,841 | 8,033,054 |
| 2028 | 4,315,318 | 8,411,532 |
| 2029 | 4,696,455 | 8,792,668 |
| 2030 | 5,081,308 | 9,177,522 |
| 2031 | 5,471,391 | 9,567,605 |
| 2032 | 5,869,066 | 9,965,280 |
| 2033 | 6,270,015 | 10,366,228 |

**The MWh totals included in the table above represent the annual year-end impacts associated with EE programs, however, the MWh totals included in the load forecast portion of this document represent the sum of the expected hourly impacts.*

## Projected MW Load Impacts of DSM Programs

| Year | Summer Peak MW Reduction | | | | | |
|---|---|---|---|---|---|---|
| | IS | SG | PowerShare | PowerManager | EnergyWise for Business | Total Summer Peak |
| 2018 | 103 | 10 | 327 | 525 | 8 | 973 |
| 2019 | 98 | 9 | 330 | 539 | 16 | 992 |
| 2020 | 93 | 9 | 337 | 552 | 24 | 1,015 |
| 2021 | 89 | 9 | 344 | 564 | 33 | 1,038 |
| 2022 | 84 | 8 | 352 | 575 | 41 | 1,060 |
| 2023 | 80 | 8 | 355 | 575 | 49 | 1,067 |
| 2024 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2025 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2026 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2027 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2028 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2029 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2030 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2031 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2032 | 79 | 8 | 355 | 575 | 49 | 1,065 |
| 2033 | 79 | 8 | 355 | 575 | 49 | 1,065 |

*Note: For DSM programs, Gross and Net are the same.*

## Projected MW Load Impacts of DSM Programs

| Year | Winter Peak MW Reduction | | | | | |
|---|---|---|---|---|---|---|
| | IS | SG | PowerShare | PowerManager | EnergyWise for Business | Total Winter Peak |
| 2018 | 104 | 10 | 313 | 0 | 1 | 428 |
| 2019 | 96 | 9 | 310 | 0 | 2 | 417 |
| 2020 | 91 | 9 | 316 | 0 | 4 | 420 |
| 2021 | 86 | 8 | 323 | 0 | 5 | 424 |
| 2022 | 82 | 8 | 331 | 0 | 7 | 427 |
| 2023 | 78 | 7 | 337 | 0 | 8 | 431 |
| 2024 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2025 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2026 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2027 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2028 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2029 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2030 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2031 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2032 | 75 | 7 | 337 | 0 | 8 | 427 |
| 2033 | 75 | 7 | 337 | 0 | 8 | 427 |

*Note: For DSM programs, Gross and Net are the same.*

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**





| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RS1 | 2017 | 4 | . | 3,923 | $412 | . | . | . | . | 3,923 | . |
| | | 6 | . | - | $0 | . | . | . | . | - | . |
| | | 11 | . | . | . | 1 | - | . | 1 | - | . |
| Total Year | 2017 | | . | 3,923 | $412 | 1 | - | . | 1 | 3,923 | . |
| Schedule RS1 Residential Service | | | . | 3,923 | $412 | 1 | - | . | 1 | 3,923 | . |

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RS2 | 2017 | 3 | . | 2,271 | $246 | . | . | . | . | 2,271 | . |
| | | 5 | 1 | 2,284 | $361 | . | . | . | 1 | 2,284 | . |
| | | 6 | 1 | 1,052 | $103 | . | . | . | 1 | 1,052 | . |
| | | 7 | . | . | . | 1 | 1 | . | 1 | 1 | . |
| | | 8 | . | - | $0 | 1 | 114 | . | 1 | 114 | . |
| Total Year | 2017 | | 2 | 5,607 | $710 | 2 | 115 | . | 4 | 5,722 | . |
| | 2018 | 1 | . | . | . | 1 | 279 | . | 1 | 279 | . |
| | | 5 | . | . | . | 2 | 1,550 | . | 2 | 1,550 | . |
| | | 7 | 1 | 40 | $15 | . | . | . | 1 | 40 | . |
| Total Year | 2018 | | 1 | 40 | $15 | 3 | 1,829 | . | 4 | 1,869 | . |
| Schedule RS2 Residential Service | | | 3 | 5,647 | $725 | 5 | 1,944 | . | 8 | 7,591 | . |

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RS | 2017 | 1 | 993,577 | 1,109,269,198 | $113,408,226 | 262,921 | 291,565,105 | . | 1,256,498 | 1,400,834,303 | . |
| | | 2 | 1,000,182 | 855,051,779 | $90,591,270 | 264,476 | 221,821,156 | . | 1,264,658 | 1,076,872,935 | . |
| | | 3 | 997,732 | 792,990,082 | $84,877,808 | 264,395 | 211,962,861 | . | 1,262,127 | 1,004,952,943 | . |
| | | 4 | 997,899 | 787,333,068 | $84,374,573 | 265,144 | 208,906,853 | . | 1,263,043 | 996,239,921 | . |
| | | 5 | 1,001,743 | 776,161,449 | $83,386,865 | 265,003 | 214,745,466 | . | 1,266,746 | 990,906,915 | . |
| | | 6 | 1,005,625 | 1,019,494,099 | $105,637,208 | 265,029 | 287,683,645 | . | 1,270,654 | 1,307,177,744 | . |
| | | 7 | 999,897 | 1,294,818,826 | $130,684,223 | 266,674 | 368,881,789 | . | 1,266,571 | 1,663,700,615 | . |
| | | 8 | 1,011,036 | 1,282,394,504 | $129,661,460 | 266,562 | 367,839,853 | . | 1,277,598 | 1,650,234,357 | . |
| | | 9 | 1,000,280 | 1,089,372,607 | $111,796,732 | 266,687 | 312,089,591 | . | 1,266,967 | 1,401,462,198 | . |
| | | 10 | 1,004,137 | 831,984,626 | $88,195,144 | 266,148 | 235,907,011 | . | 1,270,285 | 1,067,891,637 | . |
| | | 11 | 1,002,593 | 758,969,522 | $81,552,713 | 266,093 | 205,245,716 | . | 1,268,686 | 964,215,238 | . |
| | | 12 | 1,004,829 | 960,050,169 | $99,864,851 | 266,473 | 257,923,634 | . | 1,271,302 | 1,217,973,803 | . |
| Total Year | 2017 | | 12,019,530 | 11,557,889,929 | $1,204,031,074 | 3,185,605 | 3,184,572,680 | . | 15,205,135 | 14,742,462,609 | . |
| | 2018 | 1 | 1,007,623 | 1,353,190,206 | $136,443,717 | 267,079 | 367,323,492 | . | 1,274,702 | 1,720,513,698 | . |
| | | 2 | 1,004,891 | 1,051,192,956 | $109,475,761 | 267,722 | 277,219,205 | . | 1,272,613 | 1,328,412,161 | . |
| | | 3 | 1,007,118 | 804,380,595 | $86,718,952 | 268,022 | 207,717,275 | . | 1,275,140 | 1,012,097,870 | . |
| | | 4 | 1,013,262 | 823,653,758 | $88,569,380 | 268,316 | 209,478,130 | . | 1,281,578 | 1,033,131,888 | . |
| | | 5 | 1,009,777 | 777,957,998 | $84,303,910 | 268,286 | 210,739,659 | . | 1,278,063 | 988,697,657 | . |
| | | 6 | 1,010,807 | 1,179,669,968 | $121,357,581 | 269,337 | 334,318,309 | . | 1,280,144 | 1,513,988,277 | . |
| | | 7 | 1,019,251 | 1,383,400,308 | $140,130,337 | 270,102 | 382,751,721 | . | 1,289,353 | 1,766,152,029 | . |
| | | 8 | 1,018,375 | 1,267,046,494 | $129,421,654 | 270,488 | 354,989,485 | . | 1,288,863 | 1,622,035,979 | . |
| | | 9 | 1,011,236 | 1,354,456,227 | $137,866,663 | 269,214 | 387,823,238 | . | 1,280,450 | 1,742,279,465 | . |
| | | 10 | 1,013,459 | 934,109,167 | $99,813,167 | 268,541 | 267,190,843 | . | 1,282,000 | 1,201,300,010 | . |
| | | 11 | 1,015,613 | 787,819,556 | $86,417,992 | 271,585 | 214,807,408 | . | 1,287,198 | 1,002,626,964 | . |
| | | 12 | 1,013,321 | 1,049,458,192 | $110,597,625 | 270,210 | 290,851,888 | . | 1,283,531 | 1,340,310,080 | . |
| Total Year | 2018 | | 12,144,733 | 12,766,335,425 | $1,331,116,740 | 3,228,902 | 3,505,210,653 | . | 15,373,635 | 16,271,546,078 | . |
| Schedule RS Residential Service | | | 24,164,263 | 24,324,225,354 | $2,535,147,814 | 6,414,507 | 6,689,783,333 | . | 30,578,770 | 31,014,008,687 | . |

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RE1 | 2017 | 1 | 1 | 1,484 | $54 | 1 | 5,640 | . | 2 | 7,124 | . |
| | | 2 | 2 | 1,015 | $106 | . | . | . | 2 | 1,015 | . |
| | | 3 | 1 | 1,038 | $95 | . | | (3,922) . | 1 | (2,884) | . |
| | | 5 | 2 | 1,744 | $165 | . | . | . | 2 | 1,744 | . |
| | | 6 | 1 | 1,130 | $110 | . | . | . | 1 | 1,130 | . |
| | | 8 | 1 | 40 | $15 | . | . | . | 1 | 40 | . |
| | | 9 | . | . | . | 1 | - | . | 1 | - | . |
| | | 11 | 1 | 27 | $14 | . | . | . | 1 | 27 | . |
| Total Year | 2017 | | 9 | 6,478 | $560 | 2 | 1,718 | . | 11 | 8,196 | . |
| | 2018 | 7 | . | . | . | 1 | 399 | . | 1 | 399 | . |
| Total Year | 2018 | | . | . | . | 1 | 399 | . | 1 | 399 | . |
| Schedule RE1 | | | 9 | 6,478 | $560 | 3 | 2,117 | . | 12 | 8,595 | . |

Residential Service, Electric Water Heating and Space Conditioning

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RE2 | 2017 | 1 | 1 | - | $12 | . | . | . | 1 | - | . |
| | | 11 | 1 | 33 | $15 | . | . | . | 1 | 33 | . |
| Total Year | 2017 | | 2 | 33 | $26 | . | . | . | 2 | 33 | . |
| | 2018 | 1 | 1 | 1,104 | $93 | . | . | . | 1 | 1,104 | . |
| | | 2 | 1 | (1,104) | ($90) | . | . | . | 1 | (1,104) | . |
| Total Year | 2018 | | 2 | - | $3 | . | . | . | 2 | - | . |
| Schedule RE2 | | | 4 | 33 | $29 | . | . | . | 4 | 33 | . |

Residential Service, Electric Water Heating and Space Conditioning

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RE | 2017 | 1 | 698,045 | 1,032,882,880 | $94,962,638 | 215,212 | 327,243,216 | . | 913,257 | 1,360,126,096 | . |
| | | 2 | 702,841 | 776,962,745 | $74,398,034 | 217,380 | 241,554,482 | . | 920,221 | 1,018,517,227 | . |
| | | 3 | 702,745 | 697,405,850 | $67,857,393 | 217,562 | 227,987,956 | . | 920,307 | 925,393,806 | . |
| | | 4 | 703,886 | 638,684,354 | $63,088,461 | 218,519 | 206,775,123 | . | 922,405 | 845,459,477 | . |
| | | 5 | 709,037 | 545,089,929 | $55,468,487 | 219,353 | 188,025,891 | . | 928,390 | 733,115,820 | . |
| | | 6 | 714,281 | 658,043,678 | $65,230,162 | 217,427 | 229,942,499 | . | 931,708 | 887,986,177 | . |
| | | 7 | 711,369 | 780,864,185 | $80,033,964 | 222,953 | 283,680,948 | . | 934,322 | 1,064,545,133 | . |
| | | 8 | 720,303 | 762,997,971 | $78,487,657 | 223,604 | 281,470,998 | . | 943,907 | 1,044,468,969 | . |
| | | 9 | 709,334 | 686,129,425 | $71,309,297 | 221,042 | 247,893,604 | . | 930,376 | 934,023,029 | . |
| | | 10 | 713,701 | 553,982,216 | $58,871,919 | 221,071 | 197,263,310 | . | 934,772 | 751,245,526 | . |
| | | 11 | 710,685 | 592,349,767 | $59,189,909 | 220,743 | 199,497,346 | . | 931,428 | 791,847,113 | . |
| | | 12 | 712,550 | 860,816,600 | $81,099,682 | 221,418 | 281,088,412 | . | 933,968 | 1,141,905,012 | . |
| Total Year | 2017 | | 8,508,777 | 8,586,209,600 | $849,997,604 | 2,636,284 | 2,912,423,785 | . | 11,145,061 | 11,498,633,385 | . |
| | 2018 | 1 | 716,617 | 1,370,263,380 | $123,419,754 | 221,493 | 446,807,825 | . | 938,110 | 1,817,071,205 | . |
| | | 2 | 714,185 | 1,031,102,684 | $96,275,528 | 221,810 | 325,053,193 | . | 935,995 | 1,356,155,877 | . |
| | | 3 | 719,019 | 726,382,102 | $71,121,954 | 222,441 | 224,633,098 | . | 941,460 | 951,015,200 | . |
| | | 4 | 721,554 | 717,933,093 | $70,462,523 | 222,508 | 220,077,784 | . | 944,062 | 938,010,877 | . |
| | | 5 | 723,351 | 569,002,801 | $58,126,546 | 222,868 | 191,347,236 | . | 946,219 | 760,350,037 | . |
| | | 6 | 724,796 | 740,849,991 | $72,866,946 | 223,217 | 263,160,619 | . | 948,013 | 1,004,010,610 | . |
| | | 7 | 733,205 | 821,815,690 | $84,687,044 | 224,963 | 288,894,131 | . | 958,168 | 1,110,709,821 | . |
| | | 8 | 732,171 | 761,975,233 | $78,808,312 | 225,958 | 271,074,082 | . | 958,129 | 1,033,049,315 | . |
| | | 9 | 724,895 | 823,002,210 | $84,112,731 | 223,649 | 295,263,680 | . | 948,544 | 1,118,265,890 | . |
| | | 10 | 725,305 | 604,418,530 | $64,262,524 | 222,254 | 215,027,511 | . | 947,559 | 819,446,041 | . |
| | | 11 | 727,668 | 635,454,985 | $63,704,763 | 224,974 | 213,580,705 | . | 952,642 | 849,035,690 | . |
| | | 12 | 728,028 | 971,219,294 | $91,138,156 | 224,352 | 328,651,070 | . | 952,380 | 1,299,870,364 | . |
| Total Year | 2018 | | 8,690,794 | 9,773,419,993 | $958,986,782 | 2,680,487 | 3,283,570,934 | . | 11,371,281 | 13,056,990,927 | . |
| Schedule RE | | | 17,199,571 | 18,359,629,593 | $1,808,984,385 | 5,316,771 | 6,195,994,719 | . | 22,516,342 | 24,555,624,312 | . |

Residential Service, Electric Water Heating and Space Conditioning

/A





**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| ES | 2017 | 1 | 7,456 | 8,794,939 | $865,680 | 1,533 | 1,537,214 | . | 8,989 | 10,332,153 | . |
| | | 2 | 7,619 | 6,969,309 | $712,016 | 1,547 | 1,149,610 | . | 9,166 | 8,118,919 | . |
| | | 3 | 7,657 | 6,559,599 | $676,905 | 1,575 | 1,139,377 | . | 9,232 | 7,698,976 | . |
| | | 4 | 7,775 | 6,876,578 | $706,055 | 1,586 | 1,237,727 | . | 9,361 | 8,114,305 | . |
| | | 5 | 7,795 | 7,091,802 | $724,991 | 1,588 | 1,322,536 | . | 9,383 | 8,414,338 | . |
| | | 6 | 8,027 | 9,541,597 | $940,560 | 1,655 | 1,714,959 | . | 9,682 | 11,256,556 | . |
| | | 7 | 8,043 | 11,695,331 | $1,127,306 | 1,638 | 2,257,733 | . | 9,681 | 13,953,064 | . |
| | | 8 | 8,148 | 11,578,855 | $1,118,776 | 1,650 | 2,283,075 | . | 9,798 | 13,861,930 | . |
| | | 9 | 8,163 | 10,476,245 | $1,022,052 | 1,645 | 2,082,457 | . | 9,808 | 12,558,702 | . |
| | | 10 | 8,191 | 8,100,476 | $815,118 | 1,661 | 1,568,485 | . | 9,852 | 9,668,961 | . |
| | | 11 | 8,278 | 6,941,947 | $716,227 | 1,674 | 1,233,103 | . | 9,952 | 8,175,050 | . |
| | | 12 | 8,286 | 8,353,394 | $838,436 | 1,668 | 1,414,562 | . | 9,954 | 9,767,956 | . |
| Total Year | 2017 | | 95,438 | 102,980,072 | $10,264,122 | 19,420 | 18,940,838 | . | 114,858 | 121,920,910 | . |
| | 2018 | 1 | 8,318 | 11,423,062 | $1,110,676 | 1,691 | 1,918,038 | . | 10,009 | 13,341,100 | . |
| | | 2 | 8,312 | 8,968,644 | $903,209 | 1,706 | 1,485,268 | . | 10,018 | 10,453,912 | . |
| | | 3 | 8,519 | 7,442,617 | $772,171 | 1,717 | 1,245,856 | . | 10,236 | 8,688,473 | . |
| | | 4 | 8,563 | 7,522,898 | $779,657 | 1,735 | 1,310,681 | . | 10,298 | 8,833,579 | . |
| | | 5 | 8,628 | 7,628,448 | $789,692 | 1,739 | 1,329,957 | . | 10,367 | 8,958,405 | . |
| | | 6 | 8,692 | 11,775,604 | $1,153,926 | 1,752 | 2,238,794 | . | 10,444 | 14,014,398 | . |
| | | 7 | 8,760 | 13,502,829 | $1,305,387 | 1,760 | 2,532,099 | . | 10,520 | 16,034,928 | . |
| | | 8 | 8,809 | 12,437,084 | $1,236,453 | 1,776 | 2,377,392 | . | 10,585 | 14,814,476 | . |
| | | 9 | 8,809 | 13,674,250 | $1,384,981 | 1,779 | 2,698,154 | . | 10,588 | 16,372,404 | . |
| | | 10 | 8,709 | 9,494,600 | $1,005,992 | 1,781 | 1,908,923 | . | 10,490 | 11,403,523 | . |
| | | 11 | 9,016 | 7,582,230 | $835,441 | 1,813 | 1,315,178 | . | 10,829 | 8,897,408 | . |
| | | 12 | 8,933 | 9,453,045 | $1,007,412 | 1,807 | 1,669,701 | . | 10,740 | 11,122,746 | . |
| Total Year | 2018 | | 104,068 | 120,905,311 | $12,284,996 | 21,056 | 22,030,041 | . | 125,124 | 142,935,352 | . |
| Schedule ES | | | 199,506 | 223,885,383 | $22,549,119 | 40,476 | 40,970,879 | . | 239,982 | 264,856,262 | . |

Residential Service, Energy Star (Standard)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| ESA | 2017 | 1 | 3,039 | 4,202,277 | $374,253 | 425 | 666,059 | . | 3,464 | 4,868,336 | . |
| | | 2 | 3,064 | 3,242,196 | $302,287 | 447 | 505,179 | . | 3,511 | 3,747,375 | . |
| | | 3 | 3,095 | 2,873,734 | $274,151 | 444 | 470,157 | . | 3,539 | 3,343,891 | . |
| | | 4 | 3,101 | 2,872,634 | $274,301 | 443 | 443,164 | . | 3,544 | 3,315,798 | . |
| | | 5 | 3,089 | 2,399,678 | $237,622 | 442 | 408,813 | . | 3,531 | 2,808,491 | . |
| | | 6 | 3,139 | 2,888,389 | $278,239 | 439 | 493,802 | . | 3,578 | 3,382,191 | . |
| | | 7 | 3,110 | 3,378,204 | $336,637 | 457 | 612,431 | . | 3,567 | 3,990,635 | . |
| | | 8 | 3,143 | 3,304,000 | $330,572 | 466 | 621,705 | . | 3,609 | 3,925,705 | . |
| | | 9 | 3,132 | 3,126,051 | $314,635 | 465 | 553,711 | . | 3,597 | 3,679,762 | . |
| | | 10 | 3,123 | 2,536,804 | $261,238 | 466 | 431,411 | . | 3,589 | 2,968,215 | . |
| | | 11 | 3,129 | 2,416,457 | $238,042 | 466 | 419,849 | . | 3,595 | 2,836,306 | . |
| | | 12 | 3,138 | 3,420,325 | $315,794 | 465 | 592,971 | . | 3,603 | 4,013,296 | . |
| Total Year | 2017 | | 37,302 | 36,660,749 | $3,537,771 | 5,425 | 6,219,252 | . | 42,727 | 42,880,001 | . |
| | 2018 | 1 | 3,143 | 5,442,397 | $473,028 | 468 | 927,296 | . | 3,611 | 6,369,693 | . |
| | | 2 | 3,137 | 4,280,405 | $386,754 | 468 | 680,312 | . | 3,605 | 4,960,717 | . |
| | | 3 | 3,161 | 3,035,651 | $290,388 | 471 | 475,996 | . | 3,632 | 3,511,647 | . |
| | | 4 | 3,175 | 3,197,144 | $302,955 | 475 | 485,088 | . | 3,650 | 3,682,232 | . |
| | | 5 | 3,162 | 2,554,349 | $252,738 | 477 | 432,473 | . | 3,639 | 2,986,822 | . |
| | | 6 | 3,143 | 3,254,993 | $309,763 | 473 | 590,974 | . | 3,616 | 3,845,967 | . |
| | | 7 | 3,171 | 3,587,682 | $358,616 | 479 | 643,975 | . | 3,650 | 4,231,657 | . |
| | | 8 | 3,182 | 3,294,138 | $339,270 | 475 | 609,768 | . | 3,657 | 3,903,906 | . |
| | | 9 | 3,165 | 3,682,708 | $385,503 | 480 | 667,111 | . | 3,645 | 4,349,819 | . |
| | | 10 | 3,152 | 2,688,913 | $292,408 | 472 | 486,124 | . | 3,624 | 3,175,037 | . |
| | | 11 | 3,162 | 2,588,573 | $258,803 | 472 | 454,491 | . | 3,634 | 3,043,064 | . |
| | | 12 | 3,164 | 3,817,113 | $350,193 | 476 | 709,211 | . | 3,640 | 4,526,324 | . |
| Total Year | 2018 | | 37,917 | 41,424,066 | $4,000,418 | 5,686 | 7,162,819 | . | 43,603 | 48,586,885 | . |
| Schedule ESA | | | 75,219 | 78,084,815 | $7,538,189 | 11,111 | 13,382,071 | . | 86,330 | 91,466,886 | . |

Residential Service, Energy Star (All Electric)

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RST | 2017 | 1 | 1 | 475 | $60 | . | . | . | 1 | 475 | . |
| | | 2 | 1 | 348 | $49 | . | . | . | 1 | 348 | . |
| | | 3 | 1 | 316 | $46 | . | . | . | 1 | 316 | . |
| | | 4 | 1 | 190 | $25 | . | . | . | 1 | 190 | . |
| Total Year | 2017 | | 4 | 1,329 | $180 | . | . | . | 4 | 1,329 | . |
| Schedule RST | | | 4 | 1,329 | $180 | . | . | . | 4 | 1,329 | . |

Residential Service, TOU (Pilot Closed)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RET | 2018 | 5 | 1 | 1,633 | $156 | . | . | . | 1 | 1,633 | . |
| | | 6 | 1 | 2,139 | $201 | . | . | . | 1 | 2,139 | . |
| Total Year | 2018 | | 2 | 3,772 | $357 | . | . | . | 2 | 3,772 | . |
| Schedule RET | | | 2 | 3,772 | $357 | . | . | . | 2 | 3,772 | . |

Residential Service TOU (Pilot Closed)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RT | 2017 | 1 | 1,950 | 4,934,531 | $382,943 | 301 | 657,947 | . | 2,251 | 5,592,478 | . |
| | | 2 | 1,936 | 3,772,743 | $308,441 | 299 | 501,597 | . | 2,235 | 4,274,340 | . |
| | | 3 | 1,948 | 3,512,139 | $293,005 | 298 | 484,195 | . | 2,246 | 3,996,334 | . |
| | | 4 | 1,943 | 3,312,599 | $280,581 | 298 | 468,440 | . | 2,241 | 3,781,039 | . |
| | | 5 | 1,952 | 3,060,823 | $248,651 | 293 | 455,505 | . | 2,245 | 3,516,328 | . |
| | | 6 | 1,953 | 3,800,519 | $412,290 | 306 | 594,614 | . | 2,259 | 4,395,133 | . |
| | | 7 | 1,942 | 4,680,626 | $352,752 | 296 | 698,962 | . | 2,238 | 5,379,588 | . |
| | | 8 | 1,948 | 4,484,091 | $424,160 | 298 | 721,280 | . | 2,246 | 5,205,371 | . |
| | | 9 | 1,935 | 3,955,961 | $390,524 | 295 | 637,776 | . | 2,230 | 4,593,737 | . |
| | | 10 | 1,936 | 3,143,612 | $284,390 | 297 | 489,807 | . | 2,233 | 3,633,419 | . |
| | | 11 | 1,941 | 3,186,914 | $266,667 | 299 | 433,062 | . | 2,240 | 3,619,976 | . |
| | | 12 | 1,940 | 4,135,255 | $331,054 | 301 | 549,464 | . | 2,241 | 4,684,719 | . |
| Total Year | 2017 | | 23,324 | 45,979,813 | $3,975,458 | 3,581 | 6,692,649 | . | 26,905 | 52,672,462 | . |
| | 2018 | 1 | 1,949 | 6,070,252 | $457,023 | 300 | 809,182 | . | 2,249 | 6,879,434 | . |
| | | 2 | 1,949 | 4,574,538 | $367,620 | 298 | 617,361 | . | 2,247 | 5,191,899 | . |
| | | 3 | 1,957 | 3,548,134 | $293,528 | 304 | 460,884 | . | 2,261 | 4,009,018 | . |
| | | 4 | 1,956 | 3,464,175 | $291,336 | 300 | 449,960 | . | 2,256 | 3,914,135 | . |
| | | 5 | 1,950 | 3,091,373 | $264,322 | 305 | 450,213 | . | 2,255 | 3,541,586 | . |
| | | 6 | 1,947 | 4,297,061 | $360,640 | 301 | 640,950 | . | 2,248 | 4,938,011 | . |
| | | 7 | 1,962 | 4,707,248 | $442,896 | 303 | 709,210 | . | 2,265 | 5,416,458 | . |
| | | 8 | 1,971 | 4,437,768 | $424,465 | 302 | 677,063 | . | 2,273 | 5,114,831 | . |
| | | 9 | 1,955 | 4,671,220 | $436,003 | 307 | 744,366 | . | 2,262 | 5,415,586 | . |
| | | 10 | 1,955 | 3,383,678 | $308,787 | 302 | 525,533 | . | 2,257 | 3,909,211 | . |
| | | 11 | 1,957 | 3,221,494 | $274,708 | 304 | 450,354 | . | 2,261 | 3,671,848 | . |
| | | 12 | 1,958 | 4,469,412 | $358,563 | 302 | 613,517 | . | 2,260 | 5,082,929 | . |
| Total Year | 2018 | | 23,466 | 49,936,353 | $4,279,891 | 3,628 | 7,148,593 | . | 27,094 | 57,084,946 | . |
| Schedule RT | | | 46,790 | 95,916,166 | $8,255,349 | 7,209 | 13,841,242 | . | 53,999 | 109,757,408 | . |

Residential Service, Time-of-Use

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**Sep 30 2019**

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| WC | 2017 | 1 | 7,679 | 1,521,501 | $80,156 | 2,505 | 517,531 | . | 10,184 | 2,039,032 | . |
| | | 2 | 7,751 | 1,328,869 | $72,129 | 2,486 | 438,161 | . | 10,237 | 1,767,030 | . |
| | | 3 | 7,630 | 1,299,691 | $70,617 | 2,477 | 441,173 | . | 10,107 | 1,740,864 | . |
| | | 4 | 7,645 | 1,316,555 | $71,390 | 2,467 | 434,129 | . | 10,112 | 1,750,684 | . |
| | | 5 | 7,658 | 1,117,444 | $62,580 | 2,453 | 359,278 | . | 10,111 | 1,476,722 | . |
| | | 6 | 7,669 | 1,091,322 | $61,411 | 2,360 | 325,597 | . | 10,029 | 1,416,919 | . |
| | | 7 | 7,545 | 980,416 | $56,296 | 2,417 | 303,745 | . | 9,962 | 1,284,161 | . |
| | | 8 | 7,638 | 882,999 | $52,104 | 2,482 | 280,704 | . | 10,120 | 1,163,703 | . |
| | | 9 | 7,482 | 980,868 | $56,098 | 2,364 | 302,628 | . | 9,846 | 1,283,496 | . |
| | | 10 | 7,528 | 926,957 | $53,652 | 2,379 | 288,519 | . | 9,907 | 1,215,476 | . |
| | | 11 | 7,482 | 1,080,556 | $60,325 | 2,376 | 353,156 | . | 9,858 | 1,433,712 | . |
| | | 12 | 7,474 | 1,302,592 | $70,102 | 2,363 | 424,607 | . | 9,837 | 1,727,199 | . |
| Total Year | 2017 | | 91,181 | 13,829,770 | $766,860 | 29,129 | 4,469,228 | . | 120,310 | 18,298,998 | . |
| | 2018 | 1 | 7,424 | 1,563,043 | $82,357 | 2,317 | 515,772 | . | 9,741 | 2,078,815 | . |
| | | 2 | 7,413 | 1,407,201 | $76,364 | 2,360 | 465,753 | . | 9,773 | 1,872,954 | . |
| | | 3 | 7,347 | 1,234,755 | $68,446 | 2,252 | 390,802 | . | 9,599 | 1,625,557 | . |
| | | 4 | 7,305 | 1,302,213 | $71,424 | 2,368 | 428,975 | . | 9,673 | 1,731,188 | . |
| | | 5 | 7,356 | 1,149,607 | $64,578 | 2,293 | 356,116 | . | 9,649 | 1,505,723 | . |
| | | 6 | 7,227 | 1,029,578 | $58,903 | 2,216 | 310,863 | . | 9,443 | 1,340,441 | . |
| | | 7 | 7,315 | 908,614 | $53,535 | 2,270 | 276,098 | . | 9,585 | 1,184,712 | . |
| | | 8 | 7,228 | 849,561 | $52,374 | 2,322 | 269,708 | . | 9,550 | 1,119,269 | . |
| | | 9 | 6,910 | 889,428 | $56,446 | 2,224 | 278,729 | . | 9,134 | 1,168,157 | . |
| | | 10 | 6,022 | 456,433 | $29,811 | 2,188 | 257,018 | . | 8,210 | 713,451 | . |
| | | 11 | 4,131 | 168,845 | $10,670 | 2,239 | 337,711 | . | 6,370 | 506,556 | . |
| | | 12 | 1,824 | 44,673 | $2,695 | 2,228 | 414,989 | . | 4,052 | 459,662 | . |
| Total Year | 2018 | | 77,502 | 11,003,951 | $627,605 | 27,277 | 4,302,534 | . | 104,779 | 15,306,485 | . |
| Schedule WC | | | 168,683 | 24,833,721 | $1,394,465 | 56,406 | 8,771,762 | . | 225,089 | 33,605,483 | . |

Residential Service, Water Heating, Controlled/Submetered

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RB | 2017 | 1 | . | . | . | 5,698 | 5,938,820 | . | 5,698 | 5,938,820 | . |
| | | 2 | . | . | . | 5,718 | 4,596,576 | . | 5,718 | 4,596,576 | . |
| | | 3 | . | . | . | 5,713 | 4,485,719 | . | 5,713 | 4,485,719 | . |
| | | 4 | . | . | . | 5,720 | 4,758,626 | . | 5,720 | 4,758,626 | . |
| | | 5 | . | . | . | 5,716 | 5,225,331 | . | 5,716 | 5,225,331 | . |
| | | 6 | . | . | . | 5,720 | 7,152,591 | . | 5,720 | 7,152,591 | . |
| | | 7 | . | . | . | 5,725 | 9,152,016 | . | 5,725 | 9,152,016 | . |
| | | 8 | . | . | . | 5,700 | 10,158,870 | . | 5,700 | 10,158,870 | . |
| | | 9 | . | . | . | 5,714 | 6,654,540 | . | 5,714 | 6,654,540 | . |
| | | 10 | . | . | . | 5,682 | 5,693,531 | . | 5,682 | 5,693,531 | . |
| | | 11 | . | . | . | 5,704 | 4,593,079 | . | 5,704 | 4,593,079 | . |
| | | 12 | . | . | . | 5,662 | 5,222,982 | . | 5,662 | 5,222,982 | . |
| Total Year | 2017 | | . | . | . | 68,472 | 73,632,681 | . | 68,472 | 73,632,681 | . |
| | 2018 | 1 | . | . | . | 5,672 | 6,886,945 | . | 5,672 | 6,886,945 | . |
| | | 2 | . | . | . | 5,683 | 5,364,966 | . | 5,683 | 5,364,966 | . |
| | | 3 | . | . | . | 5,673 | 4,324,546 | . | 5,673 | 4,324,546 | . |
| | | 4 | . | . | . | 5,673 | 4,429,131 | . | 5,673 | 4,429,131 | . |
| | | 5 | . | . | . | 5,680 | 5,039,573 | . | 5,680 | 5,039,573 | . |
| | | 6 | . | . | . | 5,680 | 7,953,147 | . | 5,680 | 7,953,147 | . |
| | | 7 | . | . | . | 5,664 | 9,253,883 | . | 5,664 | 9,253,883 | . |
| | | 8 | . | . | . | 5,689 | 8,547,740 | . | 5,689 | 8,547,740 | . |
| | | 9 | . | . | . | 5,644 | 9,261,216 | . | 5,644 | 9,261,216 | . |
| | | 10 | . | . | . | 5,624 | 6,331,493 | . | 5,624 | 6,331,493 | . |
| | | 11 | . | . | . | 5,651 | 4,512,775 | . | 5,651 | 4,512,775 | . |
| | | 12 | . | . | . | 5,641 | 5,591,163 | . | 5,641 | 5,591,163 | . |
| Total Year | 2018 | | . | . | . | 67,974 | 77,496,578 | . | 67,974 | 77,496,578 | . |
| Schedule RB | | | . | . | . | 136,446 | 151,129,259 | . | 136,446 | 151,129,259 | . |

Residential Service

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**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| Schedule | Year | Month | North Carolina Bills | North Carolina kWh | North Carolina Rate Revenue | South Carolina Bills | South Carolina kWh | South Carolina Rate Revenue | System Bills | System kWh | System Rate Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SGS | 2017 | 1 | 231,785 | 370,584,566 | $41,609,996 | 79,720 | 106,507,402 | . | 311,505 | 477,091,968 | . |
| | | 2 | 232,498 | 315,788,510 | $36,953,030 | 79,734 | 89,599,996 | . | 312,232 | 405,388,506 | . |
| | | 3 | 231,636 | 306,460,472 | $36,095,975 | 79,612 | 87,478,682 | . | 311,248 | 393,939,154 | . |
| | | 4 | 232,213 | 320,899,086 | $37,095,330 | 79,894 | 93,755,782 | . | 312,107 | 414,654,868 | . |
| | | 5 | 232,884 | 315,124,759 | $36,321,586 | 79,936 | 96,434,619 | . | 312,820 | 411,559,378 | . |
| | | 6 | 233,847 | 377,746,642 | $41,520,343 | 79,574 | 113,002,311 | . | 313,421 | 490,748,953 | . |
| | | 7 | 232,833 | 434,244,786 | $46,093,420 | 80,545 | 132,615,085 | . | 313,378 | 566,859,871 | . |
| | | 8 | 234,645 | 433,909,901 | $46,206,674 | 80,629 | 133,173,506 | . | 315,274 | 567,083,407 | . |
| | | 9 | 233,680 | 404,586,880 | $43,660,963 | 80,337 | 123,983,746 | . | 314,017 | 528,570,626 | . |
| | | 10 | 234,180 | 337,336,889 | $38,184,773 | 80,557 | 102,211,058 | . | 314,737 | 439,547,947 | . |
| | | 11 | 233,753 | 304,189,667 | $35,521,444 | 80,381 | 89,037,566 | . | 314,134 | 393,227,233 | . |
| | | 12 | 234,304 | 335,408,873 | $38,538,029 | 80,559 | 95,389,037 | . | 314,863 | 430,797,910 | . |
| Total Year | 2017 | | 2,798,258 | 4,256,281,031 | $477,801,564 | 961,478 | 1,263,188,790 | . | 3,759,736 | 5,519,469,821 | . |
| | 2018 | 1 | 234,666 | 438,882,658 | $47,487,847 | 80,523 | 124,937,900 | . | 315,189 | 563,820,558 | . |
| | | 2 | 234,375 | 373,462,554 | $42,441,335 | 80,828 | 106,809,345 | . | 315,203 | 480,271,899 | . |
| | | 3 | 234,265 | 310,250,755 | $36,802,643 | 80,709 | 88,314,256 | . | 314,974 | 398,565,011 | . |
| | | 4 | 235,120 | 320,961,849 | $37,646,730 | 80,775 | 92,400,110 | . | 315,895 | 413,361,959 | . |
| | | 5 | 234,514 | 319,978,218 | $37,126,754 | 80,593 | 95,555,319 | . | 315,107 | 415,533,537 | . |
| | | 6 | 234,882 | 420,153,845 | $45,319,048 | 80,785 | 128,673,843 | . | 315,667 | 548,827,688 | . |
| | | 7 | 235,869 | 452,672,000 | $48,124,617 | 80,985 | 138,751,257 | . | 316,854 | 591,423,257 | . |
| | | 8 | 235,625 | 432,276,201 | $45,764,080 | 80,997 | 133,816,357 | . | 316,622 | 566,092,558 | . |
| | | 9 | 235,773 | 469,058,492 | $47,669,906 | 81,004 | 144,632,354 | . | 316,777 | 613,690,846 | . |
| | | 10 | 235,219 | 352,506,483 | $38,551,981 | 80,690 | 110,089,717 | . | 315,909 | 462,596,200 | . |
| | | 11 | 235,813 | 305,258,664 | $34,855,273 | 81,369 | 89,792,732 | . | 317,182 | 395,051,396 | . |
| | | 12 | 235,587 | 355,709,818 | $39,464,229 | 80,677 | 103,355,607 | . | 316,264 | 459,065,425 | . |
| Total Year | 2018 | | 2,821,708 | 4,551,171,537 | $501,254,444 | 969,935 | 1,357,128,797 | . | 3,791,643 | 5,908,300,334 | . |
| Schedule SGS | | | 5,619,966 | 8,807,452,568 | $979,056,008 | 1,931,413 | 2,620,317,587 | . | 7,551,379 | 11,427,770,155 | . |

Small General Service

| Schedule | Year | Month | North Carolina Bills | North Carolina kWh | North Carolina Rate Revenue | South Carolina Bills | South Carolina kWh | South Carolina Rate Revenue | System Bills | System kWh | System Rate Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OPTG | 2017 | 1 | 1 | 2,747 | $287 | 4,831 | 234,833,246 | . | 4,832 | 234,835,993 | . |
| | | 2 | 1 | 3,313 | $310 | 4,824 | 220,168,109 | . | 4,825 | 220,171,422 | . |
| | | 3 | 1 | 2,680 | $284 | 4,855 | 213,773,538 | . | 4,856 | 213,776,218 | . |
| | | 4 | 2 | 3,372 | $372 | 4,873 | 243,018,767 | . | 4,875 | 243,022,139 | . |
| | | 5 | 2 | 5,688 | $579 | 4,805 | 221,485,830 | . | 4,807 | 221,491,518 | . |
| | | 6 | 2 | 7,824 | $782 | 4,835 | 260,918,920 | . | 4,837 | 260,926,744 | . |
| | | 7 | 2 | 8,839 | $915 | 4,808 | 272,325,143 | . | 4,810 | 272,333,982 | . |
| | | 8 | 2 | 8,434 | ($1,175) | 4,820 | 275,561,796 | . | 4,822 | 275,570,230 | . |
| | | 9 | 2 | 8,284 | $888 | 4,868 | 271,225,463 | . | 4,870 | 271,233,747 | . |
| | | 10 | 4 | 5,979 | $1,362 | 4,860 | 235,734,020 | . | 4,864 | 235,739,999 | . |
| | | 11 | 3 | 40,253 | $2,825 | 4,890 | 225,741,430 | . | 4,893 | 225,781,683 | . |
| | | 12 | 1 | 1,162 | $332 | 4,911 | 223,993,828 | . | 4,912 | 223,994,990 | . |
| Total Year | 2017 | | 23 | 98,575 | $7,761 | 58,180 | 2,898,780,090 | . | 58,203 | 2,898,878,665 | . |
| | 2018 | 1 | 1 | 1,840 | $484 | 4,915 | 243,953,253 | . | 4,916 | 243,955,093 | . |
| | | 2 | 1 | 966 | $215 | 4,924 | 228,335,687 | . | 4,925 | 228,336,653 | . |
| | | 3 | . | - | ($58) | 4,967 | 209,486,960 | . | 4,967 | 209,486,960 | . |
| | | 4 | - | (2) | $0 | 4,953 | 220,811,652 | . | 4,953 | 220,811,650 | . |
| | | 5 | . | . | . | 4,938 | 227,086,736 | . | 4,938 | 227,086,736 | . |
| | | 6 | 1 | 102,167 | $6,648 | 4,928 | 265,659,390 | . | 4,929 | 265,761,557 | . |
| | | 7 | . | . | . | 5,047 | 283,925,993 | . | 5,047 | 283,925,993 | . |
| | | 8 | . | (102,167) | ($6,648) | 5,006 | 270,730,456 | . | 5,006 | 270,628,289 | . |
| | | 9 | . | . | . | 5,001 | 317,384,979 | . | 5,001 | 317,384,979 | . |
| | | 10 | . | . | . | 4,965 | 243,932,314 | . | 4,965 | 243,932,314 | . |
| | | 11 | . | . | . | 5,041 | 230,426,036 | . | 5,041 | 230,426,036 | . |
| | | 12 | . | . | . | 5,034 | 231,417,810 | . | 5,034 | 231,417,810 | . |
| Total Year | 2018 | | 3 | 2,804 | $641 | 59,719 | 2,973,151,266 | . | 59,722 | 2,973,154,070 | . |
| Schedule OPTG | | | 26 | 101,379 | $8,402 | 117,899 | 5,871,931,356 | . | 117,925 | 5,872,032,735 | . |

Optional Power Service, Time-of-Use (General Svc )

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| G | 2017 | 1 | 94 | - | $5,670 | 13 | - | . | 107 | - | . |
| | | 2 | 95 | - | $5,692 | 13 | - | . | 108 | - | . |
| | | 3 | 94 | (27,978) | $1,679 | 13 | - | . | 107 | (27,978) | . |
| | | 4 | 94 | - | $5,588 | 14 | - | . | 108 | - | . |
| | | 5 | 91 | - | $5,559 | 13 | - | . | 104 | - | . |
| | | 6 | 93 | - | $5,641 | 13 | - | . | 106 | - | . |
| | | 7 | 95 | - | $5,590 | 13 | - | . | 108 | - | . |
| | | 8 | 92 | - | $5,655 | 13 | - | . | 105 | - | . |
| | | 9 | 89 | - | $5,497 | 13 | - | . | 102 | - | . |
| | | 10 | 93 | - | $5,632 | 13 | - | . | 106 | - | . |
| | | 11 | 88 | - | $5,475 | 13 | - | . | 101 | - | . |
| | | 12 | 92 | - | $5,587 | 14 | - | . | 106 | - | . |
| Total Year | 2017 | | 1,110 | (27,978) | $63,262 | 158 | - | . | 1,268 | (27,978) | . |
| | 2018 | 1 | 89 | - | $5,430 | 13 | - | . | 102 | - | . |
| | | 2 | 96 | - | $5,758 | 13 | - | . | 109 | - | . |
| | | 3 | 90 | - | $5,520 | 13 | - | . | 103 | - | . |
| | | 4 | 92 | - | $5,610 | 13 | - | . | 105 | - | . |
| | | 5 | 89 | - | $5,497 | 13 | - | . | 102 | - | . |
| | | 6 | 91 | - | $5,565 | 13 | - | . | 104 | - | . |
| | | 7 | 90 | - | $5,497 | 13 | - | . | 103 | - | . |
| | | 8 | 93 | - | $5,658 | 14 | - | . | 107 | - | . |
| | | 9 | 92 | - | $5,587 | 13 | - | . | 105 | - | . |
| | | 10 | 92 | - | $5,535 | 13 | - | . | 105 | - | . |
| | | 11 | 87 | - | $5,367 | 13 | - | . | 100 | - | . |
| | | 12 | 88 | - | $5,485 | 12 | - | . | 100 | - | . |
| Total Year | 2018 | | 1,089 | - | $66,506 | 156 | - | . | 1,245 | - | . |
| Schedule G | | | 2,199 | (27,978) | $129,768 | 314 | - | . | 2,513 | (27,978) | . |

General Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| BC | 2017 | 1 | 6,662 | 1,685,072 | $253,688 | 2,295 | 566,528 | . | 8,957 | 2,251,600 | . |
| | | 2 | 6,878 | 1,361,999 | $233,480 | 2,267 | 392,430 | . | 9,145 | 1,754,429 | . |
| | | 3 | 7,048 | 973,413 | $210,788 | 2,341 | 353,622 | . | 9,389 | 1,327,035 | . |
| | | 4 | 7,100 | 1,050,166 | $219,166 | 2,364 | 338,844 | . | 9,464 | 1,389,010 | . |
| | | 5 | 7,213 | 946,116 | $213,085 | 2,431 | 251,569 | . | 9,644 | 1,197,685 | . |
| | | 6 | 7,464 | 829,566 | $211,080 | 2,492 | 346,543 | . | 9,956 | 1,176,109 | . |
| | | 7 | 7,274 | 989,259 | $218,841 | 2,462 | 369,731 | . | 9,736 | 1,358,990 | . |
| | | 8 | 7,495 | 1,110,072 | $231,026 | 2,419 | 371,781 | . | 9,914 | 1,481,853 | . |
| | | 9 | 7,417 | 1,115,653 | $229,141 | 2,379 | 345,708 | . | 9,796 | 1,461,361 | . |
| | | 10 | 7,480 | 996,498 | $217,997 | 2,473 | 269,738 | . | 9,953 | 1,266,236 | . |
| | | 11 | 7,466 | 1,050,409 | $223,262 | 2,410 | 331,832 | . | 9,876 | 1,382,241 | . |
| | | 12 | 7,459 | 1,642,666 | $261,376 | 2,443 | 450,740 | . | 9,902 | 2,093,406 | . |
| Total Year | 2017 | | 86,956 | 13,750,889 | $2,722,931 | 28,776 | 4,389,066 | . | 115,732 | 18,139,955 | . |
| | 2018 | 1 | 7,261 | 2,142,595 | $290,696 | 2,478 | 609,116 | . | 9,739 | 2,751,711 | . |
| | | 2 | 7,247 | 1,785,090 | $268,680 | 2,400 | 511,032 | . | 9,647 | 2,296,122 | . |
| | | 3 | 7,371 | 1,326,355 | $240,930 | 2,389 | 323,493 | . | 9,760 | 1,649,848 | . |
| | | 4 | 7,547 | 1,262,996 | $239,660 | 2,540 | 357,956 | . | 10,087 | 1,620,952 | . |
| | | 5 | 7,788 | 977,320 | $225,110 | 2,727 | 279,179 | . | 10,515 | 1,256,499 | . |
| | | 6 | 7,787 | 1,233,880 | $243,406 | 2,688 | 342,111 | . | 10,475 | 1,575,991 | . |
| | | 7 | 7,922 | 1,195,841 | $244,228 | 2,731 | 381,567 | . | 10,653 | 1,577,408 | . |
| | | 8 | 8,020 | 1,225,525 | $245,935 | 2,747 | 343,358 | . | 10,767 | 1,568,883 | . |
| | | 9 | 7,938 | 1,370,072 | $245,306 | 2,704 | 366,877 | . | 10,642 | 1,736,949 | . |
| | | 10 | 7,875 | 967,616 | $205,019 | 2,697 | 301,640 | . | 10,572 | 1,269,256 | . |
| | | 11 | 7,919 | 1,084,440 | $207,954 | 2,702 | 311,210 | . | 10,621 | 1,395,650 | . |
| | | 12 | 7,526 | 1,587,940 | $234,318 | 2,700 | 469,158 | . | 10,226 | 2,057,098 | . |
| Total Year | 2018 | | 92,201 | 16,159,670 | $2,891,242 | 31,503 | 4,596,697 | . | 123,704 | 20,756,367 | . |
| Schedule BC | | | 179,157 | 29,910,559 | $5,614,173 | 60,279 | 8,985,763 | . | 239,436 | 38,896,322 | . |

General Service, Building Construction Service

/A



**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| LGS | 2017 | 1 | 8,927 | 387,826,983 | $30,239,699 | 2,426 | 86,054,030 | . | 11,353 | 473,881,013 | . |
| | | 2 | 8,933 | 352,564,156 | $28,113,972 | 2,417 | 79,964,982 | . | 11,350 | 432,529,138 | . |
| | | 3 | 8,978 | 350,593,200 | $28,078,071 | 2,421 | 81,354,690 | . | 11,399 | 431,947,890 | . |
| | | 4 | 8,969 | 383,152,862 | $30,276,268 | 2,425 | 88,616,589 | . | 11,394 | 471,769,451 | . |
| | | 5 | 8,899 | 367,330,541 | $29,078,994 | 2,420 | 84,021,258 | . | 11,319 | 451,351,799 | . |
| | | 6 | 8,960 | 433,492,935 | $33,295,710 | 2,448 | 99,637,558 | . | 11,408 | 533,130,493 | . |
| | | 7 | 8,962 | 458,828,146 | $34,772,431 | 2,428 | 104,067,273 | . | 11,390 | 562,895,419 | . |
| | | 8 | 9,015 | 461,552,949 | $35,107,099 | 2,455 | 108,892,231 | . | 11,470 | 570,445,180 | . |
| | | 9 | 9,036 | 465,375,739 | $35,341,785 | 2,443 | 108,272,763 | . | 11,479 | 573,648,502 | . |
| | | 10 | 8,938 | 399,065,934 | $31,332,318 | 2,408 | 92,098,713 | . | 11,346 | 491,164,647 | . |
| | | 11 | 8,886 | 363,467,781 | $28,944,508 | 2,416 | 84,699,136 | . | 11,302 | 448,166,917 | . |
| | | 12 | 9,020 | 374,260,730 | $29,382,576 | 2,454 | 84,743,570 | . | 11,474 | 459,004,300 | . |
| Total Year | 2017 | | 107,523 | 4,797,511,956 | $373,963,430 | 29,161 | 1,102,422,793 | . | 136,684 | 5,899,934,749 | . |
| | 2018 | 1 | 8,945 | 434,705,482 | $33,543,408 | 2,432 | 97,346,993 | . | 11,377 | 532,052,475 | . |
| | | 2 | 9,029 | 400,747,088 | $31,681,966 | 2,447 | 89,909,145 | . | 11,476 | 490,656,233 | . |
| | | 3 | 9,104 | 359,918,725 | $29,060,988 | 2,458 | 79,602,066 | . | 11,562 | 439,520,791 | . |
| | | 4 | 9,119 | 375,638,458 | $29,933,919 | 2,455 | 82,051,835 | . | 11,574 | 457,690,293 | . |
| | | 5 | 9,133 | 389,085,689 | $31,003,588 | 2,458 | 86,893,939 | . | 11,591 | 475,979,628 | . |
| | | 6 | 9,212 | 484,723,239 | $37,010,294 | 2,481 | 108,118,545 | . | 11,693 | 592,841,784 | . |
| | | 7 | 9,232 | 489,571,320 | $37,293,882 | 2,475 | 107,959,723 | . | 11,707 | 597,531,043 | . |
| | | 8 | 9,210 | 481,364,748 | $36,364,048 | 2,493 | 107,364,224 | . | 11,703 | 588,728,972 | . |
| | | 9 | 9,336 | 542,303,466 | $40,303,372 | 2,500 | 123,570,783 | . | 11,836 | 665,874,249 | . |
| | | 10 | 9,196 | 413,769,372 | $32,340,929 | 2,468 | 95,062,606 | . | 11,664 | 508,831,978 | . |
| | | 11 | 9,230 | 370,484,204 | $29,574,496 | 2,494 | 83,212,881 | . | 11,724 | 453,697,085 | . |
| | | 12 | 9,271 | 388,254,879 | $30,588,361 | 2,506 | 88,119,756 | . | 11,777 | 476,374,635 | . |
| Total Year | 2018 | | 110,017 | 5,130,566,670 | $398,699,250 | 29,667 | 1,149,212,496 | . | 139,684 | 6,279,779,166 | . |
| Schedule LGS | | | 217,540 | 9,928,078,626 | $772,662,680 | 58,828 | 2,251,635,289 | . | 276,368 | 12,179,713,915 | . |

Large General Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OL | 2017 | 1 | 235,396 | 25,717,457 | $5,277,032 | 99,922 | 9,702,716 | . | 335,318 | 35,420,173 | . |
| | | 2 | 236,566 | 25,721,515 | $5,303,089 | 100,270 | 9,716,984 | . | 336,836 | 35,438,499 | . |
| | | 3 | 235,654 | 25,588,413 | $5,320,752 | 100,181 | 9,704,081 | . | 335,835 | 35,292,494 | . |
| | | 4 | 235,474 | 25,488,193 | $5,322,988 | 100,264 | 9,675,383 | . | 335,738 | 35,163,576 | . |
| | | 5 | 236,959 | 25,356,999 | $5,287,209 | 100,368 | 9,658,588 | . | 337,327 | 35,015,587 | . |
| | | 6 | 237,712 | 25,648,314 | $5,379,812 | 100,092 | 9,620,267 | . | 337,804 | 35,268,581 | . |
| | | 7 | 235,849 | 25,393,349 | $5,351,611 | 100,569 | 9,666,836 | . | 336,418 | 35,060,185 | . |
| | | 8 | 238,089 | 25,437,028 | $5,372,699 | 100,002 | 9,613,956 | . | 338,091 | 35,050,984 | . |
| | | 9 | 235,857 | 25,262,077 | $5,359,900 | 100,547 | 9,653,893 | . | 336,404 | 34,915,970 | . |
| | | 10 | 236,613 | 25,204,435 | $5,376,371 | 100,094 | 9,574,687 | . | 336,707 | 34,779,122 | . |
| | | 11 | 235,178 | 25,007,808 | $5,364,532 | 99,925 | 9,567,890 | . | 335,103 | 34,575,698 | . |
| | | 12 | 236,359 | 24,972,866 | $5,358,457 | 99,962 | 9,576,727 | . | 336,321 | 34,549,593 | . |
| Total Year | 2017 | | 2,835,706 | 304,798,454 | $64,074,451 | 1,202,196 | 115,732,008 | . | 4,037,902 | 420,530,462 | . |
| | 2018 | 1 | 236,246 | 24,887,554 | $5,384,190 | 100,091 | 9,558,120 | . | 336,337 | 34,445,674 | . |
| | | 2 | 235,568 | 24,704,707 | $5,395,096 | 100,324 | 9,526,052 | . | 335,892 | 34,230,759 | . |
| | | 3 | 236,131 | 24,423,467 | $5,375,084 | 100,622 | 9,500,536 | . | 336,753 | 33,924,003 | . |
| | | 4 | 236,175 | 24,056,901 | $5,396,931 | 100,529 | 9,471,298 | . | 336,704 | 33,528,199 | . |
| | | 5 | 236,490 | 23,462,537 | $5,410,685 | 100,332 | 9,458,178 | . | 336,822 | 32,920,715 | . |
| | | 6 | 236,380 | 23,222,493 | $5,450,649 | 100,717 | 9,407,736 | . | 337,097 | 32,630,229 | . |
| | | 7 | 237,289 | 22,790,397 | $5,492,174 | 100,928 | 9,452,341 | . | 338,217 | 32,242,738 | . |
| | | 8 | 239,644 | 22,998,509 | $5,529,988 | 101,011 | 9,369,000 | . | 340,655 | 32,367,509 | . |
| | | 9 | 272,848 | 33,095,328 | $7,084,984 | 100,673 | 9,380,675 | . | 373,521 | 42,476,003 | . |
| | | 10 | 273,712 | 33,012,895 | $7,121,114 | 100,493 | 9,329,528 | . | 374,205 | 42,342,423 | . |
| | | 11 | 274,045 | 32,929,976 | $7,122,543 | 101,180 | 9,361,902 | . | 375,225 | 42,291,878 | . |
| | | 12 | 273,738 | 32,796,364 | $7,134,649 | 100,671 | 9,308,096 | . | 374,409 | 42,104,460 | . |
| Total Year | 2018 | | 2,988,266 | 322,381,128 | $71,898,088 | 1,207,571 | 113,123,462 | . | 4,195,837 | 435,504,590 | . |
| Schedule OL | | | 5,823,972 | 627,179,582 | $135,972,538 | 2,409,767 | 228,855,470 | . | 8,233,739 | 856,035,052 | . |

General Service, Outdoor Lighting Service

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| FL | 2017 | 1 | 42,982 | 13,689,648 | $1,974,701 | 18,648 | 5,553,980 | . | 61,630 | 19,243,628 | . |
| | | 2 | 43,003 | 13,661,922 | $1,956,504 | 18,665 | 5,553,313 | . | 61,668 | 19,215,235 | . |
| | | 3 | 42,986 | 13,639,341 | $1,956,645 | 18,717 | 5,573,095 | . | 61,703 | 19,212,436 | . |
| | | 4 | 43,037 | 13,696,145 | $1,963,582 | 18,723 | 5,576,776 | . | 61,760 | 19,272,921 | . |
| | | 5 | 42,989 | 13,666,951 | $1,958,899 | 18,698 | 5,561,937 | . | 61,687 | 19,228,888 | . |
| | | 6 | 43,018 | 13,647,810 | $1,958,736 | 18,650 | 5,558,706 | . | 61,668 | 19,206,516 | . |
| | | 7 | 42,942 | 13,659,325 | $1,959,536 | 18,698 | 5,559,039 | . | 61,640 | 19,218,364 | . |
| | | 8 | 42,978 | 13,657,029 | $1,958,144 | 18,658 | 5,548,643 | . | 61,636 | 19,205,672 | . |
| | | 9 | 42,896 | 13,651,856 | $1,957,368 | 18,666 | 5,545,153 | . | 61,562 | 19,197,009 | . |
| | | 10 | 42,843 | 13,618,627 | $1,950,806 | 18,573 | 5,516,174 | . | 61,416 | 19,134,801 | . |
| | | 11 | 42,822 | 13,609,380 | $1,949,525 | 18,645 | 5,545,925 | . | 61,467 | 19,155,305 | . |
| | | 12 | 42,894 | 13,631,617 | $1,952,706 | 18,666 | 5,551,969 | . | 61,560 | 19,183,586 | . |
| Total Year | 2017 | | 515,390 | 163,829,651 | $23,497,152 | 224,007 | 66,644,710 | . | 739,397 | 230,474,361 | . |
| | 2018 | 1 | 42,861 | 13,599,783 | $1,949,245 | 18,646 | 5,548,512 | . | 61,507 | 19,148,295 | . |
| | | 2 | 42,718 | 13,567,390 | $1,852,217 | 18,639 | 5,550,448 | . | 61,357 | 19,117,838 | . |
| | | 3 | 42,787 | 13,553,414 | $1,928,306 | 18,748 | 5,554,548 | . | 61,535 | 19,107,962 | . |
| | | 4 | 42,823 | 13,543,890 | $1,939,474 | 18,688 | 5,556,677 | . | 61,511 | 19,100,567 | . |
| | | 5 | 42,713 | 13,506,288 | $1,893,595 | 18,651 | 5,538,936 | . | 61,364 | 19,045,224 | . |
| | | 6 | 42,796 | 13,480,728 | $1,938,180 | 18,681 | 5,543,481 | . | 61,477 | 19,024,209 | . |
| | | 7 | 42,809 | 13,442,626 | $1,935,266 | 18,709 | 5,528,369 | . | 61,518 | 18,970,995 | . |
| | | 8 | 39,113 | 12,411,396 | $1,788,284 | 18,714 | 5,510,411 | . | 57,827 | 17,921,807 | . |
| | | 9 | 1,144 | 432,194 | $61,191 | 18,690 | 5,527,815 | . | 19,834 | 5,960,009 | . |
| | | 10 | 27 | 461 | $309 | 18,580 | 5,497,688 | . | 18,607 | 5,498,149 | . |
| | | 11 | 7 | 907 | $145 | 18,723 | 5,536,501 | . | 18,730 | 5,537,408 | . |
| | | 12 | 4 | (4,620) | ($786) | 18,687 | 5,524,764 | . | 18,691 | 5,520,144 | . |
| Total Year | 2018 | | 339,802 | 107,534,457 | $15,285,426 | 224,156 | 66,418,150 | . | 563,958 | 173,952,607 | . |
| Schedule FL | | | 855,192 | 271,364,108 | $38,782,578 | 448,163 | 133,062,860 | . | 1,303,355 | 404,426,968 | . |

General Service, Floodlighting Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| GL | 2017 | 1 | 1,129 | 1,654,620 | $469,186 | 326 | 217,618 | . | 1,455 | 1,872,238 | . |
| | | 2 | 1,155 | 1,686,986 | $482,976 | 329 | 216,895 | . | 1,484 | 1,903,881 | . |
| | | 3 | 1,187 | 1,716,481 | $498,668 | 332 | 217,772 | . | 1,519 | 1,934,253 | . |
| | | 4 | 1,205 | 1,684,063 | $486,818 | 337 | 220,415 | . | 1,542 | 1,904,478 | . |
| | | 5 | 1,241 | 1,724,976 | $501,589 | 341 | 221,173 | . | 1,582 | 1,946,149 | . |
| | | 6 | 1,238 | 1,725,821 | $503,249 | 341 | 221,164 | . | 1,579 | 1,946,985 | . |
| | | 7 | 1,259 | 1,768,738 | $512,554 | 343 | 220,420 | . | 1,602 | 1,989,158 | . |
| | | 8 | 1,274 | 1,292,116 | $516,549 | 345 | 220,876 | . | 1,619 | 1,512,992 | . |
| | | 9 | 1,277 | 1,759,041 | $515,013 | 345 | 221,007 | . | 1,622 | 1,980,048 | . |
| | | 10 | 1,291 | 1,822,782 | $532,446 | 345 | 221,869 | . | 1,636 | 2,044,651 | . |
| | | 11 | 1,296 | 1,788,590 | $525,495 | 348 | 229,818 | . | 1,644 | 2,018,408 | . |
| | | 12 | 1,301 | 1,797,632 | $528,157 | 350 | 222,366 | . | 1,651 | 2,019,998 | . |
| Total Year | 2017 | | 14,853 | 20,421,846 | $6,072,699 | 4,082 | 2,651,393 | . | 18,935 | 23,073,239 | . |
| | 2018 | 1 | 1,312 | 1,793,698 | $526,732 | 364 | 228,347 | . | 1,676 | 2,022,045 | . |
| | | 2 | 1,320 | 1,796,909 | $529,096 | 371 | 233,878 | . | 1,691 | 2,030,787 | . |
| | | 3 | 1,331 | 1,839,177 | $545,404 | 395 | 249,164 | . | 1,726 | 2,088,341 | . |
| | | 4 | 1,345 | 1,893,232 | $569,900 | 398 | 247,948 | . | 1,743 | 2,141,180 | . |
| | | 5 | 1,370 | 1,857,637 | $895,460 | 391 | 242,188 | . | 1,761 | 2,099,825 | . |
| | | 6 | 1,371 | 1,846,025 | $210,211 | 390 | 240,319 | . | 1,761 | 2,086,344 | . |
| | | 7 | 1,389 | 1,891,879 | $569,700 | 394 | 242,303 | . | 1,783 | 2,134,182 | . |
| | | 8 | 1,788 | 2,061,608 | $597,767 | 405 | 260,892 | . | 2,193 | 2,322,500 | . |
| | | 9 | 5,971 | 3,668,900 | $783,072 | 427 | 252,058 | . | 6,398 | 3,920,958 | . |
| | | 10 | 148 | 61,011 | $9,226 | 421 | 251,774 | . | 569 | 312,785 | . |
| | | 11 | . | (312) | ($60) | 431 | 260,259 | . | 431 | 259,947 | . |
| | | 12 | 1 | 40 | $7 | 435 | 235,491 | . | 436 | 235,531 | . |
| Total Year | 2018 | | 17,346 | 18,709,804 | $5,236,515 | 4,822 | 2,944,621 | . | 22,168 | 21,654,425 | . |
| Schedule GL | | | 32,199 | 39,131,650 | $11,309,214 | 8,904 | 5,596,014 | . | 41,103 | 44,727,664 | . |

General Service, Governmental Lighting Service

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| PL | 2017 | 1 | 4,733 | 19,022,467 | $2,592,923 | 1,720 | 3,367,481 | . | 6,453 | 22,389,948 | . |
| | | 2 | 4,731 | 18,928,771 | $2,570,759 | 1,715 | 3,360,714 | . | 6,446 | 22,289,485 | . |
| | | 3 | 4,728 | 18,847,432 | $2,562,384 | 1,714 | 3,351,646 | . | 6,442 | 22,199,078 | . |
| | | 4 | 4,733 | 18,924,411 | $2,574,208 | 1,728 | 3,365,843 | . | 6,461 | 22,290,254 | . |
| | | 5 | 4,726 | 18,733,019 | $2,557,069 | 1,723 | 3,354,966 | . | 6,449 | 22,087,985 | . |
| | | 6 | 4,718 | 18,364,467 | $2,516,800 | 1,714 | 3,348,007 | . | 6,432 | 21,712,474 | . |
| | | 7 | 4,715 | 18,745,406 | $2,563,567 | 1,720 | 3,349,607 | . | 6,435 | 22,095,013 | . |
| | | 8 | 4,748 | 18,684,809 | $2,559,611 | 1,724 | 3,343,770 | . | 6,472 | 22,028,579 | . |
| | | 9 | 4,723 | 18,683,473 | $2,560,239 | 1,722 | 3,343,515 | . | 6,445 | 22,026,988 | . |
| | | 10 | 4,724 | 18,627,885 | $2,549,707 | 1,697 | 3,328,157 | . | 6,421 | 21,956,042 | . |
| | | 11 | 4,741 | 18,664,312 | $2,558,178 | 1,716 | 3,340,458 | . | 6,457 | 22,004,770 | . |
| | | 12 | 4,741 | 18,627,255 | $2,556,025 | 1,719 | 3,363,345 | . | 6,460 | 21,990,600 | . |
| Total Year | 2017 | | 56,761 | 224,853,707 | $30,721,469 | 20,612 | 40,217,509 | . | 77,373 | 265,071,216 | . |
| | 2018 | 1 | 4,731 | 18,672,940 | $2,564,700 | 1,711 | 3,334,418 | . | 6,442 | 22,007,358 | . |
| | | 2 | 4,726 | 18,628,240 | $2,583,571 | 1,720 | 3,298,025 | . | 6,446 | 21,926,265 | . |
| | | 3 | 4,734 | 18,497,849 | $2,557,027 | 1,717 | 3,284,455 | . | 6,451 | 21,782,304 | . |
| | | 4 | 4,737 | 18,482,774 | $2,559,182 | 1,720 | 3,273,050 | . | 6,457 | 21,755,824 | . |
| | | 5 | 4,728 | 18,366,962 | $2,550,505 | 1,708 | 3,273,804 | . | 6,436 | 21,640,766 | . |
| | | 6 | 4,715 | 18,464,723 | $2,556,071 | 1,729 | 3,262,478 | . | 6,444 | 21,727,201 | . |
| | | 7 | 4,756 | 18,587,850 | $2,557,464 | 1,719 | 3,259,765 | . | 6,475 | 21,847,615 | . |
| | | 8 | 4,719 | 18,300,056 | $2,549,351 | 1,712 | 3,251,118 | . | 6,431 | 21,551,174 | . |
| | | 9 | 4,990 | 18,466,327 | $2,514,172 | 1,700 | 3,237,861 | . | 6,690 | 21,704,188 | . |
| | | 10 | 10,726 | 19,692,637 | $2,410,849 | 1,689 | 3,138,113 | . | 12,415 | 22,830,750 | . |
| | | 11 | 10,905 | 24,464,262 | $2,999,812 | 1,719 | 3,294,054 | . | 12,624 | 27,758,316 | . |
| | | 12 | 10,939 | 22,048,420 | $2,704,437 | 1,748 | 3,222,347 | . | 12,687 | 25,270,767 | . |
| Total Year | 2018 | | 75,406 | 232,673,040 | $31,107,140 | 20,592 | 39,129,488 | . | 95,998 | 271,802,528 | . |
| Schedule PL | | | 132,167 | 457,526,747 | $61,828,609 | 41,204 | 79,346,997 | . | 173,371 | 536,873,744 | . |

General Service, Street and Public Lighting Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| TS | 2017 | 1 | 5,922 | 921,827 | $161,701 | 1,437 | 210,381 | . | 7,359 | 1,132,208 | . |
| | | 2 | 5,936 | 822,989 | $154,525 | 1,432 | 184,210 | . | 7,368 | 1,007,199 | . |
| | | 3 | 5,909 | 802,514 | $152,079 | 1,434 | 188,683 | . | 7,343 | 991,197 | . |
| | | 4 | 5,902 | 885,847 | $158,933 | 1,433 | 197,328 | . | 7,335 | 1,083,175 | . |
| | | 5 | 5,908 | 818,501 | $153,791 | 1,443 | 186,907 | . | 7,351 | 1,005,408 | . |
| | | 6 | 5,909 | 870,355 | $157,948 | 1,430 | 194,837 | . | 7,339 | 1,065,192 | . |
| | | 7 | 5,895 | 883,613 | $158,707 | 1,433 | 197,586 | . | 7,328 | 1,081,199 | . |
| | | 8 | 5,892 | 824,185 | $154,040 | 1,433 | 193,504 | . | 7,325 | 1,017,689 | . |
| | | 9 | 5,922 | 917,711 | $160,302 | 1,427 | 201,860 | . | 7,349 | 1,119,571 | . |
| | | 10 | 5,900 | 817,389 | $150,689 | 1,440 | 182,431 | . | 7,340 | 999,820 | . |
| | | 11 | 5,892 | 834,382 | $151,796 | 1,429 | 187,715 | . | 7,321 | 1,022,097 | . |
| | | 12 | 5,906 | 873,968 | $154,907 | 1,428 | 198,177 | . | 7,334 | 1,072,145 | . |
| Total Year | 2017 | | 70,893 | 10,273,281 | $1,869,417 | 17,199 | 2,323,619 | . | 88,092 | 12,596,900 | . |
| | 2018 | 1 | 5,773 | 2,912,528 | $306,480 | 1,420 | 210,589 | . | 7,193 | 3,123,117 | . |
| | | 2 | 5,904 | (944,527) | $19,996 | 1,407 | 183,468 | . | 7,311 | (761,059) | . |
| | | 3 | 6,020 | 747,998 | $148,364 | 1,460 | 185,145 | . | 7,480 | 933,143 | . |
| | | 4 | 5,918 | 796,005 | $150,580 | 1,425 | 189,801 | . | 7,343 | 985,806 | . |
| | | 5 | 5,917 | 788,963 | $149,984 | 1,424 | 188,392 | . | 7,341 | 977,355 | . |
| | | 6 | 5,897 | 861,526 | $155,915 | 1,402 | 190,119 | . | 7,299 | 1,051,645 | . |
| | | 7 | 5,907 | 835,400 | $154,045 | 1,446 | 199,654 | . | 7,353 | 1,035,054 | . |
| | | 8 | 5,919 | 809,463 | $157,327 | 1,426 | 188,194 | . | 7,345 | 997,657 | . |
| | | 9 | 5,932 | 903,557 | $166,566 | 1,427 | 209,391 | . | 7,359 | 1,112,948 | . |
| | | 10 | 5,925 | 761,612 | $145,595 | 1,401 | 179,927 | . | 7,326 | 941,539 | . |
| | | 11 | 5,935 | 785,652 | $147,706 | 1,443 | 187,503 | . | 7,378 | 973,155 | . |
| | | 12 | 5,918 | 823,639 | $151,292 | 1,413 | 196,100 | . | 7,331 | 1,019,739 | . |
| Total Year | 2018 | | 70,965 | 10,081,816 | $1,853,849 | 17,094 | 2,308,283 | . | 88,059 | 12,390,099 | . |
| Schedule TS | | | 141,858 | 20,355,097 | $3,723,266 | 34,293 | 4,631,902 | . | 176,151 | 24,986,999 | . |

General Service, Traffic Signal Service

/A



**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| I | 2017 | 1 | 3,742 | 148,119,549 | $12,016,722 | 1,045 | 51,888,823 | . | 4,787 | 200,008,372 | . |
| | | 2 | 3,718 | 155,368,321 | $12,405,958 | 1,034 | 56,456,416 | . | 4,752 | 211,824,737 | . |
| | | 3 | 3,714 | 153,024,045 | $12,327,332 | 1,029 | 55,282,541 | . | 4,743 | 208,306,586 | . |
| | | 4 | 3,724 | 169,776,030 | $13,356,672 | 1,056 | 62,788,407 | . | 4,780 | 232,564,437 | . |
| | | 5 | 3,700 | 156,239,860 | $12,496,276 | 1,027 | 58,219,674 | . | 4,727 | 214,459,534 | . |
| | | 6 | 3,710 | 180,120,822 | $14,017,868 | 1,041 | 66,447,815 | . | 4,751 | 246,568,637 | . |
| | | 7 | 3,722 | 179,244,253 | $14,061,805 | 1,031 | 68,661,650 | . | 4,753 | 247,905,903 | . |
| | | 8 | 3,718 | 187,544,404 | $14,558,786 | 1,044 | 72,545,598 | . | 4,762 | 260,090,002 | . |
| | | 9 | 3,706 | 186,750,938 | $14,436,789 | 1,037 | 72,008,234 | . | 4,743 | 258,759,172 | . |
| | | 10 | 3,702 | 167,324,171 | $13,199,142 | 1,044 | 65,435,433 | . | 4,746 | 232,759,604 | . |
| | | 11 | 3,720 | 161,471,531 | $12,842,723 | 1,039 | 61,475,051 | . | 4,759 | 222,946,582 | . |
| | | 12 | 3,724 | 155,116,326 | $12,377,668 | 1,035 | 58,079,226 | . | 4,759 | 213,195,552 | . |
| Total Year | 2017 | | 44,600 | 2,000,100,250 | $158,097,742 | 12,462 | 749,288,868 | . | 57,062 | 2,749,389,118 | . |
| | 2018 | 1 | 3,723 | 153,148,867 | $12,354,666 | 1,035 | 55,940,141 | . | 4,758 | 209,089,008 | . |
| | | 2 | 3,713 | 163,410,352 | $12,940,030 | 1,025 | 63,143,508 | . | 4,738 | 226,553,860 | . |
| | | 3 | 3,697 | 151,767,133 | $12,309,428 | 1,042 | 59,496,635 | . | 4,739 | 211,263,768 | . |
| | | 4 | 3,700 | 161,511,345 | $12,869,877 | 1,038 | 62,669,159 | . | 4,738 | 224,180,504 | . |
| | | 5 | 3,686 | 162,066,581 | $12,971,177 | 1,026 | 63,241,935 | . | 4,712 | 225,308,516 | . |
| | | 6 | 3,702 | 189,043,145 | $14,622,124 | 1,031 | 70,415,391 | . | 4,733 | 259,458,536 | . |
| | | 7 | 3,711 | 181,635,799 | $14,276,498 | 1,028 | 66,944,774 | . | 4,739 | 248,580,573 | . |
| | | 8 | 3,690 | 190,477,250 | $14,451,589 | 1,026 | 70,207,901 | . | 4,716 | 260,685,151 | . |
| | | 9 | 3,714 | 206,628,642 | $15,180,423 | 1,025 | 74,778,117 | . | 4,739 | 281,406,759 | . |
| | | 10 | 3,675 | 163,993,185 | $12,542,861 | 1,011 | 63,621,075 | . | 4,686 | 227,614,260 | . |
| | | 11 | 3,707 | 165,933,908 | $12,666,781 | 1,023 | 61,069,753 | . | 4,730 | 227,003,661 | . |
| | | 12 | 3,679 | 157,192,731 | $12,212,658 | 1,020 | 53,554,464 | . | 4,699 | 210,747,195 | . |
| Total Year | 2018 | | 44,397 | 2,046,808,938 | $159,398,114 | 12,330 | 765,082,853 | . | 56,727 | 2,811,891,791 | . |
| Schedule I | | | 88,997 | 4,046,909,188 | $317,495,856 | 24,792 | 1,514,371,721 | . | 113,789 | 5,561,280,909 | . |

Industrial Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OPTE | 2017 | 1 | 1 | 2,028,800 | $97,321 | . | . | . | 1 | 2,028,800 | . |
| | | 2 | 1 | 1,849,600 | $88,808 | . | . | . | 1 | 1,849,600 | . |
| | | 3 | 1 | 1,587,200 | $76,804 | . | . | . | 1 | 1,587,200 | . |
| | | 4 | 10 | 3,684,852 | $163,268 | . | . | . | 10 | 3,684,852 | . |
| | | 5 | . | - | $11,754 | . | . | . | . | - | . |
| | | 6 | 1 | 2,000,000 | $94,901 | . | . | . | 1 | 2,000,000 | . |
| | | 7 | 2 | 1,926,526 | $119,818 | . | . | . | 2 | 1,926,526 | . |
| | | 8 | 1 | 2,054,400 | $119,044 | . | . | . | 1 | 2,054,400 | . |
| | | 9 | 2 | 2,104,784 | $128,359 | . | . | . | 2 | 2,104,784 | . |
| | | 10 | 1 | 1,692,800 | $100,352 | . | . | . | 1 | 1,692,800 | . |
| | | 11 | 1 | 1,744,000 | $83,558 | . | . | . | 1 | 1,744,000 | . |
| | | 12 | 1 | 1,702,400 | $79,625 | . | . | . | 1 | 1,702,400 | . |
| Total Year | 2017 | | 22 | 22,375,362 | $1,163,612 | . | . | . | 22 | 22,375,362 | . |
| | 2018 | 1 | 1 | 1,644,800 | $77,124 | . | . | . | 1 | 1,644,800 | . |
| | | 2 | 1 | 1,536,000 | $74,169 | . | . | . | 1 | 1,536,000 | . |
| | | 3 | 1 | 1,529,600 | $74,609 | . | . | . | 1 | 1,529,600 | . |
| | | 4 | 1 | 1,568,000 | $74,785 | . | . | . | 1 | 1,568,000 | . |
| | | 5 | 1 | 1,670,400 | $80,667 | . | . | . | 1 | 1,670,400 | . |
| | | 6 | 1 | 1,788,800 | $85,779 | . | . | . | 1 | 1,788,800 | . |
| | | 7 | 1 | 1,753,600 | $105,314 | . | . | . | 1 | 1,753,600 | . |
| | | 8 | 1 | 1,808,000 | $108,170 | . | . | . | 1 | 1,808,000 | . |
| | | 9 | 2 | 3,420,800 | $205,490 | . | . | . | 2 | 3,420,800 | . |
| | | 10 | . | - | $10,341 | . | . | . | . | - | . |
| | | 11 | 1 | 1,689,600 | $88,904 | . | . | . | 1 | 1,689,600 | . |
| | | 12 | 1 | 1,603,200 | $82,097 | . | . | . | 1 | 1,603,200 | . |
| Total Year | 2018 | | 12 | 20,012,800 | $1,067,449 | . | . | . | 12 | 20,012,800 | . |
| Schedule OPTE | | | 34 | 42,388,162 | $2,231,061 | . | . | . | 34 | 42,388,162 | . |

Optional Power Service, Time-of-Use (Energy Only)

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OPTI | 2017 | 1 | - | - | ($22,693) | 520 | 632,643,480 | . | 520 | 632,643,480 | . |
| | | 2 | - | - | $0 | 517 | 680,471,611 | . | 517 | 680,471,611 | . |
| | | 3 | . | . | $0 | 514 | 625,567,106 | . | 514 | 625,567,106 | . |
| | | 4 | - | - | $0 | 547 | 869,134,119 | . | 547 | 869,134,119 | . |
| | | 5 | - | - | $0 | 487 | 532,968,161 | . | 487 | 532,968,161 | . |
| | | 6 | - | - | $0 | 511 | 732,453,564 | . | 511 | 732,453,564 | . |
| | | 7 | - | - | $0 | 514 | 720,311,977 | . | 514 | 720,311,977 | . |
| | | 8 | - | - | $0 | 513 | 699,299,747 | . | 513 | 699,299,747 | . |
| | | 9 | - | - | $0 | 507 | 677,890,963 | . | 507 | 677,890,963 | . |
| | | 10 | . | . | . | 509 | 638,818,480 | . | 509 | 638,818,480 | . |
| | | 11 | - | - | $0 | 517 | 648,266,542 | . | 517 | 648,266,542 | . |
| | | 12 | - | - | $0 | 508 | 600,345,589 | . | 508 | 600,345,589 | . |
| Total Year | 2017 | | - | - | ($22,693) | 6,164 | 8,058,171,339 | . | 6,164 | 8,058,171,339 | . |
| | 2018 | 1 | - | - | $0 | 507 | 585,490,170 | . | 507 | 585,490,170 | . |
| | | 2 | - | - | $0 | 500 | 621,277,058 | . | 500 | 621,277,058 | . |
| | | 3 | - | - | $0 | 503 | 576,260,667 | . | 503 | 576,260,667 | . |
| | | 4 | - | - | $0 | 514 | 642,659,190 | . | 514 | 642,659,190 | . |
| | | 5 | - | - | $0 | 496 | 646,751,410 | . | 496 | 646,751,410 | . |
| | | 6 | - | - | $0 | 504 | 702,269,417 | . | 504 | 702,269,417 | . |
| | | 7 | - | - | $0 | 499 | 666,042,734 | . | 499 | 666,042,734 | . |
| | | 8 | - | - | $0 | 490 | 702,511,645 | . | 490 | 702,511,645 | . |
| | | 9 | - | - | $0 | 523 | 966,030,159 | . | 523 | 966,030,159 | . |
| | | 10 | - | - | $0 | 446 | 419,089,781 | . | 446 | 419,089,781 | . |
| | | 11 | - | - | $0 | 496 | 632,674,385 | . | 496 | 632,674,385 | . |
| | | 12 | - | - | $0 | 495 | 599,805,323 | . | 495 | 599,805,323 | . |
| Total Year | 2018 | | - | - | $0 | 5,973 | 7,760,861,939 | . | 5,973 | 7,760,861,939 | . |
| Schedule OPTI | | | - | - | ($22,693) | 12,137 | 15,819,033,278 | . | 12,137 | 15,819,033,278 | . |

Optional Power Service, Time-of-Use (Industrial Svc)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OPTVG | 2017 | 1 | 16,003 | 1,056,402,811 | $58,505,996 | . | . | . | 16,003 | 1,056,402,811 | . |
| | | 2 | 15,970 | 1,002,575,083 | $56,080,143 | . | . | . | 15,970 | 1,002,575,083 | . |
| | | 3 | 15,978 | 964,276,200 | $54,799,362 | . | . | . | 15,978 | 964,276,200 | . |
| | | 4 | 16,090 | 1,279,865,697 | $69,125,331 | . | . | . | 16,090 | 1,279,865,697 | . |
| | | 5 | 15,941 | 834,859,371 | $47,998,807 | . | . | . | 15,941 | 834,859,371 | . |
| | | 6 | 15,970 | 1,160,951,448 | $69,562,413 | . | . | . | 15,970 | 1,160,951,448 | . |
| | | 7 | 15,956 | 1,223,692,944 | $84,773,854 | . | . | . | 15,956 | 1,223,692,944 | . |
| | | 8 | 15,984 | 1,235,466,457 | $85,516,126 | . | . | . | 15,984 | 1,235,466,457 | . |
| | | 9 | 16,079 | 1,219,093,750 | $84,297,989 | . | . | . | 16,079 | 1,219,093,750 | . |
| | | 10 | 16,054 | 1,083,874,414 | $70,419,571 | . | . | . | 16,054 | 1,083,874,414 | . |
| | | 11 | 16,098 | 1,057,636,744 | $58,893,750 | . | . | . | 16,098 | 1,057,636,744 | . |
| | | 12 | 16,148 | 1,032,733,502 | $56,468,341 | . | . | . | 16,148 | 1,032,733,502 | . |
| Total Year | 2017 | | 192,271 | 13,151,428,421 | $796,441,684 | . | . | . | 192,271 | 13,151,428,421 | . |
| | 2018 | 1 | 16,142 | 1,106,419,888 | $60,245,996 | . | . | . | 16,142 | 1,106,419,888 | . |
| | | 2 | 16,164 | 1,059,753,082 | $59,248,786 | . | . | . | 16,164 | 1,059,753,082 | . |
| | | 3 | 16,173 | 971,883,672 | $55,412,694 | . | . | . | 16,173 | 971,883,672 | . |
| | | 4 | 16,192 | 1,051,348,613 | $57,759,963 | . | . | . | 16,192 | 1,051,348,613 | . |
| | | 5 | 16,150 | 1,070,296,321 | $59,074,370 | . | . | . | 16,150 | 1,070,296,321 | . |
| | | 6 | 16,264 | 1,214,717,750 | $71,825,209 | . | . | . | 16,264 | 1,214,717,750 | . |
| | | 7 | 16,363 | 1,279,017,326 | $87,442,379 | . | . | . | 16,363 | 1,279,017,326 | . |
| | | 8 | 16,378 | 1,258,816,490 | $85,495,165 | . | . | . | 16,378 | 1,258,816,490 | . |
| | | 9 | 16,347 | 1,574,433,560 | $101,522,012 | . | . | . | 16,347 | 1,574,433,560 | . |
| | | 10 | 16,169 | 896,113,061 | $58,519,392 | . | . | . | 16,169 | 896,113,061 | . |
| | | 11 | 16,316 | 1,076,833,370 | $59,344,704 | . | . | . | 16,316 | 1,076,833,370 | . |
| | | 12 | 16,383 | 1,077,822,357 | $58,983,133 | . | . | . | 16,383 | 1,077,822,357 | . |
| Total Year | 2018 | | 195,041 | 13,637,455,490 | $814,873,804 | . | . | . | 195,041 | 13,637,455,490 | . |
| Schedule OPTVG | | | 387,312 | 26,788,883,911 | $1,611,315,488 | . | . | . | 387,312 | 26,788,883,911 | . |

Optional Pwr Svce, TOU, Voltage Differentiated, (General Svc)

/A

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OPTVI | 2017 | 1 | 1,121 | 781,491,150 | $41,496,448 | . | . | . | 1,121 | 781,491,150 | . |
| | | 2 | 1,121 | 865,930,866 | $44,488,104 | . | . | . | 1,121 | 865,930,866 | . |
| | | 3 | 1,135 | 813,515,305 | $42,733,458 | . | . | . | 1,135 | 813,515,305 | . |
| | | 4 | 1,177 | 1,042,102,650 | $53,175,522 | . | . | . | 1,177 | 1,042,102,650 | . |
| | | 5 | 1,092 | 729,858,802 | $38,122,611 | . | . | . | 1,092 | 729,858,802 | . |
| | | 6 | 1,124 | 933,569,015 | $52,573,707 | . | . | . | 1,124 | 933,569,015 | . |
| | | 7 | 1,127 | 919,688,447 | $58,954,287 | . | . | . | 1,127 | 919,688,447 | . |
| | | 8 | 1,127 | 972,461,963 | $61,146,706 | . | . | . | 1,127 | 972,461,963 | . |
| | | 9 | 1,120 | 934,661,693 | $59,262,362 | . | . | . | 1,120 | 934,661,693 | . |
| | | 10 | 1,114 | 911,565,585 | $53,244,240 | . | . | . | 1,114 | 911,565,585 | . |
| | | 11 | 1,132 | 867,600,583 | $44,536,243 | . | . | . | 1,132 | 867,600,583 | . |
| | | 12 | 1,121 | 804,625,179 | $41,615,494 | . | . | . | 1,121 | 804,625,179 | . |
| Total Year | 2017 | | 13,511 | 10,577,071,238 | $591,349,181 | . | . | . | 13,511 | 10,577,071,238 | . |
| | 2018 | 1 | 1,118 | 774,516,329 | $40,467,727 | . | . | . | 1,118 | 774,516,329 | . |
| | | 2 | 1,115 | 862,224,391 | $44,129,390 | . | . | . | 1,115 | 862,224,391 | . |
| | | 3 | 1,115 | 777,684,583 | $40,967,307 | . | . | . | 1,115 | 777,684,583 | . |
| | | 4 | 1,121 | 873,201,103 | $44,577,048 | . | . | . | 1,121 | 873,201,103 | . |
| | | 5 | 1,120 | 864,087,326 | $44,448,477 | . | . | . | 1,120 | 864,087,326 | . |
| | | 6 | 1,118 | 922,258,445 | $51,470,019 | . | . | . | 1,118 | 922,258,445 | . |
| | | 7 | 1,126 | 931,210,570 | $59,106,231 | . | . | . | 1,126 | 931,210,570 | . |
| | | 8 | 1,106 | 916,873,722 | $56,908,985 | . | . | . | 1,106 | 916,873,722 | . |
| | | 9 | 1,158 | 1,134,087,490 | $68,600,632 | . | . | . | 1,158 | 1,134,087,490 | . |
| | | 10 | 1,043 | 688,309,365 | $39,051,268 | . | . | . | 1,043 | 688,309,365 | . |
| | | 11 | 1,111 | 881,969,329 | $44,480,008 | . | . | . | 1,111 | 881,969,329 | . |
| | | 12 | 1,112 | 815,391,528 | $40,794,041 | . | . | . | 1,112 | 815,391,528 | . |
| Total Year | 2018 | | 13,363 | 10,441,814,181 | $575,001,133 | . | . | . | 13,363 | 10,441,814,181 | . |
| Schedule OPTVI | | | 26,874 | 21,018,885,419 | $1,166,350,314 | . | . | . | 26,874 | 21,018,885,419 | . |

Optional Pwr Svce, TOU, Voltage Differentiated, (Industrial Svc)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| HP | 2017 | 1 | 2 | 320,050 | $18,912 | . | . | . | 2 | 320,050 | . |
| | | 2 | 2 | 271,947 | $14,891 | . | . | . | 2 | 271,947 | . |
| | | 3 | 2 | 268,161 | $15,224 | . | . | . | 2 | 268,161 | . |
| | | 4 | 2 | 527,790 | $26,424 | . | . | . | 2 | 527,790 | . |
| | | 5 | 2 | 327,599 | $16,397 | . | . | . | 2 | 327,599 | . |
| | | 6 | 2 | 336,507 | $16,906 | . | . | . | 2 | 336,507 | . |
| | | 7 | 6 | 1,212,602 | $54,691 | . | . | . | 6 | 1,212,602 | . |
| | | 8 | 3 | 566,329 | $26,311 | . | . | . | 3 | 566,329 | . |
| | | 9 | 3 | 459,990 | $22,879 | . | . | . | 3 | 459,990 | . |
| | | 10 | 3 | 490,431 | $25,090 | . | . | . | 3 | 490,431 | . |
| | | 11 | 4 | 1,189,967 | $68,407 | . | . | . | 4 | 1,189,967 | . |
| | | 12 | 5 | 812,510 | $56,007 | . | . | . | 5 | 812,510 | . |
| Total Year | 2017 | | 36 | 6,783,883 | $362,139 | . | . | . | 36 | 6,783,883 | . |
| | 2018 | 1 | 4 | 946,760 | $95,163 | . | . | . | 4 | 946,760 | . |
| | | 2 | 4 | 808,454 | $52,751 | . | . | . | 4 | 808,454 | . |
| | | 3 | 4 | 962,590 | $52,903 | . | . | . | 4 | 962,590 | . |
| | | 4 | 4 | 1,677,439 | $86,471 | . | . | . | 4 | 1,677,439 | . |
| | | 5 | 3 | 10,038,808 | $606,622 | . | . | . | 3 | 10,038,808 | . |
| | | 6 | 3 | (7,148,245) | ($473,364) | . | . | . | 3 | (7,148,245) | . |
| | | 7 | 3 | 1,235,754 | $64,469 | . | . | . | 3 | 1,235,754 | . |
| | | 8 | 6 | 1,588,958 | $89,908 | . | . | . | 6 | 1,588,958 | . |
| | | 9 | 5 | 715,363 | $45,527 | . | . | . | 5 | 715,363 | . |
| | | 10 | 4 | 809,195 | $56,069 | . | . | . | 4 | 809,195 | . |
| | | 11 | 4 | 458,573 | $39,081 | . | . | . | 4 | 458,573 | . |
| | | 12 | 4 | 768,060 | $58,045 | . | . | . | 4 | 768,060 | . |
| Total Year | 2018 | | 48 | 12,861,709 | $773,644 | . | . | . | 48 | 12,861,709 | . |
| Schedule HP | | | 84 | 19,645,592 | $1,135,783 | . | . | . | 84 | 19,645,592 | . |

Hourly Pricing for Incremental Load

/A

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| HPX | 2017 | 1 | . | . | . | 18 | (1,758,407) | . | 18 | (1,758,407) | . |
| | | 2 | . | . | . | 18 | 1,273,921 | . | 18 | 1,273,921 | . |
| | | 3 | . | . | . | 18 | 8,443,907 | . | 18 | 8,443,907 | . |
| | | 4 | . | . | . | 18 | 6,514,271 | . | 18 | 6,514,271 | . |
| | | 5 | . | . | . | 17 | (7,804,481) | . | 17 | (7,804,481) | . |
| | | 6 | . | . | . | 19 | (3,501,356) | . | 19 | (3,501,356) | . |
| | | 7 | . | . | . | 18 | (2,428,206) | . | 18 | (2,428,206) | . |
| | | 8 | . | . | . | 18 | 47,647,108 | . | 18 | 47,647,108 | . |
| | | 9 | . | . | . | 18 | 39,604,574 | . | 18 | 39,604,574 | . |
| | | 10 | . | . | . | 18 | 45,928,053 | . | 18 | 45,928,053 | . |
| | | 11 | . | . | . | 18 | 41,276,057 | . | 18 | 41,276,057 | . |
| | | 12 | . | . | . | 18 | 39,642,924 | . | 18 | 39,642,924 | . |
| Total Year | 2017 | | . | . | . | 216 | 214,838,365 | . | 216 | 214,838,365 | . |
| | 2018 | 1 | . | . | . | 18 | 31,495,543 | . | 18 | 31,495,543 | . |
| | | 2 | . | . | . | 18 | 30,088,137 | . | 18 | 30,088,137 | . |
| | | 3 | . | . | . | 18 | 32,705,692 | . | 18 | 32,705,692 | . |
| | | 4 | . | . | . | 17 | 23,550,473 | . | 17 | 23,550,473 | . |
| | | 5 | . | . | . | 19 | 53,171,514 | . | 19 | 53,171,514 | . |
| | | 6 | . | . | . | 18 | 35,703,067 | . | 18 | 35,703,067 | . |
| | | 7 | . | . | . | 18 | 20,685,088 | . | 18 | 20,685,088 | . |
| | | 8 | . | . | . | 19 | 38,989,186 | . | 19 | 38,989,186 | . |
| | | 9 | . | . | . | 25 | 91,684,923 | . | 25 | 91,684,923 | . |
| | | 10 | . | . | . | 14 | 22,173,926 | . | 14 | 22,173,926 | . |
| | | 11 | . | . | . | 18 | 68,566,155 | . | 18 | 68,566,155 | . |
| | | 12 | . | . | . | 18 | 60,124,522 | . | 18 | 60,124,522 | . |
| Total Year | 2018 | | . | . | . | 220 | 508,938,226 | . | 220 | 508,938,226 | . |
| Schedule HPX | | | . | . | . | 436 | 723,776,591 | . | 436 | 723,776,591 | . |

Hourly Pricing for Incremental Load (SC)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| HPVG | 2017 | 1 | 4 | 3,206,980 | $140,332 | . | . | . | 4 | 3,206,980 | . |
| | | 2 | 4 | 2,954,657 | $70,328 | . | . | . | 4 | 2,954,657 | . |
| | | 3 | 4 | 5,300,284 | $206,756 | . | . | . | 4 | 5,300,284 | . |
| | | 4 | 6 | 5,897,670 | $256,819 | . | . | . | 6 | 5,897,670 | . |
| | | 5 | 2 | 8,974 | $20,189 | . | . | . | 2 | 8,974 | . |
| | | 6 | 4 | 13,509,994 | $550,356 | . | . | . | 4 | 13,509,994 | . |
| | | 7 | 4 | 9,251,977 | $382,362 | . | . | . | 4 | 9,251,977 | . |
| | | 8 | 4 | 10,205,660 | $430,996 | . | . | . | 4 | 10,205,660 | . |
| | | 9 | 4 | 9,599,144 | $401,607 | . | . | . | 4 | 9,599,144 | . |
| | | 10 | 4 | 5,436,125 | $251,583 | . | . | . | 4 | 5,436,125 | . |
| | | 11 | 4 | 4,484,725 | $217,830 | . | . | . | 4 | 4,484,725 | . |
| | | 12 | 4 | 7,972,906 | $343,733 | . | . | . | 4 | 7,972,906 | . |
| Total Year | 2017 | | 48 | 77,829,096 | $3,272,891 | . | . | . | 48 | 77,829,096 | . |
| | 2018 | 1 | 4 | 6,598,231 | $267,127 | . | . | . | 4 | 6,598,231 | . |
| | | 2 | 4 | 3,351,099 | ($154,728) | . | . | . | 4 | 3,351,099 | . |
| | | 3 | 4 | 5,061,973 | $205,391 | . | . | . | 4 | 5,061,973 | . |
| | | 4 | 4 | 7,750,131 | $326,231 | . | . | . | 4 | 7,750,131 | . |
| | | 5 | 4 | 10,909,921 | $460,229 | . | . | . | 4 | 10,909,921 | . |
| | | 6 | 4 | 17,104,570 | $662,542 | . | . | . | 4 | 17,104,570 | . |
| | | 7 | 4 | 8,741,637 | $408,717 | . | . | . | 4 | 8,741,637 | . |
| | | 8 | 4 | 11,283,251 | $514,432 | . | . | . | 4 | 11,283,251 | . |
| | | 9 | 3 | 13,139,819 | $605,469 | . | . | . | 3 | 13,139,819 | . |
| | | 10 | 3 | 10,459,024 | $543,658 | . | . | . | 3 | 10,459,024 | . |
| | | 11 | 3 | 10,158,660 | $586,113 | . | . | . | 3 | 10,158,660 | . |
| | | 12 | 4 | (1,267,544) | ($89,635) | . | . | . | 4 | (1,267,544) | . |
| Total Year | 2018 | | 45 | 103,290,772 | $4,335,546 | . | . | . | 45 | 103,290,772 | . |
| Schedule HPVG | | | 93 | 181,119,868 | $7,608,437 | . | . | . | 93 | 181,119,868 | . |

Hourly Pricing (OPTVG Baseline)

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| HPVI | 2017 | 1 | 8 | 40,264 | $78,805 | . | . | . | 8 | 40,264 | . |
| | | 2 | 8 | 2,285,592 | $146,157 | . | . | . | 8 | 2,285,592 | . |
| | | 3 | 8 | 156,436 | $64,076 | . | . | . | 8 | 156,436 | . |
| | | 4 | 11 | 4,190,177 | $239,555 | . | . | . | 11 | 4,190,177 | . |
| | | 5 | 5 | 4,701,483 | $206,987 | . | . | . | 5 | 4,701,483 | . |
| | | 6 | 8 | 495,711 | $48,978 | . | . | . | 8 | 495,711 | . |
| | | 7 | 10 | 7,043,702 | $368,514 | . | . | . | 10 | 7,043,702 | . |
| | | 8 | 8 | 3,765,070 | $265,230 | . | . | . | 8 | 3,765,070 | . |
| | | 9 | 8 | 4,502,160 | $277,370 | . | . | . | 8 | 4,502,160 | . |
| | | 10 | 8 | 4,729,895 | $293,406 | . | . | . | 8 | 4,729,895 | . |
| | | 11 | 8 | 6,077,856 | $310,923 | . | . | . | 8 | 6,077,856 | . |
| | | 12 | 8 | 731,346 | $74,972 | . | . | . | 8 | 731,346 | . |
| Total Year | 2017 | | 98 | 38,719,692 | $2,374,972 | . | . | . | 98 | 38,719,692 | . |
| | 2018 | 1 | 8 | 4,933,860 | $286,740 | . | . | . | 8 | 4,933,860 | . |
| | | 2 | 8 | 4,766,982 | $219,106 | . | . | . | 8 | 4,766,982 | . |
| | | 3 | 8 | 4,575,143 | $212,470 | . | . | . | 8 | 4,575,143 | . |
| | | 4 | 9 | 5,754,339 | $297,105 | . | . | . | 9 | 5,754,339 | . |
| | | 5 | 9 | 4,223,615 | $236,343 | . | . | . | 9 | 4,223,615 | . |
| | | 6 | 9 | 2,892,237 | $139,776 | . | . | . | 9 | 2,892,237 | . |
| | | 7 | 9 | 6,790,752 | $421,064 | . | . | . | 9 | 6,790,752 | . |
| | | 8 | 9 | 7,527,159 | $450,608 | . | . | . | 9 | 7,527,159 | . |
| | | 9 | 10 | 10,638,369 | $636,728 | . | . | . | 10 | 10,638,369 | . |
| | | 10 | 8 | 6,179,047 | $487,961 | . | . | . | 8 | 6,179,047 | . |
| | | 11 | 9 | 5,796,235 | $367,042 | . | . | . | 9 | 5,796,235 | . |
| | | 12 | 9 | 1,520,724 | $172,664 | . | . | . | 9 | 1,520,724 | . |
| Total Year | 2018 | | 105 | 65,598,462 | $3,927,608 | . | . | . | 105 | 65,598,462 | . |
| Schedule HPVI | | | 203 | 104,318,154 | $6,302,580 | . | . | . | 203 | 104,318,154 | . |
| Hourly Pricing (OPTVI Baseline) | | | | | | | | | | | |

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| PG | 2017 | 1 | 8 | 411,240 | $37,494 | 1 | 612,000 | . | 9 | 1,023,240 | . |
| | | 2 | 8 | 363,780 | $42,907 | 1 | 147,000 | . | 9 | 510,780 | . |
| | | 3 | 8 | 310,140 | $34,158 | 1 | 244,000 | . | 9 | 554,140 | . |
| | | 4 | 8 | 296,520 | $22,306 | 1 | 163,000 | . | 9 | 459,520 | . |
| | | 5 | 8 | 250,440 | $14,604 | 1 | 360,000 | . | 9 | 610,440 | . |
| | | 6 | 8 | 267,360 | $21,907 | 1 | 368,000 | . | 9 | 635,360 | . |
| | | 7 | 7 | 117,960 | $21,809 | 1 | 123,000 | . | 8 | 240,960 | . |
| | | 8 | 7 | 26,280 | $19,103 | 1 | 132,000 | . | 8 | 158,280 | . |
| | | 9 | 7 | 5,520 | $14,946 | 1 | 78,000 | . | 8 | 83,520 | . |
| | | 10 | 7 | 5,880 | $2,420 | 1 | 241,000 | . | 8 | 246,880 | . |
| | | 11 | 7 | 11,220 | $2,091 | 1 | 436,000 | . | 8 | 447,220 | . |
| | | 12 | 7 | 3,480 | $1,701 | 1 | 87,000 | . | 8 | 90,480 | . |
| Total Year | 2017 | | 90 | 2,069,820 | $235,445 | 12 | 2,991,000 | . | 102 | 5,060,820 | . |
| | 2018 | 1 | 7 | 12,720 | $4,119 | 1 | 124,000 | . | 8 | 136,720 | . |
| | | 2 | 7 | 11,580 | $2,722 | 1 | 84,000 | . | 8 | 95,580 | . |
| | | 3 | 6 | 2,400 | $7,675 | 1 | 54,000 | . | 7 | 56,400 | . |
| | | 4 | 6 | - | $5,500 | 1 | 66,000 | . | 7 | 66,000 | . |
| | | 5 | 6 | 2,700 | $1,235 | 1 | 595,000 | . | 7 | 597,700 | . |
| | | 6 | 6 | 19,500 | $2,125 | 1 | 605,000 | . | 7 | 624,500 | . |
| | | 7 | 6 | 21,000 | $14,517 | 1 | 683,000 | . | 7 | 704,000 | . |
| | | 8 | 6 | 18,600 | $3,526 | 1 | 115,000 | . | 7 | 133,600 | . |
| | | 9 | 6 | 2,400 | $1,742 | 1 | 226,000 | . | 7 | 228,400 | . |
| | | 10 | 6 | 2,400 | $1,147 | 1 | 143,000 | . | 7 | 145,400 | . |
| | | 11 | 6 | 7,200 | $1,403 | 1 | 269,000 | . | 7 | 276,200 | . |
| | | 12 | 6 | - | $1,032 | 1 | 77,000 | . | 7 | 77,000 | . |
| Total Year | 2018 | | 74 | 100,500 | $46,743 | 12 | 3,041,000 | . | 86 | 3,141,500 | . |
| Schedule PG | | | 164 | 2,170,320 | $282,188 | 24 | 6,032,000 | . | 188 | 8,202,320 | . |
| Parallel Generation | | | | | | | | | | | |

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| MP | 2017 | 1 | . | . | . | 64 | 20,149,405 | . | 64 | 20,149,405 | . |
| | | 2 | . | . | . | 63 | 21,809,998 | . | 63 | 21,809,998 | . |
| | | 3 | . | . | . | 62 | 19,820,018 | . | 62 | 19,820,018 | . |
| | | 4 | . | . | . | 62 | 22,441,341 | . | 62 | 22,441,341 | . |
| | | 5 | . | . | . | 62 | 22,629,888 | . | 62 | 22,629,888 | . |
| | | 6 | . | . | . | 62 | 24,263,066 | . | 62 | 24,263,066 | . |
| | | 7 | . | . | . | 62 | 23,999,660 | . | 62 | 23,999,660 | . |
| | | 8 | . | . | . | 62 | 25,791,348 | . | 62 | 25,791,348 | . |
| | | 9 | . | . | . | 62 | 24,669,998 | . | 62 | 24,669,998 | . |
| | | 10 | . | . | . | 62 | 23,577,449 | . | 62 | 23,577,449 | . |
| | | 11 | . | . | . | 62 | 22,400,145 | . | 62 | 22,400,145 | . |
| | | 12 | . | . | . | 62 | 20,430,577 | . | 62 | 20,430,577 | . |
| Total Year | 2017 | | . | . | . | 747 | 271,982,893 | . | 747 | 271,982,893 | . |
| | 2018 | 1 | . | . | . | 62 | 20,280,407 | . | 62 | 20,280,407 | . |
| | | 2 | . | . | . | 62 | 21,870,289 | . | 62 | 21,870,289 | . |
| | | 3 | . | . | . | 62 | 19,738,366 | . | 62 | 19,738,366 | . |
| | | 4 | . | . | . | 51 | 4,793,746 | . | 51 | 4,793,746 | . |
| | | 5 | . | . | . | 109 | 38,478,425 | . | 109 | 38,478,425 | . |
| | | 6 | . | . | . | 61 | 21,098,611 | . | 61 | 21,098,611 | . |
| | | 7 | . | . | . | 13 | 2,622,784 | . | 13 | 2,622,784 | . |
| | | 8 | . | . | . | 33 | 28,406,518 | . | 33 | 28,406,518 | . |
| | | 9 | . | . | . | 23 | 15,746,353 | . | 23 | 15,746,353 | . |
| | | 10 | . | . | . | 23 | 14,947,715 | . | 23 | 14,947,715 | . |
| | | 11 | . | . | . | 23 | 14,015,070 | . | 23 | 14,015,070 | . |
| | | 12 | . | . | . | 23 | 13,247,503 | . | 23 | 13,247,503 | . |
| Total Year | 2018 | | . | . | . | 545 | 215,245,787 | . | 545 | 215,245,787 | . |
| Schedule MP | | | . | . | . | 1,292 | 487,228,680 | . | 1,292 | 487,228,680 | . |

Multiple Premises Service (Pilot)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| NL | 2017 | 1 | 7 | 23,041 | $10,317 | 1 | 218 | . | 8 | 23,259 | . |
| | | 2 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 3 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 4 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 5 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 6 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 7 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 8 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 9 | 7 | 23,041 | $10,297 | 1 | 218 | . | 8 | 23,259 | . |
| | | 10 | 7 | 23,041 | $10,293 | 1 | 218 | . | 8 | 23,259 | . |
| | | 11 | 7 | 23,041 | $10,293 | 1 | 218 | . | 8 | 23,259 | . |
| | | 12 | 7 | 23,041 | $10,293 | 1 | 218 | . | 8 | 23,259 | . |
| Total Year | 2017 | | 84 | 276,492 | $123,580 | 12 | 2,616 | . | 96 | 279,108 | . |
| | 2018 | 1 | 7 | 23,041 | $10,293 | 1 | 218 | . | 8 | 23,259 | . |
| | | 2 | 7 | 23,041 | $10,294 | 1 | 218 | . | 8 | 23,259 | . |
| | | 3 | 7 | 23,041 | $10,294 | 1 | 218 | . | 8 | 23,259 | . |
| | | 4 | 7 | 22,882 | $10,277 | 1 | 218 | . | 8 | 23,100 | . |
| | | 5 | 7 | 22,989 | $10,289 | 1 | 218 | . | 8 | 23,207 | . |
| | | 6 | 7 | 22,989 | $10,289 | 1 | 218 | . | 8 | 23,207 | . |
| | | 7 | 7 | 22,989 | $10,288 | 1 | 218 | . | 8 | 23,207 | . |
| | | 8 | 7 | 22,461 | $10,250 | 1 | 281 | . | 8 | 22,742 | . |
| | | 9 | 7 | 22,896 | $10,270 | 1 | 281 | . | 8 | 23,177 | . |
| | | 10 | 7 | 22,896 | $10,355 | 1 | 281 | . | 8 | 23,177 | . |
| | | 11 | 7 | 22,896 | $10,355 | 1 | 281 | . | 8 | 23,177 | . |
| | | 12 | 7 | 22,896 | $10,356 | 1 | 281 | . | 8 | 23,177 | . |
| Total Year | 2018 | | 84 | 275,017 | $123,610 | 12 | 2,931 | . | 96 | 277,948 | . |
| Schedule NL | | | 168 | 551,509 | $247,190 | 24 | 5,547 | . | 192 | 557,056 | . |

Economic Development for New Load

/A

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| SN | 2017 | 1 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 2 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 3 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 4 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 5 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 6 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 7 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 8 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 9 | 4 | - | $254 | . | . | . | 4 | - | . |
| | | 10 | 4 | - | $254 | . | . | . | 4 | - | . |
| | | 11 | 4 | - | $254 | . | . | . | 4 | - | . |
| | | 12 | 4 | - | $254 | . | . | . | 4 | - | . |
| Total Year | 2017 | | 48 | - | $3,022 | . | . | . | 48 | - | . |
| | 2018 | 1 | 5 | - | $264 | . | . | . | 5 | - | . |
| | | 2 | 4 | - | $254 | . | . | . | 4 | - | . |
| | | 3 | 4 | - | $258 | . | . | . | 4 | - | . |
| | | 4 | 4 | - | $258 | . | . | . | 4 | - | . |
| | | 5 | 4 | - | $258 | . | . | . | 4 | - | . |
| | | 6 | 4 | - | $258 | . | . | . | 4 | - | . |
| | | 7 | 4 | - | $258 | . | . | . | 4 | - | . |
| | | 8 | 4 | - | $260 | . | . | . | 4 | - | . |
| | | 9 | 4 | - | $262 | . | . | . | 4 | - | . |
| | | 10 | 4 | - | $260 | . | . | . | 4 | - | . |
| | | 11 | 4 | - | $260 | . | . | . | 4 | - | . |
| | | 12 | 4 | - | $261 | . | . | . | 4 | - | . |
| Total Year | 2018 | | 49 | - | $3,114 | . | . | . | 49 | - | . |
| Schedule SN | | | 97 | - | $6,136 | . | . | . | 97 | - | . |
| Unmetered Signs (NPL) | | | | | | | | | | | |

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| YLN | 2017 | 1 | 2 | 183 | $18 | . | . | . | 2 | 183 | . |
| | | 2 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 3 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 4 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 5 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 6 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 7 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 8 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 9 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 10 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 12 | . | - | $0 | . | . | . | . | - | . |
| Total Year | 2017 | | 11 | 930 | $93 | . | . | . | 11 | 930 | . |
| | 2018 | 6 | . | - | $0 | . | . | . | . | - | . |
| Total Year | 2018 | | . | - | $0 | . | . | . | . | - | . |
| Schedule YLN | | | 11 | 930 | $93 | . | . | . | 11 | 930 | . |
| Yard Lighting (NPL) | | | | | | | | | | | |

/A



**E1 Item 44**



| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| FLN | 2017 | 1 | 72 | 24,420 | $2,812 | . | . | . | 72 | 24,420 | . |
| | | 2 | 72 | 24,420 | $2,801 | . | . | . | 72 | 24,420 | . |
| | | 3 | 72 | 24,193 | $2,775 | . | . | . | 72 | 24,193 | . |
| | | 4 | 72 | 24,258 | $2,783 | . | . | . | 72 | 24,258 | . |
| | | 5 | 72 | 24,120 | $2,767 | . | . | . | 72 | 24,120 | . |
| | | 6 | 71 | 24,060 | $2,760 | . | . | . | 71 | 24,060 | . |
| | | 7 | 70 | 23,880 | $2,739 | . | . | . | 70 | 23,880 | . |
| | | 8 | 72 | 24,240 | $2,780 | . | . | . | 72 | 24,240 | . |
| | | 9 | 70 | 22,800 | $2,611 | . | . | . | 70 | 22,800 | . |
| | | 10 | 69 | 22,620 | $2,589 | . | . | . | 69 | 22,620 | . |
| | | 11 | 70 | 21,978 | $2,515 | . | . | . | 70 | 21,978 | . |
| | | 12 | 72 | 23,802 | $2,725 | . | . | . | 72 | 23,802 | . |
| Total Year | 2017 | | 854 | 284,791 | $32,656 | . | . | . | 854 | 284,791 | . |
| | 2018 | 1 | 70 | 22,680 | $2,596 | . | . | . | 70 | 22,680 | . |
| | | 2 | 69 | 22,620 | $2,590 | . | . | . | 69 | 22,620 | . |
| | | 3 | 68 | 22,440 | $2,569 | . | . | . | 68 | 22,440 | . |
| | | 4 | 70 | 22,800 | $2,611 | . | . | . | 70 | 22,800 | . |
| | | 5 | 67 | 21,540 | $2,466 | . | . | . | 67 | 21,540 | . |
| | | 6 | 65 | 21,360 | $2,445 | . | . | . | 65 | 21,360 | . |
| | | 7 | 68 | 21,702 | $2,482 | . | . | . | 68 | 21,702 | . |
| | | 8 | 60 | 19,740 | $2,267 | . | . | . | 60 | 19,740 | . |
| Total Year | 2018 | | 537 | 174,882 | $20,026 | . | . | . | 537 | 174,882 | . |
| Schedule FLN | | | 1,391 | 459,673 | $52,682 | . | . | . | 1,391 | 459,673 | . |

Flood Lighting (NPL)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| BL | 2017 | 1 | . | . | . | 84 | 281,499 | . | 84 | 281,499 | . |
| | | 2 | . | . | . | 83 | 221,789 | . | 83 | 221,789 | . |
| | | 3 | . | . | . | 82 | 210,637 | . | 82 | 210,637 | . |
| | | 4 | . | . | . | 83 | 226,046 | . | 83 | 226,046 | . |
| | | 5 | . | . | . | 82 | 201,800 | . | 82 | 201,800 | . |
| | | 6 | . | . | . | 83 | 279,674 | . | 83 | 279,674 | . |
| | | 7 | . | . | . | 82 | 293,610 | . | 82 | 293,610 | . |
| | | 8 | . | . | . | 83 | 315,879 | . | 83 | 315,879 | . |
| | | 9 | . | . | . | 82 | 322,721 | . | 82 | 322,721 | . |
| | | 10 | . | . | . | 82 | 247,010 | . | 82 | 247,010 | . |
| | | 11 | . | . | . | 81 | 214,587 | . | 81 | 214,587 | . |
| | | 12 | . | . | . | 79 | 259,490 | . | 79 | 259,490 | . |
| Total Year | 2017 | | . | . | . | 986 | 3,074,742 | . | 986 | 3,074,742 | . |
| | 2018 | 1 | . | . | . | 81 | 320,602 | . | 81 | 320,602 | . |
| | | 2 | . | . | . | 72 | 272,909 | . | 72 | 272,909 | . |
| | | 3 | . | . | . | 79 | 235,969 | . | 79 | 235,969 | . |
| | | 4 | . | . | . | 82 | 258,196 | . | 82 | 258,196 | . |
| | | 5 | . | . | . | 81 | 244,756 | . | 81 | 244,756 | . |
| | | 6 | . | . | . | 82 | 333,046 | . | 82 | 333,046 | . |
| | | 7 | . | . | . | 81 | 351,361 | . | 81 | 351,361 | . |
| | | 8 | . | . | . | 84 | 343,606 | . | 84 | 343,606 | . |
| | | 9 | . | . | . | 83 | 371,310 | . | 83 | 371,310 | . |
| | | 10 | . | . | . | 81 | 288,451 | . | 81 | 288,451 | . |
| | | 11 | . | . | . | 82 | 233,587 | . | 82 | 233,587 | . |
| | | 12 | . | . | . | 83 | 287,307 | . | 83 | 287,307 | . |
| Total Year | 2018 | | . | . | . | 971 | 3,541,100 | . | 971 | 3,541,100 | . |
| Schedule BL | | | . | . | . | 1,957 | 6,615,842 | . | 1,957 | 6,615,842 | . |

Greenwood

/A





**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| EH | 2017 | 1 | . | . | . | 5 | 9,108 | . | 5 | 9,108 | . |
| | | 2 | . | . | . | 4 | 4,604 | . | 4 | 4,604 | . |
| | | 3 | . | . | . | 4 | 3,360 | . | 4 | 3,360 | . |
| | | 4 | . | . | . | 4 | 2,286 | . | 4 | 2,286 | . |
| | | 5 | . | . | . | 4 | 2,404 | . | 4 | 2,404 | . |
| | | 6 | . | . | . | 3 | 4,094 | . | 3 | 4,094 | . |
| | | 7 | . | . | . | 3 | 5,493 | . | 3 | 5,493 | . |
| | | 8 | . | . | . | 3 | 6,462 | . | 3 | 6,462 | . |
| | | 9 | . | . | . | 3 | 5,580 | . | 3 | 5,580 | . |
| | | 10 | . | . | . | 3 | 3,248 | . | 3 | 3,248 | . |
| | | 11 | . | . | . | 5 | 2,391 | . | 5 | 2,391 | . |
| | | 12 | . | . | . | 3 | 4,103 | . | 3 | 4,103 | . |
| Total Year | 2017 | | . | . | . | 44 | 53,133 | . | 44 | 53,133 | . |
| | 2018 | 1 | . | . | . | 5 | 6,332 | . | 5 | 6,332 | . |
| | | 2 | . | . | . | 4 | 4,918 | . | 4 | 4,918 | . |
| | | 3 | . | . | . | 4 | 1,812 | . | 4 | 1,812 | . |
| | | 4 | . | . | . | 4 | 2,548 | . | 4 | 2,548 | . |
| | | 5 | . | . | . | 3 | 1,802 | . | 3 | 1,802 | . |
| | | 6 | . | . | . | 3 | 4,318 | . | 3 | 4,318 | . |
| | | 7 | . | . | . | 4 | 5,097 | . | 4 | 5,097 | . |
| | | 8 | . | . | . | 4 | 4,392 | . | 4 | 4,392 | . |
| | | 9 | . | . | . | 4 | 5,092 | . | 4 | 5,092 | . |
| | | 10 | . | . | . | 2 | 3,418 | . | 2 | 3,418 | . |
| | | 11 | . | . | . | 5 | 2,315 | . | 5 | 2,315 | . |
| | | 12 | . | . | . | 4 | 4,939 | . | 4 | 4,939 | . |
| Total Year | 2018 | | . | . | . | 46 | 46,983 | . | 46 | 46,983 | . |
| Schedule EH Greenwood | | | . | . | . | 90 | 100,116 | . | 90 | 100,116 | . |

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| SL | 2017 | 1 | . | . | . | 797 | 24,975 | . | 797 | 24,975 | . |
| | | 2 | . | . | . | 797 | 24,804 | . | 797 | 24,804 | . |
| | | 3 | . | . | . | 791 | 24,600 | . | 791 | 24,600 | . |
| | | 4 | . | . | . | 784 | 24,379 | . | 784 | 24,379 | . |
| | | 5 | . | . | . | 777 | 24,225 | . | 777 | 24,225 | . |
| | | 6 | . | . | . | 777 | 24,612 | . | 777 | 24,612 | . |
| | | 7 | . | . | . | 774 | 24,217 | . | 774 | 24,217 | . |
| | | 8 | . | . | . | 776 | 24,328 | . | 776 | 24,328 | . |
| | | 9 | . | . | . | 775 | 24,275 | . | 775 | 24,275 | . |
| | | 10 | . | . | . | 774 | 24,245 | . | 774 | 24,245 | . |
| | | 11 | . | . | . | 777 | 24,259 | . | 777 | 24,259 | . |
| | | 12 | . | . | . | 763 | 23,795 | . | 763 | 23,795 | . |
| Total Year | 2017 | | . | . | . | 9,362 | 292,714 | . | 9,362 | 292,714 | . |
| | 2018 | 1 | . | . | . | 767 | 24,316 | . | 767 | 24,316 | . |
| | | 2 | . | . | . | 768 | 23,989 | . | 768 | 23,989 | . |
| | | 3 | . | . | . | 756 | 23,700 | . | 756 | 23,700 | . |
| | | 4 | . | . | . | 754 | 23,849 | . | 754 | 23,849 | . |
| | | 5 | . | . | . | 748 | 23,643 | . | 748 | 23,643 | . |
| | | 6 | . | . | . | 746 | 23,680 | . | 746 | 23,680 | . |
| | | 7 | . | . | . | 752 | 23,650 | . | 752 | 23,650 | . |
| | | 8 | . | . | . | 745 | 23,710 | . | 745 | 23,710 | . |
| | | 9 | . | . | . | 744 | 23,555 | . | 744 | 23,555 | . |
| | | 10 | . | . | . | 741 | 23,136 | . | 741 | 23,136 | . |
| | | 11 | . | . | . | 736 | 23,334 | . | 736 | 23,334 | . |
| | | 12 | . | . | . | 738 | 23,243 | . | 738 | 23,243 | . |
| Total Year | 2018 | | . | . | . | 8,995 | 283,805 | . | 8,995 | 283,805 | . |
| Schedule SL Greenwood Lighting | | | . | . | . | 18,357 | 576,519 | . | 18,357 | 576,519 | . |

/A

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**



| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| A | 2017 | 1 | . | . | . | 2,465 | 4,801,993 | . | 2,465 | 4,801,993 | . |
| | | 2 | . | . | . | 2,469 | 3,575,860 | . | 2,469 | 3,575,860 | . |
| | | 3 | . | . | . | 2,468 | 3,148,010 | . | 2,468 | 3,148,010 | . |
| | | 4 | . | . | . | 2,463 | 3,092,951 | . | 2,463 | 3,092,951 | . |
| | | 5 | . | . | . | 2,476 | 2,657,722 | . | 2,476 | 2,657,722 | . |
| | | 6 | . | . | . | 2,479 | 3,338,777 | . | 2,479 | 3,338,777 | . |
| | | 7 | . | . | . | 2,470 | 4,261,024 | . | 2,470 | 4,261,024 | . |
| | | 8 | . | . | . | 2,463 | 4,364,984 | . | 2,463 | 4,364,984 | . |
| | | 9 | . | . | . | 2,471 | 3,939,351 | . | 2,471 | 3,939,351 | . |
| | | 10 | . | . | . | 2,461 | 2,893,483 | . | 2,461 | 2,893,483 | . |
| | | 11 | . | . | . | 2,466 | 2,847,926 | . | 2,466 | 2,847,926 | . |
| | | 12 | . | . | . | 2,426 | 3,859,185 | . | 2,426 | 3,859,185 | . |
| Total Year | 2017 | | . | . | . | 29,577 | 42,781,266 | . | 29,577 | 42,781,266 | . |
| | 2018 | 1 | . | . | . | 2,482 | 5,344,155 | . | 2,482 | 5,344,155 | . |
| | | 2 | . | . | . | 2,488 | 4,755,097 | . | 2,488 | 4,755,097 | . |
| | | 3 | . | . | . | 2,464 | 3,010,292 | . | 2,464 | 3,010,292 | . |
| | | 4 | . | . | . | 2,462 | 3,265,820 | . | 2,462 | 3,265,820 | . |
| | | 5 | . | . | . | 2,464 | 2,641,036 | . | 2,464 | 2,641,036 | . |
| | | 6 | . | . | . | 2,466 | 3,596,238 | . | 2,466 | 3,596,238 | . |
| | | 7 | . | . | . | 2,463 | 4,502,520 | . | 2,463 | 4,502,520 | . |
| | | 8 | . | . | . | 2,463 | 4,161,056 | . | 2,463 | 4,161,056 | . |
| | | 9 | . | . | . | 2,456 | 4,660,289 | . | 2,456 | 4,660,289 | . |
| | | 10 | . | . | . | 2,445 | 3,367,989 | . | 2,445 | 3,367,989 | . |
| | | 11 | . | . | . | 2,460 | 2,927,705 | . | 2,460 | 2,927,705 | . |
| | | 12 | . | . | . | 2,447 | 4,317,105 | . | 2,447 | 4,317,105 | . |
| Total Year | 2018 | | . | . | . | 29,560 | 46,549,302 | . | 29,560 | 46,549,302 | . |
| Schedule A | | | . | . | . | 59,137 | 89,330,568 | . | 59,137 | 89,330,568 | . |

Greenwood Residential

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| SPE | 2017 | 1 | 17 | 542,880,010 | $28,489,079 | 7 | 366,647,370 | . | 24 | 909,527,380 | . |
| | | 2 | 16 | 384,758,875 | $24,569,122 | 6 | 163,457,770 | . | 22 | 548,216,645 | . |
| | | 3 | 16 | 745,776,066 | $35,195,389 | 11 | 273,326,276 | . | 27 | 1,019,102,342 | . |
| | | 4 | 16 | 659,659,092 | $32,867,865 | 8 | 253,698,875 | . | 24 | 913,357,967 | . |
| | | 5 | 17 | 517,592,100 | $28,921,530 | 8 | 293,960,613 | . | 25 | 811,552,713 | . |
| | | 6 | 16 | 500,132,355 | $22,948,671 | 9 | 325,112,990 | . | 25 | 825,245,345 | . |
| | | 7 | 17 | 533,958,570 | $28,701,828 | 9 | 389,327,132 | . | 26 | 923,285,702 | . |
| | | 8 | 16 | 552,523,951 | $29,871,962 | 8 | 362,991,851 | . | 24 | 915,515,802 | . |
| | | 9 | 19 | 433,041,405 | $27,074,201 | 10 | 319,314,971 | . | 29 | 752,356,376 | . |
| | | 10 | 15 | 424,867,551 | $26,781,129 | 8 | 281,796,729 | . | 23 | 706,664,280 | . |
| | | 11 | 14 | 401,374,232 | $25,695,016 | 9 | 268,431,907 | . | 23 | 669,806,139 | . |
| | | 12 | 14 | 559,671,108 | $21,257,983 | 8 | 316,965,856 | . | 22 | 876,636,964 | . |
| Total Year | 2017 | | 193 | 6,256,235,315 | $332,373,776 | 101 | 3,615,032,340 | . | 294 | 9,871,267,655 | . |
| | 2018 | 1 | 16 | 806,296,165 | $57,646,461 | 8 | 435,227,240 | . | 24 | 1,241,523,405 | . |
| | | 2 | 15 | 399,101,024 | $25,758,724 | 6 | 280,441,178 | . | 21 | 679,542,202 | . |
| | | 3 | 16 | 616,856,939 | $21,018,181 | 6 | 323,446,106 | . | 22 | 940,303,045 | . |
| | | 4 | 18 | 528,016,688 | $31,410,175 | 10 | 265,082,086 | . | 28 | 793,098,774 | . |
| | | 5 | 17 | 529,612,486 | $30,258,617 | 9 | 337,021,113 | . | 26 | 866,633,599 | . |
| | | 6 | 15 | 671,703,372 | $25,338,926 | 7 | 403,156,971 | . | 22 | 1,074,860,343 | . |
| | | 7 | 15 | 487,914,869 | $29,789,158 | 6 | 424,475,221 | . | 21 | 912,390,090 | . |
| | | 8 | 15 | 509,913,501 | $30,218,539 | 7 | 426,797,145 | . | 22 | 936,710,646 | . |
| | | 9 | 15 | 675,762,667 | $34,962,359 | 6 | 410,545,186 | . | 21 | 1,086,307,853 | . |
| | | 10 | 15 | 434,284,175 | $27,998,335 | 7 | 343,857,435 | . | 22 | 778,141,610 | . |
| | | 11 | 15 | 559,178,960 | $33,677,287 | 9 | 335,514,546 | . | 24 | 894,693,506 | . |
| | | 12 | 14 | 672,894,237 | $19,057,344 | 8 | 369,850,651 | . | 22 | 1,042,744,888 | . |
| Total Year | 2018 | | 186 | 6,891,535,083 | $367,134,105 | 89 | 4,355,414,878 | . | 275 | 11,246,949,961 | . |
| Schedule SPE | | | 379 | 13,147,770,398 | $699,507,880 | 190 | 7,970,447,218 | . | 569 | 21,118,217,616 | . |

Special Sales (Wholesale,Munis,Coops)

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| Schedule | Year | Month | North Carolina Bills | North Carolina kWh | North Carolina Rate Revenue | South Carolina Bills | South Carolina kWh | South Carolina Rate Revenue | System Bills | System kWh | System Rate Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RS1 | 2017 | 4 | . | 3,923 | $412 | . | . | . | . | 3,923 | . |
| | | 6 | . | - | $0 | . | . | . | . | - | . |
| | | 11 | . | . | . | 1 | - | . | 1 | - | . |
| Total Year | 2017 | | . | 3,923 | $412 | 1 | - | . | 1 | 3,923 | . |
| Schedule RS1 | | | . | 3,923 | $412 | 1 | - | . | 1 | 3,923 | . |
| Residential Service | | | | | | | | | | | |

| Schedule | Year | Month | North Carolina Bills | North Carolina kWh | North Carolina Rate Revenue | South Carolina Bills | South Carolina kWh | South Carolina Rate Revenue | System Bills | System kWh | System Rate Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RS2 | 2017 | 3 | . | 2,271 | $246 | . | . | . | . | 2,271 | . |
| | | 5 | 1 | 2,284 | $361 | . | . | . | 1 | 2,284 | . |
| | | 6 | 1 | 1,052 | $103 | . | . | . | 1 | 1,052 | . |
| | | 7 | . | . | . | 1 | 1 | . | 1 | 1 | . |
| | | 8 | . | - | $0 | 1 | 114 | . | 1 | 114 | . |
| Total Year | 2017 | | 2 | 5,607 | $710 | 2 | 115 | . | 4 | 5,722 | . |
| | 2018 | 1 | . | . | . | 1 | 279 | . | 1 | 279 | . |
| | | 5 | . | . | . | 2 | 1,550 | . | 2 | 1,550 | . |
| | | 7 | 1 | 40 | $15 | . | . | . | 1 | 40 | . |
| Total Year | 2018 | | 1 | 40 | $15 | 3 | 1,829 | . | 4 | 1,869 | . |
| Schedule RS2 | | | 3 | 5,647 | $725 | 5 | 1,944 | . | 8 | 7,591 | . |
| Residential Service | | | | | | | | | | | |

| Schedule | Year | Month | North Carolina Bills | North Carolina kWh | North Carolina Rate Revenue | South Carolina Bills | South Carolina kWh | South Carolina Rate Revenue | System Bills | System kWh | System Rate Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RS | 2017 | 1 | 993,577 | 1,109,269,198 | $113,408,226 | 262,921 | 291,565,105 | . | 1,256,498 | 1,400,834,303 | . |
| | | 2 | 1,000,182 | 855,051,779 | $90,591,270 | 264,476 | 221,821,156 | . | 1,264,658 | 1,076,872,935 | . |
| | | 3 | 997,732 | 792,990,082 | $84,877,808 | 264,395 | 211,962,861 | . | 1,262,127 | 1,004,952,943 | . |
| | | 4 | 997,899 | 787,333,068 | $84,374,573 | 265,144 | 208,906,853 | . | 1,263,043 | 996,239,921 | . |
| | | 5 | 1,001,743 | 776,161,449 | $83,386,865 | 265,003 | 214,745,466 | . | 1,266,746 | 990,906,915 | . |
| | | 6 | 1,005,625 | 1,019,494,099 | $105,637,208 | 265,029 | 287,683,645 | . | 1,270,654 | 1,307,177,744 | . |
| | | 7 | 999,897 | 1,294,818,826 | $130,684,223 | 266,674 | 368,881,789 | . | 1,266,571 | 1,663,700,615 | . |
| | | 8 | 1,011,036 | 1,282,394,504 | $129,661,460 | 266,562 | 367,839,853 | . | 1,277,598 | 1,650,234,357 | . |
| | | 9 | 1,000,280 | 1,089,372,607 | $111,796,732 | 266,687 | 312,089,591 | . | 1,266,967 | 1,401,462,198 | . |
| | | 10 | 1,004,137 | 831,984,626 | $88,195,144 | 266,148 | 235,907,011 | . | 1,270,285 | 1,067,891,637 | . |
| | | 11 | 1,002,593 | 758,969,522 | $81,552,713 | 266,093 | 205,245,716 | . | 1,268,686 | 964,215,238 | . |
| | | 12 | 1,004,829 | 960,050,169 | $99,864,851 | 266,473 | 257,923,634 | . | 1,271,302 | 1,217,973,803 | . |
| Total Year | 2017 | | 12,019,530 | 11,557,889,929 | $1,204,031,074 | 3,185,605 | 3,184,572,680 | . | 15,205,135 | 14,742,462,609 | . |
| | 2018 | 1 | 1,007,623 | 1,353,190,206 | $136,443,717 | 267,079 | 367,323,492 | . | 1,274,702 | 1,720,513,698 | . |
| | | 2 | 1,004,891 | 1,051,192,956 | $109,475,761 | 267,722 | 277,219,205 | . | 1,272,613 | 1,328,412,161 | . |
| | | 3 | 1,007,118 | 804,380,595 | $86,718,952 | 268,022 | 207,717,275 | . | 1,275,140 | 1,012,097,870 | . |
| | | 4 | 1,013,262 | 823,653,758 | $88,569,380 | 268,316 | 209,478,130 | . | 1,281,578 | 1,033,131,888 | . |
| | | 5 | 1,009,777 | 777,957,998 | $84,303,910 | 268,286 | 210,739,659 | . | 1,278,063 | 988,697,657 | . |
| | | 6 | 1,010,807 | 1,179,669,968 | $121,357,581 | 269,337 | 334,318,309 | . | 1,280,144 | 1,513,988,277 | . |
| | | 7 | 1,019,251 | 1,383,400,308 | $140,130,337 | 270,102 | 382,751,721 | . | 1,289,353 | 1,766,152,029 | . |
| | | 8 | 1,018,375 | 1,267,046,494 | $129,421,654 | 270,488 | 354,989,485 | . | 1,288,863 | 1,622,035,979 | . |
| | | 9 | 1,011,236 | 1,354,456,227 | $137,866,663 | 269,214 | 387,823,238 | . | 1,280,450 | 1,742,279,465 | . |
| | | 10 | 1,013,459 | 934,109,167 | $99,813,167 | 268,541 | 267,190,843 | . | 1,282,000 | 1,201,300,010 | . |
| | | 11 | 1,015,613 | 787,819,556 | $86,417,992 | 271,585 | 214,807,408 | . | 1,287,198 | 1,002,626,964 | . |
| | | 12 | 1,013,321 | 1,049,458,192 | $110,597,625 | 270,210 | 290,851,888 | . | 1,283,531 | 1,340,310,080 | . |
| Total Year | 2018 | | 12,144,733 | 12,766,335,425 | $1,331,116,740 | 3,228,902 | 3,505,210,653 | . | 15,373,635 | 16,271,546,078 | . |
| Schedule RS | | | 24,164,263 | 24,324,225,354 | $2,535,147,814 | 6,414,507 | 6,689,783,333 | . | 30,578,770 | 31,014,008,687 | . |
| Residential Service | | | | | | | | | | | |

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RE1 | 2017 | 1 | 1 | 1,484 | $54 | 1 | 5,640 | . | 2 | 7,124 | . |
| | | 2 | 2 | 1,015 | $106 | . | . | . | 2 | 1,015 | . |
| | | 3 | 1 | 1,038 | $95 | . | (3,922) | . | 1 | (2,884) | . |
| | | 5 | 2 | 1,744 | $165 | . | . | . | 2 | 1,744 | . |
| | | 6 | 1 | 1,130 | $110 | . | . | . | 1 | 1,130 | . |
| | | 8 | 1 | 40 | $15 | . | . | . | 1 | 40 | . |
| | | 9 | . | . | . | 1 | - | . | 1 | - | . |
| | | 11 | 1 | 27 | $14 | . | . | . | 1 | 27 | . |
| Total Year | 2017 | | 9 | 6,478 | $560 | 2 | 1,718 | . | 11 | 8,196 | . |
| | 2018 | 7 | . | . | . | 1 | 399 | . | 1 | 399 | . |
| Total Year | 2018 | | . | . | . | 1 | 399 | . | 1 | 399 | . |
| Schedule RE1 | | | 9 | 6,478 | $560 | 3 | 2,117 | . | 12 | 8,595 | . |

Residential Service, Electric Water Heating and Space Conditioning

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RE2 | 2017 | 1 | 1 | - | $12 | . | . | . | 1 | - | . |
| | | 11 | 1 | 33 | $15 | . | . | . | 1 | 33 | . |
| Total Year | 2017 | | 2 | 33 | $26 | . | . | . | 2 | 33 | . |
| | 2018 | 1 | 1 | 1,104 | $93 | . | . | . | 1 | 1,104 | . |
| | | 2 | 1 | (1,104) | ($90) | . | . | . | 1 | (1,104) | . |
| Total Year | 2018 | | 2 | - | $3 | . | . | . | 2 | - | . |
| Schedule RE2 | | | 4 | 33 | $29 | . | . | . | 4 | 33 | . |

Residential Service, Electric Water Heating and Space Conditioning

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RE | 2017 | 1 | 698,045 | 1,032,882,880 | $94,962,638 | 215,212 | 327,243,216 | . | 913,257 | 1,360,126,096 | . |
| | | 2 | 702,841 | 776,962,745 | $74,398,034 | 217,380 | 241,554,482 | . | 920,221 | 1,018,517,227 | . |
| | | 3 | 702,745 | 697,405,850 | $67,857,393 | 217,562 | 227,987,956 | . | 920,307 | 925,393,806 | . |
| | | 4 | 703,886 | 638,684,354 | $63,088,461 | 218,519 | 206,775,123 | . | 922,405 | 845,459,477 | . |
| | | 5 | 709,037 | 545,089,929 | $55,468,487 | 219,353 | 188,025,891 | . | 928,390 | 733,115,820 | . |
| | | 6 | 714,281 | 658,043,678 | $65,230,162 | 217,427 | 229,942,499 | . | 931,708 | 887,986,177 | . |
| | | 7 | 711,369 | 780,864,185 | $80,033,964 | 222,953 | 283,680,948 | . | 934,322 | 1,064,545,133 | . |
| | | 8 | 720,303 | 762,997,971 | $78,487,657 | 223,604 | 281,470,998 | . | 943,907 | 1,044,468,969 | . |
| | | 9 | 709,334 | 686,129,425 | $71,309,297 | 221,042 | 247,893,604 | . | 930,376 | 934,023,029 | . |
| | | 10 | 713,701 | 553,982,216 | $58,871,919 | 221,071 | 197,263,310 | . | 934,772 | 751,245,526 | . |
| | | 11 | 710,685 | 592,349,767 | $59,189,909 | 220,743 | 199,497,346 | . | 931,428 | 791,847,113 | . |
| | | 12 | 712,550 | 860,816,600 | $81,099,682 | 221,418 | 281,088,412 | . | 933,968 | 1,141,905,012 | . |
| Total Year | 2017 | | 8,508,777 | 8,586,209,600 | $849,997,604 | 2,636,284 | 2,912,423,785 | . | 11,145,061 | 11,498,633,385 | . |
| | 2018 | 1 | 716,617 | 1,370,263,380 | $123,419,754 | 221,493 | 446,807,825 | . | 938,110 | 1,817,071,205 | . |
| | | 2 | 714,185 | 1,031,102,684 | $96,275,528 | 221,810 | 325,053,193 | . | 935,995 | 1,356,155,877 | . |
| | | 3 | 719,019 | 726,382,102 | $71,121,954 | 222,441 | 224,633,098 | . | 941,460 | 951,015,200 | . |
| | | 4 | 721,554 | 717,933,093 | $70,462,523 | 222,508 | 220,077,784 | . | 944,062 | 938,010,877 | . |
| | | 5 | 723,351 | 569,002,801 | $58,126,546 | 222,868 | 191,347,236 | . | 946,219 | 760,350,037 | . |
| | | 6 | 724,796 | 740,849,991 | $72,866,946 | 223,217 | 263,160,619 | . | 948,013 | 1,004,010,610 | . |
| | | 7 | 733,205 | 821,815,690 | $84,687,044 | 224,963 | 288,894,131 | . | 958,168 | 1,110,709,821 | . |
| | | 8 | 732,171 | 761,975,233 | $78,808,312 | 225,958 | 271,074,082 | . | 958,129 | 1,033,049,315 | . |
| | | 9 | 724,895 | 823,002,210 | $84,112,731 | 223,649 | 295,263,680 | . | 948,544 | 1,118,265,890 | . |
| | | 10 | 725,305 | 604,418,530 | $64,262,524 | 222,254 | 215,027,511 | . | 947,559 | 819,446,041 | . |
| | | 11 | 727,668 | 635,454,985 | $63,704,763 | 224,974 | 213,580,705 | . | 952,642 | 849,035,690 | . |
| | | 12 | 728,028 | 971,219,294 | $91,138,156 | 224,352 | 328,651,070 | . | 952,380 | 1,299,870,364 | . |
| Total Year | 2018 | | 8,690,794 | 9,773,419,993 | $958,986,782 | 2,680,487 | 3,283,570,934 | . | 11,371,281 | 13,056,990,927 | . |
| Schedule RE | | | 17,199,571 | 18,359,629,593 | $1,808,984,385 | 5,316,771 | 6,195,994,719 | . | 22,516,342 | 24,555,624,312 | . |

Residential Service, Electric Water Heating and Space Conditioning

/A

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**



| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| ES | 2017 | 1 | 7,456 | 8,794,939 | $865,680 | 1,533 | 1,537,214 | . | 8,989 | 10,332,153 | . |
| | | 2 | 7,619 | 6,969,309 | $712,016 | 1,547 | 1,149,610 | . | 9,166 | 8,118,919 | . |
| | | 3 | 7,657 | 6,559,599 | $676,905 | 1,575 | 1,139,377 | . | 9,232 | 7,698,976 | . |
| | | 4 | 7,775 | 6,876,578 | $706,055 | 1,586 | 1,237,727 | . | 9,361 | 8,114,305 | . |
| | | 5 | 7,795 | 7,091,802 | $724,991 | 1,588 | 1,322,536 | . | 9,383 | 8,414,338 | . |
| | | 6 | 8,027 | 9,541,597 | $940,560 | 1,655 | 1,714,959 | . | 9,682 | 11,256,556 | . |
| | | 7 | 8,043 | 11,695,331 | $1,127,306 | 1,638 | 2,257,733 | . | 9,681 | 13,953,064 | . |
| | | 8 | 8,148 | 11,578,855 | $1,118,776 | 1,650 | 2,283,075 | . | 9,798 | 13,861,930 | . |
| | | 9 | 8,163 | 10,476,245 | $1,022,052 | 1,645 | 2,082,457 | . | 9,808 | 12,558,702 | . |
| | | 10 | 8,191 | 8,100,476 | $815,118 | 1,661 | 1,568,485 | . | 9,852 | 9,668,961 | . |
| | | 11 | 8,278 | 6,941,947 | $716,227 | 1,674 | 1,233,103 | . | 9,952 | 8,175,050 | . |
| | | 12 | 8,286 | 8,353,394 | $838,436 | 1,668 | 1,414,562 | . | 9,954 | 9,767,956 | . |
| Total Year | 2017 | | 95,438 | 102,980,072 | $10,264,122 | 19,420 | 18,940,838 | . | 114,858 | 121,920,910 | . |
| | 2018 | 1 | 8,318 | 11,423,062 | $1,110,676 | 1,691 | 1,918,038 | . | 10,009 | 13,341,100 | . |
| | | 2 | 8,312 | 8,968,644 | $903,209 | 1,706 | 1,485,268 | . | 10,018 | 10,453,912 | . |
| | | 3 | 8,519 | 7,442,617 | $772,171 | 1,717 | 1,245,856 | . | 10,236 | 8,688,473 | . |
| | | 4 | 8,563 | 7,522,898 | $779,657 | 1,735 | 1,310,681 | . | 10,298 | 8,833,579 | . |
| | | 5 | 8,628 | 7,628,448 | $789,692 | 1,739 | 1,329,957 | . | 10,367 | 8,958,405 | . |
| | | 6 | 8,692 | 11,775,604 | $1,153,926 | 1,752 | 2,238,794 | . | 10,444 | 14,014,398 | . |
| | | 7 | 8,760 | 13,502,829 | $1,305,387 | 1,760 | 2,532,099 | . | 10,520 | 16,034,928 | . |
| | | 8 | 8,809 | 12,437,084 | $1,236,453 | 1,776 | 2,377,392 | . | 10,585 | 14,814,476 | . |
| | | 9 | 8,809 | 13,674,250 | $1,384,981 | 1,779 | 2,698,154 | . | 10,588 | 16,372,404 | . |
| | | 10 | 8,709 | 9,494,600 | $1,005,992 | 1,781 | 1,908,923 | . | 10,490 | 11,403,523 | . |
| | | 11 | 9,016 | 7,582,230 | $835,441 | 1,813 | 1,315,178 | . | 10,829 | 8,897,408 | . |
| | | 12 | 8,933 | 9,453,045 | $1,007,412 | 1,807 | 1,669,701 | . | 10,740 | 11,122,746 | . |
| Total Year | 2018 | | 104,068 | 120,905,311 | $12,284,996 | 21,056 | 22,030,041 | . | 125,124 | 142,935,352 | . |
| Schedule ES | | | 199,506 | 223,885,383 | $22,549,119 | 40,476 | 40,970,879 | . | 239,982 | 264,856,262 | . |

Residential Service, Energy Star (Standard)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| ESA | 2017 | 1 | 3,039 | 4,202,277 | $374,253 | 425 | 666,059 | . | 3,464 | 4,868,336 | . |
| | | 2 | 3,064 | 3,242,196 | $302,287 | 447 | 505,179 | . | 3,511 | 3,747,375 | . |
| | | 3 | 3,095 | 2,873,734 | $274,151 | 444 | 470,157 | . | 3,539 | 3,343,891 | . |
| | | 4 | 3,101 | 2,872,634 | $274,301 | 443 | 443,164 | . | 3,544 | 3,315,798 | . |
| | | 5 | 3,089 | 2,399,678 | $237,622 | 442 | 408,813 | . | 3,531 | 2,808,491 | . |
| | | 6 | 3,139 | 2,888,389 | $278,239 | 439 | 493,802 | . | 3,578 | 3,382,191 | . |
| | | 7 | 3,110 | 3,378,204 | $336,637 | 457 | 612,431 | . | 3,567 | 3,990,635 | . |
| | | 8 | 3,143 | 3,304,000 | $330,572 | 466 | 621,705 | . | 3,609 | 3,925,705 | . |
| | | 9 | 3,132 | 3,126,051 | $314,635 | 465 | 553,711 | . | 3,597 | 3,679,762 | . |
| | | 10 | 3,123 | 2,536,804 | $261,238 | 466 | 431,411 | . | 3,589 | 2,968,215 | . |
| | | 11 | 3,129 | 2,416,457 | $238,042 | 466 | 419,849 | . | 3,595 | 2,836,306 | . |
| | | 12 | 3,138 | 3,420,325 | $315,794 | 465 | 592,971 | . | 3,603 | 4,013,296 | . |
| Total Year | 2017 | | 37,302 | 36,660,749 | $3,537,771 | 5,425 | 6,219,252 | . | 42,727 | 42,880,001 | . |
| | 2018 | 1 | 3,143 | 5,442,397 | $473,028 | 468 | 927,296 | . | 3,611 | 6,369,693 | . |
| | | 2 | 3,137 | 4,280,405 | $386,754 | 468 | 680,312 | . | 3,605 | 4,960,717 | . |
| | | 3 | 3,161 | 3,035,651 | $290,388 | 471 | 475,996 | . | 3,632 | 3,511,647 | . |
| | | 4 | 3,175 | 3,197,144 | $302,955 | 475 | 485,088 | . | 3,650 | 3,682,232 | . |
| | | 5 | 3,162 | 2,554,349 | $252,738 | 477 | 432,473 | . | 3,639 | 2,986,822 | . |
| | | 6 | 3,143 | 3,254,993 | $309,763 | 473 | 590,974 | . | 3,616 | 3,845,967 | . |
| | | 7 | 3,171 | 3,587,682 | $358,616 | 479 | 643,975 | . | 3,650 | 4,231,657 | . |
| | | 8 | 3,182 | 3,294,138 | $339,270 | 475 | 609,768 | . | 3,657 | 3,903,906 | . |
| | | 9 | 3,165 | 3,682,708 | $385,503 | 480 | 667,111 | . | 3,645 | 4,349,819 | . |
| | | 10 | 3,152 | 2,688,913 | $292,408 | 472 | 486,124 | . | 3,624 | 3,175,037 | . |
| | | 11 | 3,162 | 2,588,573 | $258,803 | 472 | 454,491 | . | 3,634 | 3,043,064 | . |
| | | 12 | 3,164 | 3,817,113 | $350,193 | 476 | 709,211 | . | 3,640 | 4,526,324 | . |
| Total Year | 2018 | | 37,917 | 41,424,066 | $4,000,418 | 5,686 | 7,162,819 | . | 43,603 | 48,586,885 | . |
| Schedule ESA | | | 75,219 | 78,084,815 | $7,538,189 | 11,111 | 13,382,071 | . | 86,330 | 91,466,886 | . |

Residential Service, Energy Star (All Electric)

/A

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RST | 2017 | 1 | 1 | 475 | $60 | . | . | . | 1 | 475 | . |
| | | 2 | 1 | 348 | $49 | . | . | . | 1 | 348 | . |
| | | 3 | 1 | 316 | $46 | . | . | . | 1 | 316 | . |
| | | 4 | 1 | 190 | $25 | . | . | . | 1 | 190 | . |
| Total Year | 2017 | | 4 | 1,329 | $180 | . | . | . | 4 | 1,329 | . |
| Schedule RST | | | 4 | 1,329 | $180 | . | . | . | 4 | 1,329 | . |

Residential Service, TOU (Pilot Closed)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RET | 2018 | 5 | 1 | 1,633 | $156 | . | . | . | 1 | 1,633 | . |
| | | 6 | 1 | 2,139 | $201 | . | . | . | 1 | 2,139 | . |
| Total Year | 2018 | | 2 | 3,772 | $357 | . | . | . | 2 | 3,772 | . |
| Schedule RET | | | 2 | 3,772 | $357 | . | . | . | 2 | 3,772 | . |

Residential Service TOU (Pilot Closed)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RT | 2017 | 1 | 1,950 | 4,934,531 | $382,943 | 301 | 657,947 | . | 2,251 | 5,592,478 | . |
| | | 2 | 1,936 | 3,772,743 | $308,441 | 299 | 501,597 | . | 2,235 | 4,274,340 | . |
| | | 3 | 1,948 | 3,512,139 | $293,005 | 298 | 484,195 | . | 2,246 | 3,996,334 | . |
| | | 4 | 1,943 | 3,312,599 | $280,581 | 298 | 468,440 | . | 2,241 | 3,781,039 | . |
| | | 5 | 1,952 | 3,060,823 | $248,651 | 293 | 455,505 | . | 2,245 | 3,516,328 | . |
| | | 6 | 1,953 | 3,800,519 | $412,290 | 306 | 594,614 | . | 2,259 | 4,395,133 | . |
| | | 7 | 1,942 | 4,680,626 | $352,752 | 296 | 698,962 | . | 2,238 | 5,379,588 | . |
| | | 8 | 1,948 | 4,484,091 | $424,160 | 298 | 721,280 | . | 2,246 | 5,205,371 | . |
| | | 9 | 1,935 | 3,955,961 | $390,524 | 295 | 637,776 | . | 2,230 | 4,593,737 | . |
| | | 10 | 1,936 | 3,143,612 | $284,390 | 297 | 489,807 | . | 2,233 | 3,633,419 | . |
| | | 11 | 1,941 | 3,186,914 | $266,667 | 299 | 433,062 | . | 2,240 | 3,619,976 | . |
| | | 12 | 1,940 | 4,135,255 | $331,054 | 301 | 549,464 | . | 2,241 | 4,684,719 | . |
| Total Year | 2017 | | 23,324 | 45,979,813 | $3,975,458 | 3,581 | 6,692,649 | . | 26,905 | 52,672,462 | . |
| | 2018 | 1 | 1,949 | 6,070,252 | $457,023 | 300 | 809,182 | . | 2,249 | 6,879,434 | . |
| | | 2 | 1,949 | 4,574,538 | $367,620 | 298 | 617,361 | . | 2,247 | 5,191,899 | . |
| | | 3 | 1,957 | 3,548,134 | $293,528 | 304 | 460,884 | . | 2,261 | 4,009,018 | . |
| | | 4 | 1,956 | 3,464,175 | $291,336 | 300 | 449,960 | . | 2,256 | 3,914,135 | . |
| | | 5 | 1,950 | 3,091,373 | $264,322 | 305 | 450,213 | . | 2,255 | 3,541,586 | . |
| | | 6 | 1,947 | 4,297,061 | $360,640 | 301 | 640,950 | . | 2,248 | 4,938,011 | . |
| | | 7 | 1,962 | 4,707,248 | $442,896 | 303 | 709,210 | . | 2,265 | 5,416,458 | . |
| | | 8 | 1,971 | 4,437,768 | $424,465 | 302 | 677,063 | . | 2,273 | 5,114,831 | . |
| | | 9 | 1,955 | 4,671,220 | $436,003 | 307 | 744,366 | . | 2,262 | 5,415,586 | . |
| | | 10 | 1,955 | 3,383,678 | $308,787 | 302 | 525,533 | . | 2,257 | 3,909,211 | . |
| | | 11 | 1,957 | 3,221,494 | $274,708 | 304 | 450,354 | . | 2,261 | 3,671,848 | . |
| | | 12 | 1,958 | 4,469,412 | $358,563 | 302 | 613,517 | . | 2,260 | 5,082,929 | . |
| Total Year | 2018 | | 23,466 | 49,936,353 | $4,279,891 | 3,628 | 7,148,593 | . | 27,094 | 57,084,946 | . |
| Schedule RT | | | 46,790 | 95,916,166 | $8,255,349 | 7,209 | 13,841,242 | . | 53,999 | 109,757,408 | . |

Residential Service, Time-of-Use

/A



**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| WC | 2017 | 1 | 7,679 | 1,521,501 | $80,156 | 2,505 | 517,531 | . | 10,184 | 2,039,032 | . |
| | | 2 | 7,751 | 1,328,869 | $72,129 | 2,486 | 438,161 | . | 10,237 | 1,767,030 | . |
| | | 3 | 7,630 | 1,299,691 | $70,617 | 2,477 | 441,173 | . | 10,107 | 1,740,864 | . |
| | | 4 | 7,645 | 1,316,555 | $71,390 | 2,467 | 434,129 | . | 10,112 | 1,750,684 | . |
| | | 5 | 7,658 | 1,117,444 | $62,580 | 2,453 | 359,278 | . | 10,111 | 1,476,722 | . |
| | | 6 | 7,669 | 1,091,322 | $61,411 | 2,360 | 325,597 | . | 10,029 | 1,416,919 | . |
| | | 7 | 7,545 | 980,416 | $56,296 | 2,417 | 303,745 | . | 9,962 | 1,284,161 | . |
| | | 8 | 7,638 | 882,999 | $52,104 | 2,482 | 280,704 | . | 10,120 | 1,163,703 | . |
| | | 9 | 7,482 | 980,868 | $56,098 | 2,364 | 302,628 | . | 9,846 | 1,283,496 | . |
| | | 10 | 7,528 | 926,957 | $53,652 | 2,379 | 288,519 | . | 9,907 | 1,215,476 | . |
| | | 11 | 7,482 | 1,080,556 | $60,325 | 2,376 | 353,156 | . | 9,858 | 1,433,712 | . |
| | | 12 | 7,474 | 1,302,592 | $70,102 | 2,363 | 424,607 | . | 9,837 | 1,727,199 | . |
| Total Year | 2017 | | 91,181 | 13,829,770 | $766,860 | 29,129 | 4,469,228 | . | 120,310 | 18,298,998 | . |
| | 2018 | 1 | 7,424 | 1,563,043 | $82,357 | 2,317 | 515,772 | . | 9,741 | 2,078,815 | . |
| | | 2 | 7,413 | 1,407,201 | $76,364 | 2,360 | 465,753 | . | 9,773 | 1,872,954 | . |
| | | 3 | 7,347 | 1,234,755 | $68,446 | 2,252 | 390,802 | . | 9,599 | 1,625,557 | . |
| | | 4 | 7,305 | 1,302,213 | $71,424 | 2,368 | 428,975 | . | 9,673 | 1,731,188 | . |
| | | 5 | 7,356 | 1,149,607 | $64,578 | 2,293 | 356,116 | . | 9,649 | 1,505,723 | . |
| | | 6 | 7,227 | 1,029,578 | $58,903 | 2,216 | 310,863 | . | 9,443 | 1,340,441 | . |
| | | 7 | 7,315 | 908,614 | $53,535 | 2,270 | 276,098 | . | 9,585 | 1,184,712 | . |
| | | 8 | 7,228 | 849,561 | $52,374 | 2,322 | 269,708 | . | 9,550 | 1,119,269 | . |
| | | 9 | 6,910 | 889,428 | $56,446 | 2,224 | 278,729 | . | 9,134 | 1,168,157 | . |
| | | 10 | 6,022 | 456,433 | $29,811 | 2,188 | 257,018 | . | 8,210 | 713,451 | . |
| | | 11 | 4,131 | 168,845 | $10,670 | 2,239 | 337,711 | . | 6,370 | 506,556 | . |
| | | 12 | 1,824 | 44,673 | $2,695 | 2,228 | 414,989 | . | 4,052 | 459,662 | . |
| Total Year | 2018 | | 77,502 | 11,003,951 | $627,605 | 27,277 | 4,302,534 | . | 104,779 | 15,306,485 | . |
| Schedule WC | | | 168,683 | 24,833,721 | $1,394,465 | 56,406 | 8,771,762 | . | 225,089 | 33,605,483 | . |

Residential Service, Water Heating, Controlled/Submetered

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| RB | 2017 | 1 | . | . | . | 5,698 | 5,938,820 | . | 5,698 | 5,938,820 | . |
| | | 2 | . | . | . | 5,718 | 4,596,576 | . | 5,718 | 4,596,576 | . |
| | | 3 | . | . | . | 5,713 | 4,485,719 | . | 5,713 | 4,485,719 | . |
| | | 4 | . | . | . | 5,720 | 4,758,626 | . | 5,720 | 4,758,626 | . |
| | | 5 | . | . | . | 5,716 | 5,225,331 | . | 5,716 | 5,225,331 | . |
| | | 6 | . | . | . | 5,720 | 7,152,591 | . | 5,720 | 7,152,591 | . |
| | | 7 | . | . | . | 5,725 | 9,152,016 | . | 5,725 | 9,152,016 | . |
| | | 8 | . | . | . | 5,700 | 10,158,870 | . | 5,700 | 10,158,870 | . |
| | | 9 | . | . | . | 5,714 | 6,654,540 | . | 5,714 | 6,654,540 | . |
| | | 10 | . | . | . | 5,682 | 5,693,531 | . | 5,682 | 5,693,531 | . |
| | | 11 | . | . | . | 5,704 | 4,593,079 | . | 5,704 | 4,593,079 | . |
| | | 12 | . | . | . | 5,662 | 5,222,982 | . | 5,662 | 5,222,982 | . |
| Total Year | 2017 | | . | . | . | 68,472 | 73,632,681 | . | 68,472 | 73,632,681 | . |
| | 2018 | 1 | . | . | . | 5,672 | 6,886,945 | . | 5,672 | 6,886,945 | . |
| | | 2 | . | . | . | 5,683 | 5,364,966 | . | 5,683 | 5,364,966 | . |
| | | 3 | . | . | . | 5,673 | 4,324,546 | . | 5,673 | 4,324,546 | . |
| | | 4 | . | . | . | 5,673 | 4,429,131 | . | 5,673 | 4,429,131 | . |
| | | 5 | . | . | . | 5,680 | 5,039,573 | . | 5,680 | 5,039,573 | . |
| | | 6 | . | . | . | 5,680 | 7,953,147 | . | 5,680 | 7,953,147 | . |
| | | 7 | . | . | . | 5,664 | 9,253,883 | . | 5,664 | 9,253,883 | . |
| | | 8 | . | . | . | 5,689 | 8,547,740 | . | 5,689 | 8,547,740 | . |
| | | 9 | . | . | . | 5,644 | 9,261,216 | . | 5,644 | 9,261,216 | . |
| | | 10 | . | . | . | 5,624 | 6,331,493 | . | 5,624 | 6,331,493 | . |
| | | 11 | . | . | . | 5,651 | 4,512,775 | . | 5,651 | 4,512,775 | . |
| | | 12 | . | . | . | 5,641 | 5,591,163 | . | 5,641 | 5,591,163 | . |
| Total Year | 2018 | | . | . | . | 67,974 | 77,496,578 | . | 67,974 | 77,496,578 | . |
| Schedule RB | | | . | . | . | 136,446 | 151,129,259 | . | 136,446 | 151,129,259 | . |

Residential Service

/A



**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| SGS | 2017 | 1 | 231,785 | 370,584,566 | $41,609,996 | 79,720 | 106,507,402 | . | 311,505 | 477,091,968 | . |
| | | 2 | 232,498 | 315,788,510 | $36,953,030 | 79,734 | 89,599,996 | . | 312,232 | 405,388,506 | . |
| | | 3 | 231,636 | 306,460,472 | $36,095,975 | 79,612 | 87,478,682 | . | 311,248 | 393,939,154 | . |
| | | 4 | 232,213 | 320,899,086 | $37,095,330 | 79,894 | 93,755,782 | . | 312,107 | 414,654,868 | . |
| | | 5 | 232,884 | 315,124,759 | $36,321,586 | 79,936 | 96,434,619 | . | 312,820 | 411,559,378 | . |
| | | 6 | 233,847 | 377,746,642 | $41,520,343 | 79,574 | 113,002,311 | . | 313,421 | 490,748,953 | . |
| | | 7 | 232,833 | 434,244,786 | $46,093,420 | 80,545 | 132,615,085 | . | 313,378 | 566,859,871 | . |
| | | 8 | 234,645 | 433,909,901 | $46,206,674 | 80,629 | 133,173,506 | . | 315,274 | 567,083,407 | . |
| | | 9 | 233,680 | 404,586,880 | $43,660,963 | 80,337 | 123,983,746 | . | 314,017 | 528,570,626 | . |
| | | 10 | 234,180 | 337,336,889 | $38,184,773 | 80,557 | 102,211,058 | . | 314,737 | 439,547,947 | . |
| | | 11 | 233,753 | 304,189,667 | $35,521,444 | 80,381 | 89,037,566 | . | 314,134 | 393,227,233 | . |
| | | 12 | 234,304 | 335,408,873 | $38,538,029 | 80,559 | 95,389,037 | . | 314,863 | 430,797,910 | . |
| Total Year | 2017 | | 2,798,258 | 4,256,281,031 | $477,801,564 | 961,478 | 1,263,188,790 | . | 3,759,736 | 5,519,469,821 | . |
| | 2018 | 1 | 234,666 | 438,882,658 | $47,487,847 | 80,523 | 124,937,900 | . | 315,189 | 563,820,558 | . |
| | | 2 | 234,375 | 373,462,554 | $42,441,335 | 80,828 | 106,809,345 | . | 315,203 | 480,271,899 | . |
| | | 3 | 234,265 | 310,250,755 | $36,802,643 | 80,709 | 88,314,256 | . | 314,974 | 398,565,011 | . |
| | | 4 | 235,120 | 320,961,849 | $37,646,730 | 80,775 | 92,400,110 | . | 315,895 | 413,361,959 | . |
| | | 5 | 234,514 | 319,978,218 | $37,126,754 | 80,593 | 95,555,319 | . | 315,107 | 415,533,537 | . |
| | | 6 | 234,882 | 420,153,845 | $45,319,048 | 80,785 | 128,673,843 | . | 315,667 | 548,827,688 | . |
| | | 7 | 235,869 | 452,672,000 | $48,124,617 | 80,985 | 138,751,257 | . | 316,854 | 591,423,257 | . |
| | | 8 | 235,625 | 432,276,201 | $45,764,080 | 80,997 | 133,816,357 | . | 316,622 | 566,092,558 | . |
| | | 9 | 235,773 | 469,058,492 | $47,669,906 | 81,004 | 144,632,354 | . | 316,777 | 613,690,846 | . |
| | | 10 | 235,219 | 352,506,483 | $38,551,981 | 80,690 | 110,089,717 | . | 315,909 | 462,596,200 | . |
| | | 11 | 235,813 | 305,258,664 | $34,855,273 | 81,369 | 89,792,732 | . | 317,182 | 395,051,396 | . |
| | | 12 | 235,587 | 355,709,818 | $39,464,229 | 80,677 | 103,355,607 | . | 316,264 | 459,065,425 | . |
| Total Year | 2018 | | 2,821,708 | 4,551,171,537 | $501,254,444 | 969,935 | 1,357,128,797 | . | 3,791,643 | 5,908,300,334 | . |
| Schedule SGS | | | 5,619,966 | 8,807,452,568 | $979,056,008 | 1,931,413 | 2,620,317,587 | . | 7,551,379 | 11,427,770,155 | . |

Small General Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OPTG | 2017 | 1 | 1 | 2,747 | $287 | 4,831 | 234,833,246 | . | 4,832 | 234,835,993 | . |
| | | 2 | 1 | 3,313 | $310 | 4,824 | 220,168,109 | . | 4,825 | 220,171,422 | . |
| | | 3 | 1 | 2,680 | $284 | 4,855 | 213,773,538 | . | 4,856 | 213,776,218 | . |
| | | 4 | 2 | 3,372 | $372 | 4,873 | 243,018,767 | . | 4,875 | 243,022,139 | . |
| | | 5 | 2 | 5,688 | $579 | 4,805 | 221,485,830 | . | 4,807 | 221,491,518 | . |
| | | 6 | 2 | 7,824 | $782 | 4,835 | 260,918,920 | . | 4,837 | 260,926,744 | . |
| | | 7 | 2 | 8,839 | $915 | 4,808 | 272,325,143 | . | 4,810 | 272,333,982 | . |
| | | 8 | 2 | 8,434 | ($1,175) | 4,820 | 275,561,796 | . | 4,822 | 275,570,230 | . |
| | | 9 | 2 | 8,284 | $888 | 4,868 | 271,225,463 | . | 4,870 | 271,233,747 | . |
| | | 10 | 4 | 5,979 | $1,362 | 4,860 | 235,734,020 | . | 4,864 | 235,739,999 | . |
| | | 11 | 3 | 40,253 | $2,825 | 4,890 | 225,741,430 | . | 4,893 | 225,781,683 | . |
| | | 12 | 1 | 1,162 | $332 | 4,911 | 223,993,828 | . | 4,912 | 223,994,990 | . |
| Total Year | 2017 | | 23 | 98,575 | $7,761 | 58,180 | 2,898,780,090 | . | 58,203 | 2,898,878,665 | . |
| | 2018 | 1 | 1 | 1,840 | $484 | 4,915 | 243,953,253 | . | 4,916 | 243,955,093 | . |
| | | 2 | 1 | 966 | $215 | 4,924 | 228,335,687 | . | 4,925 | 228,336,653 | . |
| | | 3 | . | - | ($58) | 4,967 | 209,486,960 | . | 4,967 | 209,486,960 | . |
| | | 4 | - | (2) | $0 | 4,953 | 220,811,652 | . | 4,953 | 220,811,650 | . |
| | | 5 | . | . | . | 4,938 | 227,086,736 | . | 4,938 | 227,086,736 | . |
| | | 6 | 1 | 102,167 | $6,648 | 4,928 | 265,659,390 | . | 4,929 | 265,761,557 | . |
| | | 7 | . | . | . | 5,047 | 283,925,993 | . | 5,047 | 283,925,993 | . |
| | | 8 | . | (102,167) | ($6,648) | 5,006 | 270,730,456 | . | 5,006 | 270,628,289 | . |
| | | 9 | . | . | . | 5,001 | 317,384,979 | . | 5,001 | 317,384,979 | . |
| | | 10 | . | . | . | 4,965 | 243,932,314 | . | 4,965 | 243,932,314 | . |
| | | 11 | . | . | . | 5,041 | 230,426,036 | . | 5,041 | 230,426,036 | . |
| | | 12 | . | . | . | 5,034 | 231,417,810 | . | 5,034 | 231,417,810 | . |
| Total Year | 2018 | | 3 | 2,804 | $641 | 59,719 | 2,973,151,266 | . | 59,722 | 2,973,154,070 | . |
| Schedule OPTG | | | 26 | 101,379 | $8,402 | 117,899 | 5,871,931,356 | . | 117,925 | 5,872,032,735 | . |

Optional Power Service, Time-of-Use (General Svc )

/A





**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| G | 2017 | 1 | 94 | - | $5,670 | 13 | - | . | 107 | - | . |
| | | 2 | 95 | - | $5,692 | 13 | - | . | 108 | - | . |
| | | 3 | 94 | (27,978) | $1,679 | 13 | - | . | 107 | (27,978) | . |
| | | 4 | 94 | - | $5,588 | 14 | - | . | 108 | - | . |
| | | 5 | 91 | - | $5,559 | 13 | - | . | 104 | - | . |
| | | 6 | 93 | - | $5,641 | 13 | - | . | 106 | - | . |
| | | 7 | 95 | - | $5,590 | 13 | - | . | 108 | - | . |
| | | 8 | 92 | - | $5,655 | 13 | - | . | 105 | - | . |
| | | 9 | 89 | - | $5,497 | 13 | - | . | 102 | - | . |
| | | 10 | 93 | - | $5,632 | 13 | - | . | 106 | - | . |
| | | 11 | 88 | - | $5,475 | 13 | - | . | 101 | - | . |
| | | 12 | 92 | - | $5,587 | 14 | - | . | 106 | - | . |
| Total Year | 2017 | | 1,110 | (27,978) | $63,262 | 158 | - | . | 1,268 | (27,978) | . |
| | 2018 | 1 | 89 | - | $5,430 | 13 | - | . | 102 | - | . |
| | | 2 | 96 | - | $5,758 | 13 | - | . | 109 | - | . |
| | | 3 | 90 | - | $5,520 | 13 | - | . | 103 | - | . |
| | | 4 | 92 | - | $5,610 | 13 | - | . | 105 | - | . |
| | | 5 | 89 | - | $5,497 | 13 | - | . | 102 | - | . |
| | | 6 | 91 | - | $5,565 | 13 | - | . | 104 | - | . |
| | | 7 | 90 | - | $5,497 | 13 | - | . | 103 | - | . |
| | | 8 | 93 | - | $5,658 | 14 | - | . | 107 | - | . |
| | | 9 | 92 | - | $5,587 | 13 | - | . | 105 | - | . |
| | | 10 | 92 | - | $5,535 | 13 | - | . | 105 | - | . |
| | | 11 | 87 | - | $5,367 | 13 | - | . | 100 | - | . |
| | | 12 | 88 | - | $5,485 | 12 | - | . | 100 | - | . |
| Total Year | 2018 | | 1,089 | - | $66,506 | 156 | - | . | 1,245 | - | . |
| Schedule G | | | 2,199 | (27,978) | $129,768 | 314 | - | . | 2,513 | (27,978) | . |

General Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| BC | 2017 | 1 | 6,662 | 1,685,072 | $253,688 | 2,295 | 566,528 | . | 8,957 | 2,251,600 | . |
| | | 2 | 6,878 | 1,361,999 | $233,480 | 2,267 | 392,430 | . | 9,145 | 1,754,429 | . |
| | | 3 | 7,048 | 973,413 | $210,788 | 2,341 | 353,622 | . | 9,389 | 1,327,035 | . |
| | | 4 | 7,100 | 1,050,166 | $219,166 | 2,364 | 338,844 | . | 9,464 | 1,389,010 | . |
| | | 5 | 7,213 | 946,116 | $213,085 | 2,431 | 251,569 | . | 9,644 | 1,197,685 | . |
| | | 6 | 7,464 | 829,566 | $211,080 | 2,492 | 346,543 | . | 9,956 | 1,176,109 | . |
| | | 7 | 7,274 | 989,259 | $218,841 | 2,462 | 369,731 | . | 9,736 | 1,358,990 | . |
| | | 8 | 7,495 | 1,110,072 | $231,026 | 2,419 | 371,781 | . | 9,914 | 1,481,853 | . |
| | | 9 | 7,417 | 1,115,653 | $229,141 | 2,379 | 345,708 | . | 9,796 | 1,461,361 | . |
| | | 10 | 7,480 | 996,498 | $217,997 | 2,473 | 269,738 | . | 9,953 | 1,266,236 | . |
| | | 11 | 7,466 | 1,050,409 | $223,262 | 2,410 | 331,832 | . | 9,876 | 1,382,241 | . |
| | | 12 | 7,459 | 1,642,666 | $261,376 | 2,443 | 450,740 | . | 9,902 | 2,093,406 | . |
| Total Year | 2017 | | 86,956 | 13,750,889 | $2,722,931 | 28,776 | 4,389,066 | . | 115,732 | 18,139,955 | . |
| | 2018 | 1 | 7,261 | 2,142,595 | $290,696 | 2,478 | 609,116 | . | 9,739 | 2,751,711 | . |
| | | 2 | 7,247 | 1,785,090 | $268,680 | 2,400 | 511,032 | . | 9,647 | 2,296,122 | . |
| | | 3 | 7,371 | 1,326,355 | $240,930 | 2,389 | 323,493 | . | 9,760 | 1,649,848 | . |
| | | 4 | 7,547 | 1,262,996 | $239,660 | 2,540 | 357,956 | . | 10,087 | 1,620,952 | . |
| | | 5 | 7,788 | 977,320 | $225,110 | 2,727 | 279,179 | . | 10,515 | 1,256,499 | . |
| | | 6 | 7,787 | 1,233,880 | $243,406 | 2,688 | 342,111 | . | 10,475 | 1,575,991 | . |
| | | 7 | 7,922 | 1,195,841 | $244,228 | 2,731 | 381,567 | . | 10,653 | 1,577,408 | . |
| | | 8 | 8,020 | 1,225,525 | $245,935 | 2,747 | 343,358 | . | 10,767 | 1,568,883 | . |
| | | 9 | 7,938 | 1,370,072 | $245,306 | 2,704 | 366,877 | . | 10,642 | 1,736,949 | . |
| | | 10 | 7,875 | 967,616 | $205,019 | 2,697 | 301,640 | . | 10,572 | 1,269,256 | . |
| | | 11 | 7,919 | 1,084,440 | $207,954 | 2,702 | 311,210 | . | 10,621 | 1,395,650 | . |
| | | 12 | 7,526 | 1,587,940 | $234,318 | 2,700 | 469,158 | . | 10,226 | 2,057,098 | . |
| Total Year | 2018 | | 92,201 | 16,159,670 | $2,891,242 | 31,503 | 4,596,697 | . | 123,704 | 20,756,367 | . |
| Schedule BC | | | 179,157 | 29,910,559 | $5,614,173 | 60,279 | 8,985,763 | . | 239,436 | 38,896,322 | . |

General Service, Building Construction Service

/A



**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| LGS | 2017 | 1 | 8,927 | 387,826,983 | $30,239,699 | 2,426 | 86,054,030 | . | 11,353 | 473,881,013 | . |
| | | 2 | 8,933 | 352,564,156 | $28,113,972 | 2,417 | 79,964,982 | . | 11,350 | 432,529,138 | . |
| | | 3 | 8,978 | 350,593,200 | $28,078,071 | 2,421 | 81,354,690 | . | 11,399 | 431,947,890 | . |
| | | 4 | 8,969 | 383,152,862 | $30,276,268 | 2,425 | 88,616,589 | . | 11,394 | 471,769,451 | . |
| | | 5 | 8,899 | 367,330,541 | $29,078,994 | 2,420 | 84,021,258 | . | 11,319 | 451,351,799 | . |
| | | 6 | 8,960 | 433,492,935 | $33,295,710 | 2,448 | 99,637,558 | . | 11,408 | 533,130,493 | . |
| | | 7 | 8,962 | 458,828,146 | $34,772,431 | 2,428 | 104,067,273 | . | 11,390 | 562,895,419 | . |
| | | 8 | 9,015 | 461,552,949 | $35,107,099 | 2,455 | 108,892,231 | . | 11,470 | 570,445,180 | . |
| | | 9 | 9,036 | 465,375,739 | $35,341,785 | 2,443 | 108,272,763 | . | 11,479 | 573,648,502 | . |
| | | 10 | 8,938 | 399,065,934 | $31,332,318 | 2,408 | 92,098,713 | . | 11,346 | 491,164,647 | . |
| | | 11 | 8,886 | 363,467,781 | $28,944,508 | 2,416 | 84,699,136 | . | 11,302 | 448,166,917 | . |
| | | 12 | 9,020 | 374,260,730 | $29,382,576 | 2,454 | 84,743,570 | . | 11,474 | 459,004,300 | . |
| Total Year | 2017 | | 107,523 | 4,797,511,956 | $373,963,430 | 29,161 | 1,102,422,793 | . | 136,684 | 5,899,934,749 | . |
| | 2018 | 1 | 8,945 | 434,705,482 | $33,543,408 | 2,432 | 97,346,993 | . | 11,377 | 532,052,475 | . |
| | | 2 | 9,029 | 400,747,088 | $31,681,966 | 2,447 | 89,909,145 | . | 11,476 | 490,656,233 | . |
| | | 3 | 9,104 | 359,918,725 | $29,060,988 | 2,458 | 79,602,066 | . | 11,562 | 439,520,791 | . |
| | | 4 | 9,119 | 375,638,458 | $29,933,919 | 2,455 | 82,051,835 | . | 11,574 | 457,690,293 | . |
| | | 5 | 9,133 | 389,085,689 | $31,003,588 | 2,458 | 86,893,939 | . | 11,591 | 475,979,628 | . |
| | | 6 | 9,212 | 484,723,239 | $37,010,294 | 2,481 | 108,118,545 | . | 11,693 | 592,841,784 | . |
| | | 7 | 9,232 | 489,571,320 | $37,293,882 | 2,475 | 107,959,723 | . | 11,707 | 597,531,043 | . |
| | | 8 | 9,210 | 481,364,748 | $36,364,048 | 2,493 | 107,364,224 | . | 11,703 | 588,728,972 | . |
| | | 9 | 9,336 | 542,303,466 | $40,303,372 | 2,500 | 123,570,783 | . | 11,836 | 665,874,249 | . |
| | | 10 | 9,196 | 413,769,372 | $32,340,929 | 2,468 | 95,062,606 | . | 11,664 | 508,831,978 | . |
| | | 11 | 9,230 | 370,484,204 | $29,574,496 | 2,494 | 83,212,881 | . | 11,724 | 453,697,085 | . |
| | | 12 | 9,271 | 388,254,879 | $30,588,361 | 2,506 | 88,119,756 | . | 11,777 | 476,374,635 | . |
| Total Year | 2018 | | 110,017 | 5,130,566,670 | $398,699,250 | 29,667 | 1,149,212,496 | . | 139,684 | 6,279,779,166 | . |
| Schedule LGS | | | 217,540 | 9,928,078,626 | $772,662,680 | 58,828 | 2,251,635,289 | . | 276,368 | 12,179,713,915 | . |

Large General Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OL | 2017 | 1 | 235,396 | 25,717,457 | $5,277,032 | 99,922 | 9,702,716 | . | 335,318 | 35,420,173 | . |
| | | 2 | 236,566 | 25,721,515 | $5,303,089 | 100,270 | 9,716,984 | . | 336,836 | 35,438,499 | . |
| | | 3 | 235,654 | 25,588,413 | $5,320,752 | 100,181 | 9,704,081 | . | 335,835 | 35,292,494 | . |
| | | 4 | 235,474 | 25,488,193 | $5,322,988 | 100,264 | 9,675,383 | . | 335,738 | 35,163,576 | . |
| | | 5 | 236,959 | 25,356,999 | $5,287,209 | 100,368 | 9,658,588 | . | 337,327 | 35,015,587 | . |
| | | 6 | 237,712 | 25,648,314 | $5,379,812 | 100,092 | 9,620,267 | . | 337,804 | 35,268,581 | . |
| | | 7 | 235,849 | 25,393,349 | $5,351,611 | 100,569 | 9,666,836 | . | 336,418 | 35,060,185 | . |
| | | 8 | 238,089 | 25,437,028 | $5,372,699 | 100,002 | 9,613,956 | . | 338,091 | 35,050,984 | . |
| | | 9 | 235,857 | 25,262,077 | $5,359,900 | 100,547 | 9,653,893 | . | 336,404 | 34,915,970 | . |
| | | 10 | 236,613 | 25,204,435 | $5,376,371 | 100,094 | 9,574,687 | . | 336,707 | 34,779,122 | . |
| | | 11 | 235,178 | 25,007,808 | $5,364,532 | 99,925 | 9,567,890 | . | 335,103 | 34,575,698 | . |
| | | 12 | 236,359 | 24,972,866 | $5,358,457 | 99,962 | 9,576,727 | . | 336,321 | 34,549,593 | . |
| Total Year | 2017 | | 2,835,706 | 304,798,454 | $64,074,451 | 1,202,196 | 115,732,008 | . | 4,037,902 | 420,530,462 | . |
| | 2018 | 1 | 236,246 | 24,887,554 | $5,384,190 | 100,091 | 9,558,120 | . | 336,337 | 34,445,674 | . |
| | | 2 | 235,568 | 24,704,707 | $5,395,096 | 100,324 | 9,526,052 | . | 335,892 | 34,230,759 | . |
| | | 3 | 236,131 | 24,423,467 | $5,375,084 | 100,622 | 9,500,536 | . | 336,753 | 33,924,003 | . |
| | | 4 | 236,175 | 24,056,901 | $5,396,931 | 100,529 | 9,471,298 | . | 336,704 | 33,528,199 | . |
| | | 5 | 236,490 | 23,462,537 | $5,410,685 | 100,332 | 9,458,178 | . | 336,822 | 32,920,715 | . |
| | | 6 | 236,380 | 23,222,493 | $5,450,649 | 100,717 | 9,407,736 | . | 337,097 | 32,630,229 | . |
| | | 7 | 237,289 | 22,790,397 | $5,492,174 | 100,928 | 9,452,341 | . | 338,217 | 32,242,738 | . |
| | | 8 | 239,644 | 22,998,509 | $5,529,988 | 101,011 | 9,369,000 | . | 340,655 | 32,367,509 | . |
| | | 9 | 272,848 | 33,095,328 | $7,084,984 | 100,673 | 9,380,675 | . | 373,521 | 42,476,003 | . |
| | | 10 | 273,712 | 33,012,895 | $7,121,114 | 100,493 | 9,329,528 | . | 374,205 | 42,342,423 | . |
| | | 11 | 274,045 | 32,929,976 | $7,122,543 | 101,180 | 9,361,902 | . | 375,225 | 42,291,878 | . |
| | | 12 | 273,738 | 32,796,364 | $7,134,649 | 100,671 | 9,308,096 | . | 374,409 | 42,104,460 | . |
| Total Year | 2018 | | 2,988,266 | 322,381,128 | $71,898,088 | 1,207,571 | 113,123,462 | . | 4,195,837 | 435,504,590 | . |
| Schedule OL | | | 5,823,972 | 627,179,582 | $135,972,538 | 2,409,767 | 228,855,470 | . | 8,233,739 | 856,035,052 | . |

General Service, Outdoor Lighting Service

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| FL | 2017 | 1 | 42,982 | 13,689,648 | $1,974,701 | 18,648 | 5,553,980 | . | 61,630 | 19,243,628 | . |
| | | 2 | 43,003 | 13,661,922 | $1,956,504 | 18,665 | 5,553,313 | . | 61,668 | 19,215,235 | . |
| | | 3 | 42,986 | 13,639,341 | $1,956,645 | 18,717 | 5,573,095 | . | 61,703 | 19,212,436 | . |
| | | 4 | 43,037 | 13,696,145 | $1,963,582 | 18,723 | 5,576,776 | . | 61,760 | 19,272,921 | . |
| | | 5 | 42,989 | 13,666,951 | $1,958,899 | 18,698 | 5,561,937 | . | 61,687 | 19,228,888 | . |
| | | 6 | 43,018 | 13,647,810 | $1,958,736 | 18,650 | 5,558,706 | . | 61,668 | 19,206,516 | . |
| | | 7 | 42,942 | 13,659,325 | $1,959,536 | 18,698 | 5,559,039 | . | 61,640 | 19,218,364 | . |
| | | 8 | 42,978 | 13,657,029 | $1,958,144 | 18,658 | 5,548,643 | . | 61,636 | 19,205,672 | . |
| | | 9 | 42,896 | 13,651,856 | $1,957,368 | 18,666 | 5,545,153 | . | 61,562 | 19,197,009 | . |
| | | 10 | 42,843 | 13,618,627 | $1,950,806 | 18,573 | 5,516,174 | . | 61,416 | 19,134,801 | . |
| | | 11 | 42,822 | 13,609,380 | $1,949,525 | 18,645 | 5,545,925 | . | 61,467 | 19,155,305 | . |
| | | 12 | 42,894 | 13,631,617 | $1,952,706 | 18,666 | 5,551,969 | . | 61,560 | 19,183,586 | . |
| Total Year | 2017 | | 515,390 | 163,829,651 | $23,497,152 | 224,007 | 66,644,710 | . | 739,397 | 230,474,361 | . |
| | 2018 | 1 | 42,861 | 13,599,783 | $1,949,245 | 18,646 | 5,548,512 | . | 61,507 | 19,148,295 | . |
| | | 2 | 42,718 | 13,567,390 | $1,852,217 | 18,639 | 5,550,448 | . | 61,357 | 19,117,838 | . |
| | | 3 | 42,787 | 13,553,414 | $1,928,306 | 18,748 | 5,554,548 | . | 61,535 | 19,107,962 | . |
| | | 4 | 42,823 | 13,543,890 | $1,939,474 | 18,688 | 5,556,677 | . | 61,511 | 19,100,567 | . |
| | | 5 | 42,713 | 13,506,288 | $1,893,595 | 18,651 | 5,538,936 | . | 61,364 | 19,045,224 | . |
| | | 6 | 42,796 | 13,480,728 | $1,938,180 | 18,681 | 5,543,481 | . | 61,477 | 19,024,209 | . |
| | | 7 | 42,809 | 13,442,626 | $1,935,266 | 18,709 | 5,528,369 | . | 61,518 | 18,970,995 | . |
| | | 8 | 39,113 | 12,411,396 | $1,788,284 | 18,714 | 5,510,411 | . | 57,827 | 17,921,807 | . |
| | | 9 | 1,144 | 432,194 | $61,191 | 18,690 | 5,527,815 | . | 19,834 | 5,960,009 | . |
| | | 10 | 27 | 461 | $309 | 18,580 | 5,497,688 | . | 18,607 | 5,498,149 | . |
| | | 11 | 7 | 907 | $145 | 18,723 | 5,536,501 | . | 18,730 | 5,537,408 | . |
| | | 12 | 4 | (4,620) | ($786) | 18,687 | 5,524,764 | . | 18,691 | 5,520,144 | . |
| Total Year | 2018 | | 339,802 | 107,534,457 | $15,285,426 | 224,156 | 66,418,150 | . | 563,958 | 173,952,607 | . |
| Schedule FL | | | 855,192 | 271,364,108 | $38,782,578 | 448,163 | 133,062,860 | . | 1,303,355 | 404,426,968 | . |

General Service, Floodlighting Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| GL | 2017 | 1 | 1,129 | 1,654,620 | $469,186 | 326 | 217,618 | . | 1,455 | 1,872,238 | . |
| | | 2 | 1,155 | 1,686,986 | $482,976 | 329 | 216,895 | . | 1,484 | 1,903,881 | . |
| | | 3 | 1,187 | 1,716,481 | $498,668 | 332 | 217,772 | . | 1,519 | 1,934,253 | . |
| | | 4 | 1,205 | 1,684,063 | $486,818 | 337 | 220,415 | . | 1,542 | 1,904,478 | . |
| | | 5 | 1,241 | 1,724,976 | $501,589 | 341 | 221,173 | . | 1,582 | 1,946,149 | . |
| | | 6 | 1,238 | 1,725,821 | $503,249 | 341 | 221,164 | . | 1,579 | 1,946,985 | . |
| | | 7 | 1,259 | 1,768,738 | $512,554 | 343 | 220,420 | . | 1,602 | 1,989,158 | . |
| | | 8 | 1,274 | 1,292,116 | $516,549 | 345 | 220,876 | . | 1,619 | 1,512,992 | . |
| | | 9 | 1,277 | 1,759,041 | $515,013 | 345 | 221,007 | . | 1,622 | 1,980,048 | . |
| | | 10 | 1,291 | 1,822,782 | $532,446 | 345 | 221,869 | . | 1,636 | 2,044,651 | . |
| | | 11 | 1,296 | 1,788,590 | $525,495 | 348 | 229,818 | . | 1,644 | 2,018,408 | . |
| | | 12 | 1,301 | 1,797,632 | $528,157 | 350 | 222,366 | . | 1,651 | 2,019,998 | . |
| Total Year | 2017 | | 14,853 | 20,421,846 | $6,072,699 | 4,082 | 2,651,393 | . | 18,935 | 23,073,239 | . |
| | 2018 | 1 | 1,312 | 1,793,698 | $526,732 | 364 | 228,347 | . | 1,676 | 2,022,045 | . |
| | | 2 | 1,320 | 1,796,909 | $529,096 | 371 | 233,878 | . | 1,691 | 2,030,787 | . |
| | | 3 | 1,331 | 1,839,177 | $545,404 | 395 | 249,164 | . | 1,726 | 2,088,341 | . |
| | | 4 | 1,345 | 1,893,232 | $569,900 | 398 | 247,948 | . | 1,743 | 2,141,180 | . |
| | | 5 | 1,370 | 1,857,637 | $895,460 | 391 | 242,188 | . | 1,761 | 2,099,825 | . |
| | | 6 | 1,371 | 1,846,025 | $210,211 | 390 | 240,319 | . | 1,761 | 2,086,344 | . |
| | | 7 | 1,389 | 1,891,879 | $569,700 | 394 | 242,303 | . | 1,783 | 2,134,182 | . |
| | | 8 | 1,788 | 2,061,608 | $597,767 | 405 | 260,892 | . | 2,193 | 2,322,500 | . |
| | | 9 | 5,971 | 3,668,900 | $783,072 | 427 | 252,058 | . | 6,398 | 3,920,958 | . |
| | | 10 | 148 | 61,011 | $9,226 | 421 | 251,774 | . | 569 | 312,785 | . |
| | | 11 | . | (312) | ($60) | 431 | 260,259 | . | 431 | 259,947 | . |
| | | 12 | 1 | 40 | $7 | 435 | 235,491 | . | 436 | 235,531 | . |
| Total Year | 2018 | | 17,346 | 18,709,804 | $5,236,515 | 4,822 | 2,944,621 | . | 22,168 | 21,654,425 | . |
| Schedule GL | | | 32,199 | 39,131,650 | $11,309,214 | 8,904 | 5,596,014 | . | 41,103 | 44,727,664 | . |

General Service, Governmental Lighting Service

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| PL | 2017 | 1 | 4,733 | 19,022,467 | $2,592,923 | 1,720 | 3,367,481 | . | 6,453 | 22,389,948 | . |
| | | 2 | 4,731 | 18,928,771 | $2,570,759 | 1,715 | 3,360,714 | . | 6,446 | 22,289,485 | . |
| | | 3 | 4,728 | 18,847,432 | $2,562,384 | 1,714 | 3,351,646 | . | 6,442 | 22,199,078 | . |
| | | 4 | 4,733 | 18,924,411 | $2,574,208 | 1,728 | 3,365,843 | . | 6,461 | 22,290,254 | . |
| | | 5 | 4,726 | 18,733,019 | $2,557,069 | 1,723 | 3,354,966 | . | 6,449 | 22,087,985 | . |
| | | 6 | 4,718 | 18,364,467 | $2,516,800 | 1,714 | 3,348,007 | . | 6,432 | 21,712,474 | . |
| | | 7 | 4,715 | 18,745,406 | $2,563,567 | 1,720 | 3,349,607 | . | 6,435 | 22,095,013 | . |
| | | 8 | 4,748 | 18,684,809 | $2,559,611 | 1,724 | 3,343,770 | . | 6,472 | 22,028,579 | . |
| | | 9 | 4,723 | 18,683,473 | $2,560,239 | 1,722 | 3,343,515 | . | 6,445 | 22,026,988 | . |
| | | 10 | 4,724 | 18,627,885 | $2,549,707 | 1,697 | 3,328,157 | . | 6,421 | 21,956,042 | . |
| | | 11 | 4,741 | 18,664,312 | $2,558,178 | 1,716 | 3,340,458 | . | 6,457 | 22,004,770 | . |
| | | 12 | 4,741 | 18,627,255 | $2,556,025 | 1,719 | 3,363,345 | . | 6,460 | 21,990,600 | . |
| Total Year | 2017 | | 56,761 | 224,853,707 | $30,721,469 | 20,612 | 40,217,509 | . | 77,373 | 265,071,216 | . |
| | 2018 | 1 | 4,731 | 18,672,940 | $2,564,700 | 1,711 | 3,334,418 | . | 6,442 | 22,007,358 | . |
| | | 2 | 4,726 | 18,628,240 | $2,583,571 | 1,720 | 3,298,025 | . | 6,446 | 21,926,265 | . |
| | | 3 | 4,734 | 18,497,849 | $2,557,027 | 1,717 | 3,284,455 | . | 6,451 | 21,782,304 | . |
| | | 4 | 4,737 | 18,482,774 | $2,559,182 | 1,720 | 3,273,050 | . | 6,457 | 21,755,824 | . |
| | | 5 | 4,728 | 18,366,962 | $2,550,505 | 1,708 | 3,273,804 | . | 6,436 | 21,640,766 | . |
| | | 6 | 4,715 | 18,464,723 | $2,556,071 | 1,729 | 3,262,478 | . | 6,444 | 21,727,201 | . |
| | | 7 | 4,756 | 18,587,850 | $2,557,464 | 1,719 | 3,259,765 | . | 6,475 | 21,847,615 | . |
| | | 8 | 4,719 | 18,300,056 | $2,549,351 | 1,712 | 3,251,118 | . | 6,431 | 21,551,174 | . |
| | | 9 | 4,990 | 18,466,327 | $2,514,172 | 1,700 | 3,237,861 | . | 6,690 | 21,704,188 | . |
| | | 10 | 10,726 | 19,692,637 | $2,410,849 | 1,689 | 3,138,113 | . | 12,415 | 22,830,750 | . |
| | | 11 | 10,905 | 24,464,262 | $2,999,812 | 1,719 | 3,294,054 | . | 12,624 | 27,758,316 | . |
| | | 12 | 10,939 | 22,048,420 | $2,704,437 | 1,748 | 3,222,347 | . | 12,687 | 25,270,767 | . |
| Total Year | 2018 | | 75,406 | 232,673,040 | $31,107,140 | 20,592 | 39,129,488 | . | 95,998 | 271,802,528 | . |
| Schedule PL | | | 132,167 | 457,526,747 | $61,828,609 | 41,204 | 79,346,997 | . | 173,371 | 536,873,744 | . |

General Service, Street and Public Lighting Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| TS | 2017 | 1 | 5,922 | 921,827 | $161,701 | 1,437 | 210,381 | . | 7,359 | 1,132,208 | . |
| | | 2 | 5,936 | 822,989 | $154,525 | 1,432 | 184,210 | . | 7,368 | 1,007,199 | . |
| | | 3 | 5,909 | 802,514 | $152,079 | 1,434 | 188,683 | . | 7,343 | 991,197 | . |
| | | 4 | 5,902 | 885,847 | $158,933 | 1,433 | 197,328 | . | 7,335 | 1,083,175 | . |
| | | 5 | 5,908 | 818,501 | $153,791 | 1,443 | 186,907 | . | 7,351 | 1,005,408 | . |
| | | 6 | 5,909 | 870,355 | $157,948 | 1,430 | 194,837 | . | 7,339 | 1,065,192 | . |
| | | 7 | 5,895 | 883,613 | $158,707 | 1,433 | 197,586 | . | 7,328 | 1,081,199 | . |
| | | 8 | 5,892 | 824,185 | $154,040 | 1,433 | 193,504 | . | 7,325 | 1,017,689 | . |
| | | 9 | 5,922 | 917,711 | $160,302 | 1,427 | 201,860 | . | 7,349 | 1,119,571 | . |
| | | 10 | 5,900 | 817,389 | $150,689 | 1,440 | 182,431 | . | 7,340 | 999,820 | . |
| | | 11 | 5,892 | 834,382 | $151,796 | 1,429 | 187,715 | . | 7,321 | 1,022,097 | . |
| | | 12 | 5,906 | 873,968 | $154,907 | 1,428 | 198,177 | . | 7,334 | 1,072,145 | . |
| Total Year | 2017 | | 70,893 | 10,273,281 | $1,869,417 | 17,199 | 2,323,619 | . | 88,092 | 12,596,900 | . |
| | 2018 | 1 | 5,773 | 2,912,528 | $306,480 | 1,420 | 210,589 | . | 7,193 | 3,123,117 | . |
| | | 2 | 5,904 | (944,527) | $19,996 | 1,407 | 183,468 | . | 7,311 | (761,059) | . |
| | | 3 | 6,020 | 747,998 | $148,364 | 1,460 | 185,145 | . | 7,480 | 933,143 | . |
| | | 4 | 5,918 | 796,005 | $150,580 | 1,425 | 189,801 | . | 7,343 | 985,806 | . |
| | | 5 | 5,917 | 788,963 | $149,984 | 1,424 | 188,392 | . | 7,341 | 977,355 | . |
| | | 6 | 5,897 | 861,526 | $155,915 | 1,402 | 190,119 | . | 7,299 | 1,051,645 | . |
| | | 7 | 5,907 | 835,400 | $154,045 | 1,446 | 199,654 | . | 7,353 | 1,035,054 | . |
| | | 8 | 5,919 | 809,463 | $157,327 | 1,426 | 188,194 | . | 7,345 | 997,657 | . |
| | | 9 | 5,932 | 903,557 | $166,566 | 1,427 | 209,391 | . | 7,359 | 1,112,948 | . |
| | | 10 | 5,925 | 761,612 | $145,595 | 1,401 | 179,927 | . | 7,326 | 941,539 | . |
| | | 11 | 5,935 | 785,652 | $147,706 | 1,443 | 187,503 | . | 7,378 | 973,155 | . |
| | | 12 | 5,918 | 823,639 | $151,292 | 1,413 | 196,100 | . | 7,331 | 1,019,739 | . |
| Total Year | 2018 | | 70,965 | 10,081,816 | $1,853,849 | 17,094 | 2,308,283 | . | 88,059 | 12,390,099 | . |
| Schedule TS | | | 141,858 | 20,355,097 | $3,723,266 | 34,293 | 4,631,902 | . | 176,151 | 24,986,999 | . |

General Service, Traffic Signal Service

/A



**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| I | 2017 | 1 | 3,742 | 148,119,549 | $12,016,722 | 1,045 | 51,888,823 | . | 4,787 | 200,008,372 | . |
| | | 2 | 3,718 | 155,368,321 | $12,405,958 | 1,034 | 56,456,416 | . | 4,752 | 211,824,737 | . |
| | | 3 | 3,714 | 153,024,045 | $12,327,332 | 1,029 | 55,282,541 | . | 4,743 | 208,306,586 | . |
| | | 4 | 3,724 | 169,776,030 | $13,356,672 | 1,056 | 62,788,407 | . | 4,780 | 232,564,437 | . |
| | | 5 | 3,700 | 156,239,860 | $12,496,276 | 1,027 | 58,219,674 | . | 4,727 | 214,459,534 | . |
| | | 6 | 3,710 | 180,120,822 | $14,017,868 | 1,041 | 66,447,815 | . | 4,751 | 246,568,637 | . |
| | | 7 | 3,722 | 179,244,253 | $14,061,805 | 1,031 | 68,661,650 | . | 4,753 | 247,905,903 | . |
| | | 8 | 3,718 | 187,544,404 | $14,558,786 | 1,044 | 72,545,598 | . | 4,762 | 260,090,002 | . |
| | | 9 | 3,706 | 186,750,938 | $14,436,789 | 1,037 | 72,008,234 | . | 4,743 | 258,759,172 | . |
| | | 10 | 3,702 | 167,324,171 | $13,199,142 | 1,044 | 65,435,433 | . | 4,746 | 232,759,604 | . |
| | | 11 | 3,720 | 161,471,531 | $12,842,723 | 1,039 | 61,475,051 | . | 4,759 | 222,946,582 | . |
| | | 12 | 3,724 | 155,116,326 | $12,377,668 | 1,035 | 58,079,226 | . | 4,759 | 213,195,552 | . |
| Total Year | 2017 | | 44,600 | 2,000,100,250 | $158,097,742 | 12,462 | 749,288,868 | . | 57,062 | 2,749,389,118 | . |
| | 2018 | 1 | 3,723 | 153,148,867 | $12,354,666 | 1,035 | 55,940,141 | . | 4,758 | 209,089,008 | . |
| | | 2 | 3,713 | 163,410,352 | $12,940,030 | 1,025 | 63,143,508 | . | 4,738 | 226,553,860 | . |
| | | 3 | 3,697 | 151,767,133 | $12,309,428 | 1,042 | 59,496,635 | . | 4,739 | 211,263,768 | . |
| | | 4 | 3,700 | 161,511,345 | $12,869,877 | 1,038 | 62,669,159 | . | 4,738 | 224,180,504 | . |
| | | 5 | 3,686 | 162,066,581 | $12,971,177 | 1,026 | 63,241,935 | . | 4,712 | 225,308,516 | . |
| | | 6 | 3,702 | 189,043,145 | $14,622,124 | 1,031 | 70,415,391 | . | 4,733 | 259,458,536 | . |
| | | 7 | 3,711 | 181,635,799 | $14,276,498 | 1,028 | 66,944,774 | . | 4,739 | 248,580,573 | . |
| | | 8 | 3,690 | 190,477,250 | $14,451,589 | 1,026 | 70,207,901 | . | 4,716 | 260,685,151 | . |
| | | 9 | 3,714 | 206,628,642 | $15,180,423 | 1,025 | 74,778,117 | . | 4,739 | 281,406,759 | . |
| | | 10 | 3,675 | 163,993,185 | $12,542,861 | 1,011 | 63,621,075 | . | 4,686 | 227,614,260 | . |
| | | 11 | 3,707 | 165,933,908 | $12,666,781 | 1,023 | 61,069,753 | . | 4,730 | 227,003,661 | . |
| | | 12 | 3,679 | 157,192,731 | $12,212,658 | 1,020 | 53,554,464 | . | 4,699 | 210,747,195 | . |
| Total Year | 2018 | | 44,397 | 2,046,808,938 | $159,398,114 | 12,330 | 765,082,853 | . | 56,727 | 2,811,891,791 | . |
| Schedule I | | | 88,997 | 4,046,909,188 | $317,495,856 | 24,792 | 1,514,371,721 | . | 113,789 | 5,561,280,909 | . |

Industrial Service

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OPTE | 2017 | 1 | 1 | 2,028,800 | $97,321 | . | . | . | 1 | 2,028,800 | . |
| | | 2 | 1 | 1,849,600 | $88,808 | . | . | . | 1 | 1,849,600 | . |
| | | 3 | 1 | 1,587,200 | $76,804 | . | . | . | 1 | 1,587,200 | . |
| | | 4 | 10 | 3,684,852 | $163,268 | . | . | . | 10 | 3,684,852 | . |
| | | 5 | . | - | $11,754 | . | . | . | . | - | . |
| | | 6 | 1 | 2,000,000 | $94,901 | . | . | . | 1 | 2,000,000 | . |
| | | 7 | 2 | 1,926,526 | $119,818 | . | . | . | 2 | 1,926,526 | . |
| | | 8 | 1 | 2,054,400 | $119,044 | . | . | . | 1 | 2,054,400 | . |
| | | 9 | 2 | 2,104,784 | $128,359 | . | . | . | 2 | 2,104,784 | . |
| | | 10 | 1 | 1,692,800 | $100,352 | . | . | . | 1 | 1,692,800 | . |
| | | 11 | 1 | 1,744,000 | $83,558 | . | . | . | 1 | 1,744,000 | . |
| | | 12 | 1 | 1,702,400 | $79,625 | . | . | . | 1 | 1,702,400 | . |
| Total Year | 2017 | | 22 | 22,375,362 | $1,163,612 | . | . | . | 22 | 22,375,362 | . |
| | 2018 | 1 | 1 | 1,644,800 | $77,124 | . | . | . | 1 | 1,644,800 | . |
| | | 2 | 1 | 1,536,000 | $74,169 | . | . | . | 1 | 1,536,000 | . |
| | | 3 | 1 | 1,529,600 | $74,609 | . | . | . | 1 | 1,529,600 | . |
| | | 4 | 1 | 1,568,000 | $74,785 | . | . | . | 1 | 1,568,000 | . |
| | | 5 | 1 | 1,670,400 | $80,667 | . | . | . | 1 | 1,670,400 | . |
| | | 6 | 1 | 1,788,800 | $85,779 | . | . | . | 1 | 1,788,800 | . |
| | | 7 | 1 | 1,753,600 | $105,314 | . | . | . | 1 | 1,753,600 | . |
| | | 8 | 1 | 1,808,000 | $108,170 | . | . | . | 1 | 1,808,000 | . |
| | | 9 | 2 | 3,420,800 | $205,490 | . | . | . | 2 | 3,420,800 | . |
| | | 10 | . | - | $10,341 | . | . | . | . | - | . |
| | | 11 | 1 | 1,689,600 | $88,904 | . | . | . | 1 | 1,689,600 | . |
| | | 12 | 1 | 1,603,200 | $82,097 | . | . | . | 1 | 1,603,200 | . |
| Total Year | 2018 | | 12 | 20,012,800 | $1,067,449 | . | . | . | 12 | 20,012,800 | . |
| Schedule OPTE | | | 34 | 42,388,162 | $2,231,061 | . | . | . | 34 | 42,388,162 | . |

Optional Power Service, Time-of-Use (Energy Only)

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OPTI | 2017 | 1 | - | - | ($22,693) | 520 | 632,643,480 | . | 520 | 632,643,480 | . |
| | | 2 | - | - | $0 | 517 | 680,471,611 | . | 517 | 680,471,611 | . |
| | | 3 | . | . | $0 | 514 | 625,567,106 | . | 514 | 625,567,106 | . |
| | | 4 | - | - | $0 | 547 | 869,134,119 | . | 547 | 869,134,119 | . |
| | | 5 | - | - | $0 | 487 | 532,968,161 | . | 487 | 532,968,161 | . |
| | | 6 | - | - | $0 | 511 | 732,453,564 | . | 511 | 732,453,564 | . |
| | | 7 | - | - | $0 | 514 | 720,311,977 | . | 514 | 720,311,977 | . |
| | | 8 | - | - | $0 | 513 | 699,299,747 | . | 513 | 699,299,747 | . |
| | | 9 | - | - | $0 | 507 | 677,890,963 | . | 507 | 677,890,963 | . |
| | | 10 | . | . | . | 509 | 638,818,480 | . | 509 | 638,818,480 | . |
| | | 11 | - | - | $0 | 517 | 648,266,542 | . | 517 | 648,266,542 | . |
| | | 12 | - | - | $0 | 508 | 600,345,589 | . | 508 | 600,345,589 | . |
| Total Year | 2017 | | - | - | ($22,693) | 6,164 | 8,058,171,339 | . | 6,164 | 8,058,171,339 | . |
| | 2018 | 1 | - | - | $0 | 507 | 585,490,170 | . | 507 | 585,490,170 | . |
| | | 2 | - | - | $0 | 500 | 621,277,058 | . | 500 | 621,277,058 | . |
| | | 3 | - | - | $0 | 503 | 576,260,667 | . | 503 | 576,260,667 | . |
| | | 4 | - | - | $0 | 514 | 642,659,190 | . | 514 | 642,659,190 | . |
| | | 5 | - | - | $0 | 496 | 646,751,410 | . | 496 | 646,751,410 | . |
| | | 6 | - | - | $0 | 504 | 702,269,417 | . | 504 | 702,269,417 | . |
| | | 7 | - | - | $0 | 499 | 666,042,734 | . | 499 | 666,042,734 | . |
| | | 8 | - | - | $0 | 490 | 702,511,645 | . | 490 | 702,511,645 | . |
| | | 9 | - | - | $0 | 523 | 966,030,159 | . | 523 | 966,030,159 | . |
| | | 10 | - | - | $0 | 446 | 419,089,781 | . | 446 | 419,089,781 | . |
| | | 11 | - | - | $0 | 496 | 632,674,385 | . | 496 | 632,674,385 | . |
| | | 12 | - | - | $0 | 495 | 599,805,323 | . | 495 | 599,805,323 | . |
| Total Year | 2018 | | - | - | $0 | 5,973 | 7,760,861,939 | . | 5,973 | 7,760,861,939 | . |
| Schedule OPTI | | | - | - | ($22,693) | 12,137 | 15,819,033,278 | . | 12,137 | 15,819,033,278 | . |

Optional Power Service, Time-of-Use (Industrial Svc)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OPTVG | 2017 | 1 | 16,003 | 1,056,402,811 | $58,505,996 | . | . | . | 16,003 | 1,056,402,811 | . |
| | | 2 | 15,970 | 1,002,575,083 | $56,080,143 | . | . | . | 15,970 | 1,002,575,083 | . |
| | | 3 | 15,978 | 964,276,200 | $54,799,362 | . | . | . | 15,978 | 964,276,200 | . |
| | | 4 | 16,090 | 1,279,865,697 | $69,125,331 | . | . | . | 16,090 | 1,279,865,697 | . |
| | | 5 | 15,941 | 834,859,371 | $47,998,807 | . | . | . | 15,941 | 834,859,371 | . |
| | | 6 | 15,970 | 1,160,951,448 | $69,562,413 | . | . | . | 15,970 | 1,160,951,448 | . |
| | | 7 | 15,956 | 1,223,692,944 | $84,773,854 | . | . | . | 15,956 | 1,223,692,944 | . |
| | | 8 | 15,984 | 1,235,466,457 | $85,516,126 | . | . | . | 15,984 | 1,235,466,457 | . |
| | | 9 | 16,079 | 1,219,093,750 | $84,297,989 | . | . | . | 16,079 | 1,219,093,750 | . |
| | | 10 | 16,054 | 1,083,874,414 | $70,419,571 | . | . | . | 16,054 | 1,083,874,414 | . |
| | | 11 | 16,098 | 1,057,636,744 | $58,893,750 | . | . | . | 16,098 | 1,057,636,744 | . |
| | | 12 | 16,148 | 1,032,733,502 | $56,468,341 | . | . | . | 16,148 | 1,032,733,502 | . |
| Total Year | 2017 | | 192,271 | 13,151,428,421 | $796,441,684 | . | . | . | 192,271 | 13,151,428,421 | . |
| | 2018 | 1 | 16,142 | 1,106,419,888 | $60,245,996 | . | . | . | 16,142 | 1,106,419,888 | . |
| | | 2 | 16,164 | 1,059,753,082 | $59,248,786 | . | . | . | 16,164 | 1,059,753,082 | . |
| | | 3 | 16,173 | 971,883,672 | $55,412,694 | . | . | . | 16,173 | 971,883,672 | . |
| | | 4 | 16,192 | 1,051,348,613 | $57,759,963 | . | . | . | 16,192 | 1,051,348,613 | . |
| | | 5 | 16,150 | 1,070,296,321 | $59,074,370 | . | . | . | 16,150 | 1,070,296,321 | . |
| | | 6 | 16,264 | 1,214,717,750 | $71,825,209 | . | . | . | 16,264 | 1,214,717,750 | . |
| | | 7 | 16,363 | 1,279,017,326 | $87,442,379 | . | . | . | 16,363 | 1,279,017,326 | . |
| | | 8 | 16,378 | 1,258,816,490 | $85,495,165 | . | . | . | 16,378 | 1,258,816,490 | . |
| | | 9 | 16,347 | 1,574,433,560 | $101,522,012 | . | . | . | 16,347 | 1,574,433,560 | . |
| | | 10 | 16,169 | 896,113,061 | $58,519,392 | . | . | . | 16,169 | 896,113,061 | . |
| | | 11 | 16,316 | 1,076,833,370 | $59,344,704 | . | . | . | 16,316 | 1,076,833,370 | . |
| | | 12 | 16,383 | 1,077,822,357 | $58,983,133 | . | . | . | 16,383 | 1,077,822,357 | . |
| Total Year | 2018 | | 195,041 | 13,637,455,490 | $814,873,804 | . | . | . | 195,041 | 13,637,455,490 | . |
| Schedule OPTVG | | | 387,312 | 26,788,883,911 | $1,611,315,488 | . | . | . | 387,312 | 26,788,883,911 | . |

Optional Pwr Svce, TOU, Voltage Differentiated, (General Svc)

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| OPTVI | 2017 | 1 | 1,121 | 781,491,150 | $41,496,448 | . | . | . | 1,121 | 781,491,150 | . |
| | | 2 | 1,121 | 865,930,866 | $44,488,104 | . | . | . | 1,121 | 865,930,866 | . |
| | | 3 | 1,135 | 813,515,305 | $42,733,458 | . | . | . | 1,135 | 813,515,305 | . |
| | | 4 | 1,177 | 1,042,102,650 | $53,175,522 | . | . | . | 1,177 | 1,042,102,650 | . |
| | | 5 | 1,092 | 729,858,802 | $38,122,611 | . | . | . | 1,092 | 729,858,802 | . |
| | | 6 | 1,124 | 933,569,015 | $52,573,707 | . | . | . | 1,124 | 933,569,015 | . |
| | | 7 | 1,127 | 919,688,447 | $58,954,287 | . | . | . | 1,127 | 919,688,447 | . |
| | | 8 | 1,127 | 972,461,963 | $61,146,706 | . | . | . | 1,127 | 972,461,963 | . |
| | | 9 | 1,120 | 934,661,693 | $59,262,362 | . | . | . | 1,120 | 934,661,693 | . |
| | | 10 | 1,114 | 911,565,585 | $53,244,240 | . | . | . | 1,114 | 911,565,585 | . |
| | | 11 | 1,132 | 867,600,583 | $44,536,243 | . | . | . | 1,132 | 867,600,583 | . |
| | | 12 | 1,121 | 804,625,179 | $41,615,494 | . | . | . | 1,121 | 804,625,179 | . |
| Total Year | 2017 | | 13,511 | 10,577,071,238 | $591,349,181 | . | . | . | 13,511 | 10,577,071,238 | . |
| | 2018 | 1 | 1,118 | 774,516,329 | $40,467,727 | . | . | . | 1,118 | 774,516,329 | . |
| | | 2 | 1,115 | 862,224,391 | $44,129,390 | . | . | . | 1,115 | 862,224,391 | . |
| | | 3 | 1,115 | 777,684,583 | $40,967,307 | . | . | . | 1,115 | 777,684,583 | . |
| | | 4 | 1,121 | 873,201,103 | $44,577,048 | . | . | . | 1,121 | 873,201,103 | . |
| | | 5 | 1,120 | 864,087,326 | $44,448,477 | . | . | . | 1,120 | 864,087,326 | . |
| | | 6 | 1,118 | 922,258,445 | $51,470,019 | . | . | . | 1,118 | 922,258,445 | . |
| | | 7 | 1,126 | 931,210,570 | $59,106,231 | . | . | . | 1,126 | 931,210,570 | . |
| | | 8 | 1,106 | 916,873,722 | $56,908,985 | . | . | . | 1,106 | 916,873,722 | . |
| | | 9 | 1,158 | 1,134,087,490 | $68,600,632 | . | . | . | 1,158 | 1,134,087,490 | . |
| | | 10 | 1,043 | 688,309,365 | $39,051,268 | . | . | . | 1,043 | 688,309,365 | . |
| | | 11 | 1,111 | 881,969,329 | $44,480,008 | . | . | . | 1,111 | 881,969,329 | . |
| | | 12 | 1,112 | 815,391,528 | $40,794,041 | . | . | . | 1,112 | 815,391,528 | . |
| Total Year | 2018 | | 13,363 | 10,441,814,181 | $575,001,133 | . | . | . | 13,363 | 10,441,814,181 | . |
| Schedule OPTVI | | | 26,874 | 21,018,885,419 | $1,166,350,314 | . | . | . | 26,874 | 21,018,885,419 | . |

Optional Pwr Svce, TOU, Voltage Differentiated, (Industrial Svc)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| HP | 2017 | 1 | 2 | 320,050 | $18,912 | . | . | . | 2 | 320,050 | . |
| | | 2 | 2 | 271,947 | $14,891 | . | . | . | 2 | 271,947 | . |
| | | 3 | 2 | 268,161 | $15,224 | . | . | . | 2 | 268,161 | . |
| | | 4 | 2 | 527,790 | $26,424 | . | . | . | 2 | 527,790 | . |
| | | 5 | 2 | 327,599 | $16,397 | . | . | . | 2 | 327,599 | . |
| | | 6 | 2 | 336,507 | $16,906 | . | . | . | 2 | 336,507 | . |
| | | 7 | 6 | 1,212,602 | $54,691 | . | . | . | 6 | 1,212,602 | . |
| | | 8 | 3 | 566,329 | $26,311 | . | . | . | 3 | 566,329 | . |
| | | 9 | 3 | 459,990 | $22,879 | . | . | . | 3 | 459,990 | . |
| | | 10 | 3 | 490,431 | $25,090 | . | . | . | 3 | 490,431 | . |
| | | 11 | 4 | 1,189,967 | $68,407 | . | . | . | 4 | 1,189,967 | . |
| | | 12 | 5 | 812,510 | $56,007 | . | . | . | 5 | 812,510 | . |
| Total Year | 2017 | | 36 | 6,783,883 | $362,139 | . | . | . | 36 | 6,783,883 | . |
| | 2018 | 1 | 4 | 946,760 | $95,163 | . | . | . | 4 | 946,760 | . |
| | | 2 | 4 | 808,454 | $52,751 | . | . | . | 4 | 808,454 | . |
| | | 3 | 4 | 962,590 | $52,903 | . | . | . | 4 | 962,590 | . |
| | | 4 | 4 | 1,677,439 | $86,471 | . | . | . | 4 | 1,677,439 | . |
| | | 5 | 3 | 10,038,808 | $606,622 | . | . | . | 3 | 10,038,808 | . |
| | | 6 | 3 | (7,148,245) | ($473,364) | . | . | . | 3 | (7,148,245) | . |
| | | 7 | 3 | 1,235,754 | $64,469 | . | . | . | 3 | 1,235,754 | . |
| | | 8 | 6 | 1,588,958 | $89,908 | . | . | . | 6 | 1,588,958 | . |
| | | 9 | 5 | 715,363 | $45,527 | . | . | . | 5 | 715,363 | . |
| | | 10 | 4 | 809,195 | $56,069 | . | . | . | 4 | 809,195 | . |
| | | 11 | 4 | 458,573 | $39,081 | . | . | . | 4 | 458,573 | . |
| | | 12 | 4 | 768,060 | $58,045 | . | . | . | 4 | 768,060 | . |
| Total Year | 2018 | | 48 | 12,861,709 | $773,644 | . | . | . | 48 | 12,861,709 | . |
| Schedule HP | | | 84 | 19,645,592 | $1,135,783 | . | . | . | 84 | 19,645,592 | . |

Hourly Pricing for Incremental Load

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| HPX | 2017 | 1 | . | . | . | 18 | (1,758,407) | . | 18 | (1,758,407) | . |
| | | 2 | . | . | . | 18 | 1,273,921 | . | 18 | 1,273,921 | . |
| | | 3 | . | . | . | 18 | 8,443,907 | . | 18 | 8,443,907 | . |
| | | 4 | . | . | . | 18 | 6,514,271 | . | 18 | 6,514,271 | . |
| | | 5 | . | . | . | 17 | (7,804,481) | . | 17 | (7,804,481) | . |
| | | 6 | . | . | . | 19 | (3,501,356) | . | 19 | (3,501,356) | . |
| | | 7 | . | . | . | 18 | (2,428,206) | . | 18 | (2,428,206) | . |
| | | 8 | . | . | . | 18 | 47,647,108 | . | 18 | 47,647,108 | . |
| | | 9 | . | . | . | 18 | 39,604,574 | . | 18 | 39,604,574 | . |
| | | 10 | . | . | . | 18 | 45,928,053 | . | 18 | 45,928,053 | . |
| | | 11 | . | . | . | 18 | 41,276,057 | . | 18 | 41,276,057 | . |
| | | 12 | . | . | . | 18 | 39,642,924 | . | 18 | 39,642,924 | . |
| Total Year | 2017 | | . | . | . | 216 | 214,838,365 | . | 216 | 214,838,365 | . |
| | 2018 | 1 | . | . | . | 18 | 31,495,543 | . | 18 | 31,495,543 | . |
| | | 2 | . | . | . | 18 | 30,088,137 | . | 18 | 30,088,137 | . |
| | | 3 | . | . | . | 18 | 32,705,692 | . | 18 | 32,705,692 | . |
| | | 4 | . | . | . | 17 | 23,550,473 | . | 17 | 23,550,473 | . |
| | | 5 | . | . | . | 19 | 53,171,514 | . | 19 | 53,171,514 | . |
| | | 6 | . | . | . | 18 | 35,703,067 | . | 18 | 35,703,067 | . |
| | | 7 | . | . | . | 18 | 20,685,088 | . | 18 | 20,685,088 | . |
| | | 8 | . | . | . | 19 | 38,989,186 | . | 19 | 38,989,186 | . |
| | | 9 | . | . | . | 25 | 91,684,923 | . | 25 | 91,684,923 | . |
| | | 10 | . | . | . | 14 | 22,173,926 | . | 14 | 22,173,926 | . |
| | | 11 | . | . | . | 18 | 68,566,155 | . | 18 | 68,566,155 | . |
| | | 12 | . | . | . | 18 | 60,124,522 | . | 18 | 60,124,522 | . |
| Total Year | 2018 | | . | . | . | 220 | 508,938,226 | . | 220 | 508,938,226 | . |
| Schedule HPX | | | . | . | . | 436 | 723,776,591 | . | 436 | 723,776,591 | . |

Hourly Pricing for Incremental Load (SC)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| HPVG | 2017 | 1 | 4 | 3,206,980 | $140,332 | . | . | . | 4 | 3,206,980 | . |
| | | 2 | 4 | 2,954,657 | $70,328 | . | . | . | 4 | 2,954,657 | . |
| | | 3 | 4 | 5,300,284 | $206,756 | . | . | . | 4 | 5,300,284 | . |
| | | 4 | 6 | 5,897,670 | $256,819 | . | . | . | 6 | 5,897,670 | . |
| | | 5 | 2 | 8,974 | $20,189 | . | . | . | 2 | 8,974 | . |
| | | 6 | 4 | 13,509,994 | $550,356 | . | . | . | 4 | 13,509,994 | . |
| | | 7 | 4 | 9,251,977 | $382,362 | . | . | . | 4 | 9,251,977 | . |
| | | 8 | 4 | 10,205,660 | $430,996 | . | . | . | 4 | 10,205,660 | . |
| | | 9 | 4 | 9,599,144 | $401,607 | . | . | . | 4 | 9,599,144 | . |
| | | 10 | 4 | 5,436,125 | $251,583 | . | . | . | 4 | 5,436,125 | . |
| | | 11 | 4 | 4,484,725 | $217,830 | . | . | . | 4 | 4,484,725 | . |
| | | 12 | 4 | 7,972,906 | $343,733 | . | . | . | 4 | 7,972,906 | . |
| Total Year | 2017 | | 48 | 77,829,096 | $3,272,891 | . | . | . | 48 | 77,829,096 | . |
| | 2018 | 1 | 4 | 6,598,231 | $267,127 | . | . | . | 4 | 6,598,231 | . |
| | | 2 | 4 | 3,351,099 | ($154,728) | . | . | . | 4 | 3,351,099 | . |
| | | 3 | 4 | 5,061,973 | $205,391 | . | . | . | 4 | 5,061,973 | . |
| | | 4 | 4 | 7,750,131 | $326,231 | . | . | . | 4 | 7,750,131 | . |
| | | 5 | 4 | 10,909,921 | $460,229 | . | . | . | 4 | 10,909,921 | . |
| | | 6 | 4 | 17,104,570 | $662,542 | . | . | . | 4 | 17,104,570 | . |
| | | 7 | 4 | 8,741,637 | $408,717 | . | . | . | 4 | 8,741,637 | . |
| | | 8 | 4 | 11,283,251 | $514,432 | . | . | . | 4 | 11,283,251 | . |
| | | 9 | 3 | 13,139,819 | $605,469 | . | . | . | 3 | 13,139,819 | . |
| | | 10 | 3 | 10,459,024 | $543,658 | . | . | . | 3 | 10,459,024 | . |
| | | 11 | 3 | 10,158,660 | $586,113 | . | . | . | 3 | 10,158,660 | . |
| | | 12 | 4 | (1,267,544) | ($89,635) | . | . | . | 4 | (1,267,544) | . |
| Total Year | 2018 | | 45 | 103,290,772 | $4,335,546 | . | . | . | 45 | 103,290,772 | . |
| Schedule HPVG | | | 93 | 181,119,868 | $7,608,437 | . | . | . | 93 | 181,119,868 | . |

Hourly Pricing (OPTVG Baseline)

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| HPVI | 2017 | 1 | 8 | 40,264 | $78,805 | . | . | . | 8 | 40,264 | . |
| | | 2 | 8 | 2,285,592 | $146,157 | . | . | . | 8 | 2,285,592 | . |
| | | 3 | 8 | 156,436 | $64,076 | . | . | . | 8 | 156,436 | . |
| | | 4 | 11 | 4,190,177 | $239,555 | . | . | . | 11 | 4,190,177 | . |
| | | 5 | 5 | 4,701,483 | $206,987 | . | . | . | 5 | 4,701,483 | . |
| | | 6 | 8 | 495,711 | $48,978 | . | . | . | 8 | 495,711 | . |
| | | 7 | 10 | 7,043,702 | $368,514 | . | . | . | 10 | 7,043,702 | . |
| | | 8 | 8 | 3,765,070 | $265,230 | . | . | . | 8 | 3,765,070 | . |
| | | 9 | 8 | 4,502,160 | $277,370 | . | . | . | 8 | 4,502,160 | . |
| | | 10 | 8 | 4,729,895 | $293,406 | . | . | . | 8 | 4,729,895 | . |
| | | 11 | 8 | 6,077,856 | $310,923 | . | . | . | 8 | 6,077,856 | . |
| | | 12 | 8 | 731,346 | $74,972 | . | . | . | 8 | 731,346 | . |
| Total Year | 2017 | | 98 | 38,719,692 | $2,374,972 | . | . | . | 98 | 38,719,692 | . |
| | 2018 | 1 | 8 | 4,933,860 | $286,740 | . | . | . | 8 | 4,933,860 | . |
| | | 2 | 8 | 4,766,982 | $219,106 | . | . | . | 8 | 4,766,982 | . |
| | | 3 | 8 | 4,575,143 | $212,470 | . | . | . | 8 | 4,575,143 | . |
| | | 4 | 9 | 5,754,339 | $297,105 | . | . | . | 9 | 5,754,339 | . |
| | | 5 | 9 | 4,223,615 | $236,343 | . | . | . | 9 | 4,223,615 | . |
| | | 6 | 9 | 2,892,237 | $139,776 | . | . | . | 9 | 2,892,237 | . |
| | | 7 | 9 | 6,790,752 | $421,064 | . | . | . | 9 | 6,790,752 | . |
| | | 8 | 9 | 7,527,159 | $450,608 | . | . | . | 9 | 7,527,159 | . |
| | | 9 | 10 | 10,638,369 | $636,728 | . | . | . | 10 | 10,638,369 | . |
| | | 10 | 8 | 6,179,047 | $487,961 | . | . | . | 8 | 6,179,047 | . |
| | | 11 | 9 | 5,796,235 | $367,042 | . | . | . | 9 | 5,796,235 | . |
| | | 12 | 9 | 1,520,724 | $172,664 | . | . | . | 9 | 1,520,724 | . |
| Total Year | 2018 | | 105 | 65,598,462 | $3,927,608 | . | . | . | 105 | 65,598,462 | . |
| Schedule HPVI | | | 203 | 104,318,154 | $6,302,580 | . | . | . | 203 | 104,318,154 | . |
| Hourly Pricing (OPTVI Baseline) | | | | | | | | | | | |

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| PG | 2017 | 1 | 8 | 411,240 | $37,494 | 1 | 612,000 | . | 9 | 1,023,240 | . |
| | | 2 | 8 | 363,780 | $42,907 | 1 | 147,000 | . | 9 | 510,780 | . |
| | | 3 | 8 | 310,140 | $34,158 | 1 | 244,000 | . | 9 | 554,140 | . |
| | | 4 | 8 | 296,520 | $22,306 | 1 | 163,000 | . | 9 | 459,520 | . |
| | | 5 | 8 | 250,440 | $14,604 | 1 | 360,000 | . | 9 | 610,440 | . |
| | | 6 | 8 | 267,360 | $21,907 | 1 | 368,000 | . | 9 | 635,360 | . |
| | | 7 | 7 | 117,960 | $21,809 | 1 | 123,000 | . | 8 | 240,960 | . |
| | | 8 | 7 | 26,280 | $19,103 | 1 | 132,000 | . | 8 | 158,280 | . |
| | | 9 | 7 | 5,520 | $14,946 | 1 | 78,000 | . | 8 | 83,520 | . |
| | | 10 | 7 | 5,880 | $2,420 | 1 | 241,000 | . | 8 | 246,880 | . |
| | | 11 | 7 | 11,220 | $2,091 | 1 | 436,000 | . | 8 | 447,220 | . |
| | | 12 | 7 | 3,480 | $1,701 | 1 | 87,000 | . | 8 | 90,480 | . |
| Total Year | 2017 | | 90 | 2,069,820 | $235,445 | 12 | 2,991,000 | . | 102 | 5,060,820 | . |
| | 2018 | 1 | 7 | 12,720 | $4,119 | 1 | 124,000 | . | 8 | 136,720 | . |
| | | 2 | 7 | 11,580 | $2,722 | 1 | 84,000 | . | 8 | 95,580 | . |
| | | 3 | 6 | 2,400 | $7,675 | 1 | 54,000 | . | 7 | 56,400 | . |
| | | 4 | 6 | - | $5,500 | 1 | 66,000 | . | 7 | 66,000 | . |
| | | 5 | 6 | 2,700 | $1,235 | 1 | 595,000 | . | 7 | 597,700 | . |
| | | 6 | 6 | 19,500 | $2,125 | 1 | 605,000 | . | 7 | 624,500 | . |
| | | 7 | 6 | 21,000 | $14,517 | 1 | 683,000 | . | 7 | 704,000 | . |
| | | 8 | 6 | 18,600 | $3,526 | 1 | 115,000 | . | 7 | 133,600 | . |
| | | 9 | 6 | 2,400 | $1,742 | 1 | 226,000 | . | 7 | 228,400 | . |
| | | 10 | 6 | 2,400 | $1,147 | 1 | 143,000 | . | 7 | 145,400 | . |
| | | 11 | 6 | 7,200 | $1,403 | 1 | 269,000 | . | 7 | 276,200 | . |
| | | 12 | 6 | - | $1,032 | 1 | 77,000 | . | 7 | 77,000 | . |
| Total Year | 2018 | | 74 | 100,500 | $46,743 | 12 | 3,041,000 | . | 86 | 3,141,500 | . |
| Schedule PG | | | 164 | 2,170,320 | $282,188 | 24 | 6,032,000 | . | 188 | 8,202,320 | . |
| Parallel Generation | | | | | | | | | | | |

**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| MP | 2017 | 1 | . | . | . | 64 | 20,149,405 | . | 64 | 20,149,405 | . |
| | | 2 | . | . | . | 63 | 21,809,998 | . | 63 | 21,809,998 | . |
| | | 3 | . | . | . | 62 | 19,820,018 | . | 62 | 19,820,018 | . |
| | | 4 | . | . | . | 62 | 22,441,341 | . | 62 | 22,441,341 | . |
| | | 5 | . | . | . | 62 | 22,629,888 | . | 62 | 22,629,888 | . |
| | | 6 | . | . | . | 62 | 24,263,066 | . | 62 | 24,263,066 | . |
| | | 7 | . | . | . | 62 | 23,999,660 | . | 62 | 23,999,660 | . |
| | | 8 | . | . | . | 62 | 25,791,348 | . | 62 | 25,791,348 | . |
| | | 9 | . | . | . | 62 | 24,669,998 | . | 62 | 24,669,998 | . |
| | | 10 | . | . | . | 62 | 23,577,449 | . | 62 | 23,577,449 | . |
| | | 11 | . | . | . | 62 | 22,400,145 | . | 62 | 22,400,145 | . |
| | | 12 | . | . | . | 62 | 20,430,577 | . | 62 | 20,430,577 | . |
| Total Year | 2017 | | . | . | . | 747 | 271,982,893 | . | 747 | 271,982,893 | . |
| | 2018 | 1 | . | . | . | 62 | 20,280,407 | . | 62 | 20,280,407 | . |
| | | 2 | . | . | . | 62 | 21,870,289 | . | 62 | 21,870,289 | . |
| | | 3 | . | . | . | 62 | 19,738,366 | . | 62 | 19,738,366 | . |
| | | 4 | . | . | . | 51 | 4,793,746 | . | 51 | 4,793,746 | . |
| | | 5 | . | . | . | 109 | 38,478,425 | . | 109 | 38,478,425 | . |
| | | 6 | . | . | . | 61 | 21,098,611 | . | 61 | 21,098,611 | . |
| | | 7 | . | . | . | 13 | 2,622,784 | . | 13 | 2,622,784 | . |
| | | 8 | . | . | . | 33 | 28,406,518 | . | 33 | 28,406,518 | . |
| | | 9 | . | . | . | 23 | 15,746,353 | . | 23 | 15,746,353 | . |
| | | 10 | . | . | . | 23 | 14,947,715 | . | 23 | 14,947,715 | . |
| | | 11 | . | . | . | 23 | 14,015,070 | . | 23 | 14,015,070 | . |
| | | 12 | . | . | . | 23 | 13,247,503 | . | 23 | 13,247,503 | . |
| Total Year | 2018 | | . | . | . | 545 | 215,245,787 | . | 545 | 215,245,787 | . |
| Schedule MP | | | . | . | . | 1,292 | 487,228,680 | . | 1,292 | 487,228,680 | . |

Multiple Premises Service (Pilot)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| NL | 2017 | 1 | 7 | 23,041 | $10,317 | 1 | 218 | . | 8 | 23,259 | . |
| | | 2 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 3 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 4 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 5 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 6 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 7 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 8 | 7 | 23,041 | $10,298 | 1 | 218 | . | 8 | 23,259 | . |
| | | 9 | 7 | 23,041 | $10,297 | 1 | 218 | . | 8 | 23,259 | . |
| | | 10 | 7 | 23,041 | $10,293 | 1 | 218 | . | 8 | 23,259 | . |
| | | 11 | 7 | 23,041 | $10,293 | 1 | 218 | . | 8 | 23,259 | . |
| | | 12 | 7 | 23,041 | $10,293 | 1 | 218 | . | 8 | 23,259 | . |
| Total Year | 2017 | | 84 | 276,492 | $123,580 | 12 | 2,616 | . | 96 | 279,108 | . |
| | 2018 | 1 | 7 | 23,041 | $10,293 | 1 | 218 | . | 8 | 23,259 | . |
| | | 2 | 7 | 23,041 | $10,294 | 1 | 218 | . | 8 | 23,259 | . |
| | | 3 | 7 | 23,041 | $10,294 | 1 | 218 | . | 8 | 23,259 | . |
| | | 4 | 7 | 22,882 | $10,277 | 1 | 218 | . | 8 | 23,100 | . |
| | | 5 | 7 | 22,989 | $10,289 | 1 | 218 | . | 8 | 23,207 | . |
| | | 6 | 7 | 22,989 | $10,289 | 1 | 218 | . | 8 | 23,207 | . |
| | | 7 | 7 | 22,989 | $10,288 | 1 | 218 | . | 8 | 23,207 | . |
| | | 8 | 7 | 22,461 | $10,250 | 1 | 281 | . | 8 | 22,742 | . |
| | | 9 | 7 | 22,896 | $10,270 | 1 | 281 | . | 8 | 23,177 | . |
| | | 10 | 7 | 22,896 | $10,355 | 1 | 281 | . | 8 | 23,177 | . |
| | | 11 | 7 | 22,896 | $10,355 | 1 | 281 | . | 8 | 23,177 | . |
| | | 12 | 7 | 22,896 | $10,356 | 1 | 281 | . | 8 | 23,177 | . |
| Total Year | 2018 | | 84 | 275,017 | $123,610 | 12 | 2,931 | . | 96 | 277,948 | . |
| Schedule NL | | | 168 | 551,509 | $247,190 | 24 | 5,547 | . | 192 | 557,056 | . |

Economic Development for New Load

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**



| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| SN | 2017 | 1 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 2 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 3 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 4 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 5 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 6 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 7 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 8 | 4 | - | $251 | . | . | . | 4 | - | . |
| | | 9 | 4 | - | $254 | . | . | . | 4 | - | . |
| | | 10 | 4 | - | $254 | . | . | . | 4 | - | . |
| | | 11 | 4 | - | $254 | . | . | . | 4 | - | . |
| | | 12 | 4 | - | $254 | . | . | . | 4 | - | . |
| Total Year | 2017 | | 48 | - | $3,022 | . | . | . | 48 | - | . |
| | 2018 | 1 | 5 | - | $264 | . | . | . | 5 | - | . |
| | | 2 | 4 | - | $254 | . | . | . | 4 | - | . |
| | | 3 | 4 | - | $258 | . | . | . | 4 | - | . |
| | | 4 | 4 | - | $258 | . | . | . | 4 | - | . |
| | | 5 | 4 | - | $258 | . | . | . | 4 | - | . |
| | | 6 | 4 | - | $258 | . | . | . | 4 | - | . |
| | | 7 | 4 | - | $258 | . | . | . | 4 | - | . |
| | | 8 | 4 | - | $260 | . | . | . | 4 | - | . |
| | | 9 | 4 | - | $262 | . | . | . | 4 | - | . |
| | | 10 | 4 | - | $260 | . | . | . | 4 | - | . |
| | | 11 | 4 | - | $260 | . | . | . | 4 | - | . |
| | | 12 | 4 | - | $261 | . | . | . | 4 | - | . |
| Total Year | 2018 | | 49 | - | $3,114 | . | . | . | 49 | - | . |
| Schedule SN | | | 97 | - | $6,136 | . | . | . | 97 | - | . |
| Unmetered Signs (NPL) | | | | | | | | | | | |

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| YLN | 2017 | 1 | 2 | 183 | $18 | . | . | . | 2 | 183 | . |
| | | 2 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 3 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 4 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 5 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 6 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 7 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 8 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 9 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 10 | 1 | 83 | $8 | . | . | . | 1 | 83 | . |
| | | 12 | . | - | $0 | . | . | . | . | - | . |
| Total Year | 2017 | | 11 | 930 | $93 | . | . | . | 11 | 930 | . |
| | 2018 | 6 | . | - | $0 | . | . | . | . | - | . |
| Total Year | 2018 | | . | - | $0 | . | . | . | . | - | . |
| Schedule YLN | | | 11 | 930 | $93 | . | . | . | 11 | 930 | . |
| Yard Lighting (NPL) | | | | | | | | | | | |

**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| FLN | 2017 | 1 | 72 | 24,420 | $2,812 | . | . | . | 72 | 24,420 | . |
| | | 2 | 72 | 24,420 | $2,801 | . | . | . | 72 | 24,420 | . |
| | | 3 | 72 | 24,193 | $2,775 | . | . | . | 72 | 24,193 | . |
| | | 4 | 72 | 24,258 | $2,783 | . | . | . | 72 | 24,258 | . |
| | | 5 | 72 | 24,120 | $2,767 | . | . | . | 72 | 24,120 | . |
| | | 6 | 71 | 24,060 | $2,760 | . | . | . | 71 | 24,060 | . |
| | | 7 | 70 | 23,880 | $2,739 | . | . | . | 70 | 23,880 | . |
| | | 8 | 72 | 24,240 | $2,780 | . | . | . | 72 | 24,240 | . |
| | | 9 | 70 | 22,800 | $2,611 | . | . | . | 70 | 22,800 | . |
| | | 10 | 69 | 22,620 | $2,589 | . | . | . | 69 | 22,620 | . |
| | | 11 | 70 | 21,978 | $2,515 | . | . | . | 70 | 21,978 | . |
| | | 12 | 72 | 23,802 | $2,725 | . | . | . | 72 | 23,802 | . |
| Total Year | 2017 | | 854 | 284,791 | $32,656 | . | . | . | 854 | 284,791 | . |
| | 2018 | 1 | 70 | 22,680 | $2,596 | . | . | . | 70 | 22,680 | . |
| | | 2 | 69 | 22,620 | $2,590 | . | . | . | 69 | 22,620 | . |
| | | 3 | 68 | 22,440 | $2,569 | . | . | . | 68 | 22,440 | . |
| | | 4 | 70 | 22,800 | $2,611 | . | . | . | 70 | 22,800 | . |
| | | 5 | 67 | 21,540 | $2,466 | . | . | . | 67 | 21,540 | . |
| | | 6 | 65 | 21,360 | $2,445 | . | . | . | 65 | 21,360 | . |
| | | 7 | 68 | 21,702 | $2,482 | . | . | . | 68 | 21,702 | . |
| | | 8 | 60 | 19,740 | $2,267 | . | . | . | 60 | 19,740 | . |
| Total Year | 2018 | | 537 | 174,882 | $20,026 | . | . | . | 537 | 174,882 | . |
| Schedule FLN | | | 1,391 | 459,673 | $52,682 | . | . | . | 1,391 | 459,673 | . |

Flood Lighting (NPL)

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| BL | 2017 | 1 | . | . | . | 84 | 281,499 | . | 84 | 281,499 | . |
| | | 2 | . | . | . | 83 | 221,789 | . | 83 | 221,789 | . |
| | | 3 | . | . | . | 82 | 210,637 | . | 82 | 210,637 | . |
| | | 4 | . | . | . | 83 | 226,046 | . | 83 | 226,046 | . |
| | | 5 | . | . | . | 82 | 201,800 | . | 82 | 201,800 | . |
| | | 6 | . | . | . | 83 | 279,674 | . | 83 | 279,674 | . |
| | | 7 | . | . | . | 82 | 293,610 | . | 82 | 293,610 | . |
| | | 8 | . | . | . | 83 | 315,879 | . | 83 | 315,879 | . |
| | | 9 | . | . | . | 82 | 322,721 | . | 82 | 322,721 | . |
| | | 10 | . | . | . | 82 | 247,010 | . | 82 | 247,010 | . |
| | | 11 | . | . | . | 81 | 214,587 | . | 81 | 214,587 | . |
| | | 12 | . | . | . | 79 | 259,490 | . | 79 | 259,490 | . |
| Total Year | 2017 | | . | . | . | 986 | 3,074,742 | . | 986 | 3,074,742 | . |
| | 2018 | 1 | . | . | . | 81 | 320,602 | . | 81 | 320,602 | . |
| | | 2 | . | . | . | 72 | 272,909 | . | 72 | 272,909 | . |
| | | 3 | . | . | . | 79 | 235,969 | . | 79 | 235,969 | . |
| | | 4 | . | . | . | 82 | 258,196 | . | 82 | 258,196 | . |
| | | 5 | . | . | . | 81 | 244,756 | . | 81 | 244,756 | . |
| | | 6 | . | . | . | 82 | 333,046 | . | 82 | 333,046 | . |
| | | 7 | . | . | . | 81 | 351,361 | . | 81 | 351,361 | . |
| | | 8 | . | . | . | 84 | 343,606 | . | 84 | 343,606 | . |
| | | 9 | . | . | . | 83 | 371,310 | . | 83 | 371,310 | . |
| | | 10 | . | . | . | 81 | 288,451 | . | 81 | 288,451 | . |
| | | 11 | . | . | . | 82 | 233,587 | . | 82 | 233,587 | . |
| | | 12 | . | . | . | 83 | 287,307 | . | 83 | 287,307 | . |
| Total Year | 2018 | | . | . | . | 971 | 3,541,100 | . | 971 | 3,541,100 | . |
| Schedule BL | | | . | . | . | 1,957 | 6,615,842 | . | 1,957 | 6,615,842 | . |

Greenwood

/A



**Duke Energy Carolinas LLC**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

**E1 Item 44**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| EH | 2017 | 1 | . | . | . | 5 | 9,108 | . | 5 | 9,108 | . |
| | | 2 | . | . | . | 4 | 4,604 | . | 4 | 4,604 | . |
| | | 3 | . | . | . | 4 | 3,360 | . | 4 | 3,360 | . |
| | | 4 | . | . | . | 4 | 2,286 | . | 4 | 2,286 | . |
| | | 5 | . | . | . | 4 | 2,404 | . | 4 | 2,404 | . |
| | | 6 | . | . | . | 3 | 4,094 | . | 3 | 4,094 | . |
| | | 7 | . | . | . | 3 | 5,493 | . | 3 | 5,493 | . |
| | | 8 | . | . | . | 3 | 6,462 | . | 3 | 6,462 | . |
| | | 9 | . | . | . | 3 | 5,580 | . | 3 | 5,580 | . |
| | | 10 | . | . | . | 3 | 3,248 | . | 3 | 3,248 | . |
| | | 11 | . | . | . | 5 | 2,391 | . | 5 | 2,391 | . |
| | | 12 | . | . | . | 3 | 4,103 | . | 3 | 4,103 | . |
| Total Year | 2017 | | . | . | . | 44 | 53,133 | . | 44 | 53,133 | . |
| | 2018 | 1 | . | . | . | 5 | 6,332 | . | 5 | 6,332 | . |
| | | 2 | . | . | . | 4 | 4,918 | . | 4 | 4,918 | . |
| | | 3 | . | . | . | 4 | 1,812 | . | 4 | 1,812 | . |
| | | 4 | . | . | . | 4 | 2,548 | . | 4 | 2,548 | . |
| | | 5 | . | . | . | 3 | 1,802 | . | 3 | 1,802 | . |
| | | 6 | . | . | . | 3 | 4,318 | . | 3 | 4,318 | . |
| | | 7 | . | . | . | 4 | 5,097 | . | 4 | 5,097 | . |
| | | 8 | . | . | . | 4 | 4,392 | . | 4 | 4,392 | . |
| | | 9 | . | . | . | 4 | 5,092 | . | 4 | 5,092 | . |
| | | 10 | . | . | . | 2 | 3,418 | . | 2 | 3,418 | . |
| | | 11 | . | . | . | 5 | 2,315 | . | 5 | 2,315 | . |
| | | 12 | . | . | . | 4 | 4,939 | . | 4 | 4,939 | . |
| Total Year | 2018 | | . | . | . | 46 | 46,983 | . | 46 | 46,983 | . |
| Schedule EH Greenwood | | | . | . | . | 90 | 100,116 | . | 90 | 100,116 | . |

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| SL | 2017 | 1 | . | . | . | 797 | 24,975 | . | 797 | 24,975 | . |
| | | 2 | . | . | . | 797 | 24,804 | . | 797 | 24,804 | . |
| | | 3 | . | . | . | 791 | 24,600 | . | 791 | 24,600 | . |
| | | 4 | . | . | . | 784 | 24,379 | . | 784 | 24,379 | . |
| | | 5 | . | . | . | 777 | 24,225 | . | 777 | 24,225 | . |
| | | 6 | . | . | . | 777 | 24,612 | . | 777 | 24,612 | . |
| | | 7 | . | . | . | 774 | 24,217 | . | 774 | 24,217 | . |
| | | 8 | . | . | . | 776 | 24,328 | . | 776 | 24,328 | . |
| | | 9 | . | . | . | 775 | 24,275 | . | 775 | 24,275 | . |
| | | 10 | . | . | . | 774 | 24,245 | . | 774 | 24,245 | . |
| | | 11 | . | . | . | 777 | 24,259 | . | 777 | 24,259 | . |
| | | 12 | . | . | . | 763 | 23,795 | . | 763 | 23,795 | . |
| Total Year | 2017 | | . | . | . | 9,362 | 292,714 | . | 9,362 | 292,714 | . |
| | 2018 | 1 | . | . | . | 767 | 24,316 | . | 767 | 24,316 | . |
| | | 2 | . | . | . | 768 | 23,989 | . | 768 | 23,989 | . |
| | | 3 | . | . | . | 756 | 23,700 | . | 756 | 23,700 | . |
| | | 4 | . | . | . | 754 | 23,849 | . | 754 | 23,849 | . |
| | | 5 | . | . | . | 748 | 23,643 | . | 748 | 23,643 | . |
| | | 6 | . | . | . | 746 | 23,680 | . | 746 | 23,680 | . |
| | | 7 | . | . | . | 752 | 23,650 | . | 752 | 23,650 | . |
| | | 8 | . | . | . | 745 | 23,710 | . | 745 | 23,710 | . |
| | | 9 | . | . | . | 744 | 23,555 | . | 744 | 23,555 | . |
| | | 10 | . | . | . | 741 | 23,136 | . | 741 | 23,136 | . |
| | | 11 | . | . | . | 736 | 23,334 | . | 736 | 23,334 | . |
| | | 12 | . | . | . | 738 | 23,243 | . | 738 | 23,243 | . |
| Total Year | 2018 | | . | . | . | 8,995 | 283,805 | . | 8,995 | 283,805 | . |
| Schedule SL Greenwood Lighting | | | . | . | . | 18,357 | 576,519 | . | 18,357 | 576,519 | . |

/A



**Duke Energy Carolinas LLC** **E1 Item 44**
**Docket No. E-7 Sub 1214**
**Monthly Sales by Rate Schedule**
**For the two years ended December 31, 2018**

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| A | 2017 | 1 | . | . | . | 2,465 | 4,801,993 | . | 2,465 | 4,801,993 | . |
| | | 2 | . | . | . | 2,469 | 3,575,860 | . | 2,469 | 3,575,860 | . |
| | | 3 | . | . | . | 2,468 | 3,148,010 | . | 2,468 | 3,148,010 | . |
| | | 4 | . | . | . | 2,463 | 3,092,951 | . | 2,463 | 3,092,951 | . |
| | | 5 | . | . | . | 2,476 | 2,657,722 | . | 2,476 | 2,657,722 | . |
| | | 6 | . | . | . | 2,479 | 3,338,777 | . | 2,479 | 3,338,777 | . |
| | | 7 | . | . | . | 2,470 | 4,261,024 | . | 2,470 | 4,261,024 | . |
| | | 8 | . | . | . | 2,463 | 4,364,984 | . | 2,463 | 4,364,984 | . |
| | | 9 | . | . | . | 2,471 | 3,939,351 | . | 2,471 | 3,939,351 | . |
| | | 10 | . | . | . | 2,461 | 2,893,483 | . | 2,461 | 2,893,483 | . |
| | | 11 | . | . | . | 2,466 | 2,847,926 | . | 2,466 | 2,847,926 | . |
| | | 12 | . | . | . | 2,426 | 3,859,185 | . | 2,426 | 3,859,185 | . |
| Total Year | 2017 | | . | . | . | 29,577 | 42,781,266 | . | 29,577 | 42,781,266 | . |
| | 2018 | 1 | . | . | . | 2,482 | 5,344,155 | . | 2,482 | 5,344,155 | . |
| | | 2 | . | . | . | 2,488 | 4,755,097 | . | 2,488 | 4,755,097 | . |
| | | 3 | . | . | . | 2,464 | 3,010,292 | . | 2,464 | 3,010,292 | . |
| | | 4 | . | . | . | 2,462 | 3,265,820 | . | 2,462 | 3,265,820 | . |
| | | 5 | . | . | . | 2,464 | 2,641,036 | . | 2,464 | 2,641,036 | . |
| | | 6 | . | . | . | 2,466 | 3,596,238 | . | 2,466 | 3,596,238 | . |
| | | 7 | . | . | . | 2,463 | 4,502,520 | . | 2,463 | 4,502,520 | . |
| | | 8 | . | . | . | 2,463 | 4,161,056 | . | 2,463 | 4,161,056 | . |
| | | 9 | . | . | . | 2,456 | 4,660,289 | . | 2,456 | 4,660,289 | . |
| | | 10 | . | . | . | 2,445 | 3,367,989 | . | 2,445 | 3,367,989 | . |
| | | 11 | . | . | . | 2,460 | 2,927,705 | . | 2,460 | 2,927,705 | . |
| | | 12 | . | . | . | 2,447 | 4,317,105 | . | 2,447 | 4,317,105 | . |
| Total Year | 2018 | | . | . | . | 29,560 | 46,549,302 | . | 29,560 | 46,549,302 | . |
| Schedule A | | | . | . | . | 59,137 | 89,330,568 | . | 59,137 | 89,330,568 | . |

Greenwood Residential

| | | | North Carolina | | | South Carolina | | | System | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schedule** | **Year** | **Month** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** | **Bills** | **kWh** | **Rate Revenue** |
| SPE | 2017 | 1 | 17 | 542,880,010 | $28,489,079 | 7 | 366,647,370 | . | 24 | 909,527,380 | . |
| | | 2 | 16 | 384,758,875 | $24,569,122 | 6 | 163,457,770 | . | 22 | 548,216,645 | . |
| | | 3 | 16 | 745,776,066 | $35,195,389 | 11 | 273,326,276 | . | 27 | 1,019,102,342 | . |
| | | 4 | 16 | 659,659,092 | $32,867,865 | 8 | 253,698,875 | . | 24 | 913,357,967 | . |
| | | 5 | 17 | 517,592,100 | $28,921,530 | 8 | 293,960,613 | . | 25 | 811,552,713 | . |
| | | 6 | 16 | 500,132,355 | $22,948,671 | 9 | 325,112,990 | . | 25 | 825,245,345 | . |
| | | 7 | 17 | 533,958,570 | $28,701,828 | 9 | 389,327,132 | . | 26 | 923,285,702 | . |
| | | 8 | 16 | 552,523,951 | $29,871,962 | 8 | 362,991,851 | . | 24 | 915,515,802 | . |
| | | 9 | 19 | 433,041,405 | $27,074,201 | 10 | 319,314,971 | . | 29 | 752,356,376 | . |
| | | 10 | 15 | 424,867,551 | $26,781,129 | 8 | 281,796,729 | . | 23 | 706,664,280 | . |
| | | 11 | 14 | 401,374,232 | $25,695,016 | 9 | 268,431,907 | . | 23 | 669,806,139 | . |
| | | 12 | 14 | 559,671,108 | $21,257,983 | 8 | 316,965,856 | . | 22 | 876,636,964 | . |
| Total Year | 2017 | | 193 | 6,256,235,315 | $332,373,776 | 101 | 3,615,032,340 | . | 294 | 9,871,267,655 | . |
| | 2018 | 1 | 16 | 806,296,165 | $57,646,461 | 8 | 435,227,240 | . | 24 | 1,241,523,405 | . |
| | | 2 | 15 | 399,101,024 | $25,758,724 | 6 | 280,441,178 | . | 21 | 679,542,202 | . |
| | | 3 | 16 | 616,856,939 | $21,018,181 | 6 | 323,446,106 | . | 22 | 940,303,045 | . |
| | | 4 | 18 | 528,016,688 | $31,410,175 | 10 | 265,082,086 | . | 28 | 793,098,774 | . |
| | | 5 | 17 | 529,612,486 | $30,258,617 | 9 | 337,021,113 | . | 26 | 866,633,599 | . |
| | | 6 | 15 | 671,703,372 | $25,338,926 | 7 | 403,156,971 | . | 22 | 1,074,860,343 | . |
| | | 7 | 15 | 487,914,869 | $29,789,158 | 6 | 424,475,221 | . | 21 | 912,390,090 | . |
| | | 8 | 15 | 509,913,501 | $30,218,539 | 7 | 426,797,145 | . | 22 | 936,710,646 | . |
| | | 9 | 15 | 675,762,667 | $34,962,359 | 6 | 410,545,186 | . | 21 | 1,086,307,853 | . |
| | | 10 | 15 | 434,284,175 | $27,998,335 | 7 | 343,857,435 | . | 22 | 778,141,610 | . |
| | | 11 | 15 | 559,178,960 | $33,677,287 | 9 | 335,514,546 | . | 24 | 894,693,506 | . |
| | | 12 | 14 | 672,894,237 | $19,057,344 | 8 | 369,850,651 | . | 22 | 1,042,744,888 | . |
| Total Year | 2018 | | 186 | 6,891,535,083 | $367,134,105 | 89 | 4,355,414,878 | . | 275 | 11,246,949,961 | . |
| Schedule SPE | | | 379 | 13,147,770,398 | $699,507,880 | 190 | 7,970,447,218 | . | 569 | 21,118,217,616 | . |

Special Sales (Wholesale,Munis,Coops)

**DUKE ENERGY CAROLINAS, LLC** **Item No. 45**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**
Fully distributed cost of service studies for the test year based on the following:
a. Per books
b. Rates in effect at the time of the application annualized for the test year
c. Rates proposed in the application annualized for the test year
d. For studies noted in b and c above, supply the customer, demand, and energy-related 1) deductions for electric operating revenues and 2) rate base for each rate schedule. Include all applicable workpapers including derivation of allocation factors.
e. For studies noted in b and c above, supply customer, demand, energy, and combined demand and energy-related unit cost based on billing units and equalized rate of return.
f. If not shown as a part of items 45a through e above, provide the jurisdictional allocation study showing each jurisdiction including the calculation of energy and demand allocation factors and all applicable work papers.

**Response:**
Please see the attached files.

**DUKE ENERGY CAROLINAS, LLC** **Item No. 46**
**Docket No. E-7 Sub. 1214**
**NCUC Form E-1 Data Request**
**For the test year ended December 31, 2018**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

**Request:**

Provide the following Information pertaining to fuel costs and usage:
a. Monthly Base Load Power Plant Performance Report filed in accordance with NCUC Rule R8-53 covering the last month in the test period.
b. Monthly Fuel Report filed in accordance with NCUC Rule R8-52 covering the last month in the test period.
c. File Schedules 7 and 9 from Monthly Fuel Report covering each month filed during the test period indicating affiliated purchases with an asterisk.
d. A calculation showing the average (13 month) number of days' supply of coal on hand for the test year and each of the five (5) years preceding the test year (include a copy of all workpapers). Also, include a written detailed explanation of factors considered in determining what constitutes an average day's supply of coal.
e. Show the derivation of daily burn rates (tons of coal per day) as used in developing the company's proposed working capital allowance.
f. Actual and projected fuel costs for the two (2) calendar years succeeding the test year. The costs should be given in total dollars, cents per kWh generated, and cents per MBTU for each type of fuel. Data should also be supplied on the actual amount of each type of fuel used, the numbers of BTU's obtained for each type of fuel, and the kWh generated by each type of fuel.

**Response:**

Please see attached files:

a. Form E-1 46a - December 2018 Power Plant Performance Report.pdf

Form E-1 46a -
December 2018 Powe

b. Form E-1 46b - December 2018 Fuel Report.pdf

Form E-1 46b -
December 2018 Fuel R

c. Form E-1 - 46c_2018 Monthly DEC NC Schedule 7.xlsx
Form E-1 - 46c_2018 Monthly DEC NC Schedule 9.xlsx

Form E-1 - 46c_2018 Monthly DEC NC Sche

Form E-1 - 46c_2018 Monthly DEC NC Sche

d. Form E-1 46d - Coal Inventory Data.xlsx

Form E-1 46d - Coal Inventory Data.xlsx

e. Form E-1 46e - December 2018 Coal Burn Rates.xlsx

Form E-1 46e - December 2018 Coal

f. Form E-1 46f - December 2018 Act - Proj Fuel Costs.xlsx

Form E-1 46f - December 2018 Act -

January 30, 2019

**VIA ELECTRONIC FILING**

Ms. M. Lynn Jarvis
Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4300

**RE: Duke Energy Carolinas, LLC Base Load Power Plant Performance Report**
**Docket No. E-7 Sub 1161**

Dear Ms. Jarvis:

Pursuant to Commission Rule R8-53, enclosed for filing is Duke Energy Carolinas, LLC's Base Load Power Plant Performance Report for the month of December 2018.

Should you have any questions or need further assistance, please contact me.

Sincerely,

/s/ *Robert W. Kaylor*

Robert W. Kaylor, P.A.

RWK/trh
Enclosure

# Duke Energy Carolinas
## Base Load Power Plant Performance Review Plan

**Period: December, 2018**

| Station | Unit | Date of Outage | Duration of Outage | Scheduled / Unscheduled | Cause of Outage | Reason Outage Occurred | Remedial Action Taken |
|---|---|---|---|---|---|---|---|
| Oconee | 1 | 11/30/2018 - 12/08/2018 | 177.87 | Unscheduled | 1B2 reactor coolant pump seal leakage | Failure of reactor coolant pump seal | Replaced reactor coolant pump seal |
| | 2 | None | | | | | |
| | 3 | None | | | | | |
| McGuire | 1 | None | | | | | |
| | 2 | None | | | | | |
| Catawba | 1 | 11/17/2018 - 12/11/2018 | 255.70 | Scheduled | End-of-cycle 24 refueling outage | Planned refueling outage | Refueling outage in progress |
| | 2 | None | | | | | |

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## December 2018

## Belews Creek Station

| Unit | Duration of Outage | Type of Outage | Cause of Outage | | Reason Outage Occurred | Remedial Action Taken |
|---|---|---|---|---|---|---|
| 1 | 12/3/2018 5:37:00 PM To 12/6/2018 5:07:00 AM | Unsch | 1070 | Second Reheater Leaks | HRH Leak on 9th floor. P17 Tube 7,8,9,10,11 and 12, P18 Tubes 10,11 and 12. | |
| 1 | 12/22/2018 6:00:00 PM To 12/23/2018 2:55:00 PM | Sch | 1000 | Furnace Wall Leaks | Furnace wall leak on 6th floor. | |
| 1 | 12/26/2018 7:00:00 AM To 1/1/2019 12:00:00 AM | Sch | 8110 | Wet Scrubber - Spray Nozzles | 1B Absorber agitator and mist eliminator header repairs. | |
| 2 | 9/8/2018 3:00:00 AM To 12/8/2018 12:00:00 AM | Sch | 4520 | Gen. Stator Windings; Bushings; And Terminals | Unit 2 fall outage for SSH replacement, LP Generator rewind and CCP final ties. | |
| 2 | 12/8/2018 12:00:00 AM To 12/13/2018 3:23:00 AM | Sch | 3999 | Other Miscellaneous Balance Of Plant Problems | Fuel oil fire from replaced accumulator, 2B SAH Rub from new seals,200-2 not wired. | |
| 2 | 12/14/2018 10:41:00 AM To 12/16/2018 11:54:00 PM | Unsch | 8499 | Other Miscellaneous Wet Scrubber Problems | FGD Stack doors left open and could not be closed online. | |
| 2 | 12/27/2018 9:34:00 PM To 12/31/2018 9:30:00 PM | Sch | 1492 | Air Heater Fouling (Tubular) | Unit 2 PAH plugged and unable to make mill temps. | |

## Buck Combined Cycle Station

No Outages at Baseload Units During the Month.

## Dan River Combined Cycle Station

No Outages at Baseload Units During the Month.

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- Data is reflected at 100% ownership.

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## December 2018

## Marshall Station

| Unit | Duration of Outage | Type of Outage | Cause of Outage | | Reason Outage Occurred | Remedial Action Taken |
|---|---|---|---|---|---|---|
| 4 | 12/7/2018 9:58:00 PM To 12/15/2018 4:00:00 PM | Sch | 1493 | Air Heater Fouling (Regenerative) | APH Wash. | |
| 4 | 12/18/2018 8:00:00 AM To 12/20/2018 5:00:00 PM | Sch | 0890 | Bottom Ash Systems (Wet or Dry) | Bottom Ash Hopper Seal Trough Repairs. | |

## WS Lee Combined Cycle

| Unit | Duration of Outage | Type of Outage | Cause of Outage | | Reason Outage Occurred | Remedial Action Taken |
|---|---|---|---|---|---|---|
| WS Lee CC ST 10 | 12/3/2018 7:05:00 PM To 12/20/2018 5:00:00 PM | Unsch | 4289 | Turbine - Other Lube Oil System Problems | Trip due to low lube oil in reservoir. | |
| WS Lee CC ST 10 | 12/22/2018 12:10:00 AM To 12/22/2018 1:00:00 AM | Unsch | 4289 | Turbine - Other Lube Oil System Problems | EBOP fail to start. | |
| WS Lee CC ST 10 | 12/22/2018 1:53:00 AM To 12/22/2018 11:00:00 AM | Unsch | 4289 | Turbine - Other Lube Oil System Problems | EBOP fail to start. | |
| WS Lee CC ST 10 | 12/22/2018 11:42:00 AM To 12/22/2018 2:00:00 PM | Unsch | 4289 | Turbine - Other Lube Oil System Problems | EBOP fail to start. | |
| WS Lee CC GT 11 | 12/3/2018 7:05:00 PM To 12/20/2018 5:00:00 PM | Unsch | 3430 | Feedwater Regulating (Boiler Level Control) Valve | Trip due to IP drum level. | |
| WS Lee CC GT 11 | 12/21/2018 6:30:00 AM To 12/21/2018 10:00:00 AM | Sch | 3352 | Feedwater Chemistry | Shut down due to water chemistry/vac. | |
| WS Lee CC GT 12 | 12/3/2018 7:05:00 PM To 12/20/2018 5:00:00 PM | Unsch | 3430 | Feedwater Regulating (Boiler Level Control) Valve | Trip due to IP drum level. | |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- Data is reflected at 100% ownership.

# Duke Energy Carolinas
## Base Load Power Plant Performance Review Plan

## December 2018
## Oconee Nuclear Station

| | Unit 1 | | Unit 2 | | Unit 3 | |
|---|---|---|---|---|---|---|
| (A) MDC (mW) | 847 | | 848 | | 859 | |
| (B) Period Hours | 744 | | 744 | | 744 | |
| (C) Net Gen (mWh) and Capacity Factor (%) | 481,371 | 76.39 | 648,846 | 102.84 | 652,031 | 102.02 |
| (D) Net mWh Not Gen due to Full Schedule Outages | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| * (E) Net mWh Not Gen due to Partial Scheduled Outages | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| (F) Net mWh Not Gen due to Full Forced Outages | 150,653 | 23.91 | 0 | 0.00 | 0 | 0.00 |
| * (G) Net mWh Not Gen due to Partial Forced Outages | -1,856 | -0.30 | -17,934 | -2.84 | -12,935 | -2.02 |
| * (H) Net mWh Not Gen due to Economic Dispatch | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| * (I) Core Conservation | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| (J) Net mWh Possible in Period | 630,168 | 100.00% | 630,912 | 100.00% | 639,096 | 100.00% |
| (K) Equivalent Availability (%) | | 75.43 | | 100.00 | | 100.00 |
| (L) Output Factor (%) | | 100.39 | | 102.84 | | 102.02 |
| (M) Heat Rate (BTU/NkWh) | | 10,230 | | 10,050 | | 10,001 |

* Estimate
FOOTNOTE: D and F Include Ramping Losses

# Duke Energy Carolinas
## Base Load Power Plant Performance Review Plan

## December 2018
## McGuire Nuclear Station

| | Unit 1 | | Unit 2 | |
|---|---|---|---|---|
| (A) MDC (mW) | 1158 | | 1158 | |
| (B) Period Hours | 744 | | 744 | |
| (C) Net Gen (mWh) and Capacity Factor (%) | 891,451 | 103.47 | 886,748 | 102.92 |
| (D) Net mWh Not Gen due to Full Schedule Outages | 0 | 0.00 | 0 | 0.00 |
| * (E) Net mWh Not Gen due to Partial Scheduled Outages | 0 | 0.00 | 0 | 0.00 |
| (F) Net mWh Not Gen due to Full Forced Outages | 0 | 0.00 | 0 | 0.00 |
| * (G) Net mWh Not Gen due to Partial Forced Outages | -29,899 | -3.47 | -25,196 | -2.92 |
| * (H) Net mWh Not Gen due to Economic Dispatch | 0 | 0.00 | 0 | 0.00 |
| * (I) Core Conservation | 0 | 0.00 | 0 | 0.00 |
| (J) Net mWh Possible in Period | 861,552 | 100.00% | 861,552 | 100.00% |
| (K) Equivalent Availability (%) | | 100.00 | | 100.00 |
| (L) Output Factor (%) | | 103.47 | | 102.92 |
| (M) Heat Rate (BTU/NkWh) | | 9,869 | | 9,923 |

* Estimate
FOOTNOTE: D and F Include Ramping Losses

# Duke Energy Carolinas
## Base Load Power Plant Performance Review Plan

## December 2018
## Catawba Nuclear Station

| | Unit 1 | | Unit 2 | |
|---|---|---|---|---|
| (A) MDC (mW) | 1160 | | 1150 | |
| (B) Period Hours | 744 | | 744 | |
| (C) Net Gen (mWh) and Capacity Factor (%) | 552,976 | 64.07 | 867,746 | 101.42 |
| (D) Net mWh Not Gen due to Full Schedule Outages | 296,612 | 34.37 | 0 | 0.00 |
| * (E) Net mWh Not Gen due to Partial Scheduled Outages | 13,307 | 1.54 | 0 | 0.00 |
| (F) Net mWh Not Gen due to Full Forced Outages | 0 | 0.00 | 0 | 0.00 |
| * (G) Net mWh Not Gen due to Partial Forced Outages | 145 | 0.02 | -12,146 | -1.42 |
| * (H) Net mWh Not Gen due to Economic Dispatch | 0 | 0.00 | 0 | 0.00 |
| * (I) Core Conservation | 0 | 0.00 | 0 | 0.00 |
| (J) Net mWh Possible in Period | 863,040 | 100.00% | 855,600 | 100.00% |
| (K) Equivalent Availability (%) | | 63.35 | | 100.00 |
| (L) Output Factor (%) | | 97.63 | | 101.42 |
| (M) Heat Rate (BTU/NkWh) | | 10,134 | | 9,967 |

* Estimate
FOOTNOTE: D and F Include Ramping Losses

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## December 2018

## Belews Creek Station

| | Unit 1 | Unit 2 |
|---|---|---|
| **(A) MDC (mW)** | 1,110 | 1,110 |
| **(B) Period Hrs** | 744 | 744 |
| **(C) Net Generation (mWh)** | 404,610 | 176,233 |
| **(D) Capacity Factor (%)** | 48.99 | 21.34 |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | 175,287 | 429,921 |
| **(F) Scheduled Outages: percent of Period Hrs** | 21.23 | 52.06 |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | 0 | 0 |
| **(H) Scheduled Derates: percent of Period Hrs** | 0.00 | 0.00 |
| **(I) Net mWh Not Generated due to Full Forced Outages** | 66,045 | 67,951 |
| **(J) Forced Outages: percent of Period Hrs** | 8.00 | 8.23 |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | 3,159 | 45,010 |
| **(L) Forced Derates: percent of Period Hrs** | 0.38 | 5.45 |
| **(M) Net mWh Not Generated due to Economic Dispatch** | 176,739 | 106,725 |
| **(N) Economic Dispatch: percent of Period Hrs** | 21.40 | 12.92 |
| **(O) Net mWh Possible in Period** | 825,840 | 825,840 |
| **(P) Equivalent Availability (%)** | 70.39 | 34.26 |
| **(Q) Output Factor (%)** | 85.98 | 54.19 |
| **(R) Heat Rate (BTU/NkWh)** | 9,236 | 10,647 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's
- Data is reflected at 100% ownership.

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## December 2018

### Buck Combined Cycle Station

| | Unit 11 | Unit 12 | Unit ST10 | Block Total |
|---|---|---|---|---|
| **(A) MDC (mW)** | 206 | 206 | 312 | 724 |
| **(B) Period Hrs** | 744 | 744 | 744 | 744 |
| **(C) Net Generation (mWh)** | 129,223 | 129,215 | 169,760 | 428,198 |
| **(D) Capacity Factor (%)** | 84.31 | 84.31 | 73.13 | 79.49 |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | 0 | 0 | 0 | 0 |
| **(F) Scheduled Outages: percent of Period Hrs** | 0.00 | 0.00 | 0.00 | 0.00 |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | 0 | 0 | 5,952 | 5,952 |
| **(H) Scheduled Derates: percent of Period Hrs** | 0.00 | 0.00 | 2.56 | 1.10 |
| **(I) Net mWh Not Generated due to Full Forced Outages** | 0 | 0 | 0 | 0 |
| **(J) Forced Outages: percent of Period Hrs** | 0.00 | 0.00 | 0.00 | 0.00 |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | 0 | 0 | 0 | 0 |
| **(L) Forced Derates: percent of Period Hrs** | 0.00 | 0.00 | 0.00 | 0.00 |
| **(M) Net mWh Not Generated due to Economic Dispatch** | 24,041 | 24,049 | 56,416 | 104,506 |
| **(N) Economic Dispatch: percent of Period Hrs** | 15.69 | 15.69 | 24.30 | 19.40 |
| **(O) Net mWh Possible in Period** | 153,264 | 153,264 | 232,128 | 538,656 |
| **(P) Equivalent Availability (%)** | 100.00 | 100.00 | 97.44 | 98.90 |
| **(Q) Output Factor (%)** | 85.29 | 86.03 | 73.13 | 80.21 |
| **(R) Heat Rate (BTU/NkWh)** | 9,945 | 9,739 | 1,661 | 6,599 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's
- Data is reflected at 100% ownership.

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## December 2018

### Dan River Combined Cycle Station

| | Unit 8 | Unit 9 | Unit ST07 | Block Total |
|---|---|---|---|---|
| **(A) MDC (mW)** | 199 | 199 | 320 | 718 |
| **(B) Period Hrs** | 744 | 744 | 744 | 744 |
| **(C) Net Generation (mWh)** | 130,730 | 122,378 | 166,308 | 419,416 |
| **(D) Capacity Factor (%)** | 88.30 | 82.66 | 69.85 | 78.51 |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | 0 | 0 | 0 | 0 |
| **(F) Scheduled Outages: percent of Period Hrs** | 0.00 | 0.00 | 0.00 | 0.00 |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | 0 | 0 | 0 | 0 |
| **(H) Scheduled Derates: percent of Period Hrs** | 0.00 | 0.00 | 0.00 | 0.00 |
| **(I) Net mWh Not Generated due to Full Forced Outages** | 0 | 0 | 0 | 0 |
| **(J) Forced Outages: percent of Period Hrs** | 0.00 | 0.00 | 0.00 | 0.00 |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | 0 | 0 | 0 | 0 |
| **(L) Forced Derates: percent of Period Hrs** | 0.00 | 0.00 | 0.00 | 0.00 |
| **(M) Net mWh Not Generated due to Economic Dispatch** | 17,326 | 25,678 | 71,772 | 114,776 |
| **(N) Economic Dispatch: percent of Period Hrs** | 11.70 | 17.34 | 30.15 | 21.49 |
| **(O) Net mWh Possible in Period** | 148,056 | 148,056 | 238,080 | 534,192 |
| **(P) Equivalent Availability (%)** | 100.00 | 100.00 | 100.00 | 100.00 |
| **(Q) Output Factor (%)** | 89.45 | 88.83 | 71.12 | 81.01 |
| **(R) Heat Rate (BTU/NkWh)** | 10,412 | 10,566 | 1,784 | 7,036 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's
- Data is reflected at 100% ownership.

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## December 2018

## Marshall Station

| | Unit 3 | Unit 4 |
|---|---|---|
| **(A) MDC (mW)** | 658 | 660 |
| **(B) Period Hrs** | 744 | 744 |
| **(C) Net Generation (mWh)** | 250,510 | 51,399 |
| **(D) Capacity Factor (%)** | 51.17 | 10.47 |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | 0 | 160,402 |
| **(F) Scheduled Outages: percent of Period Hrs** | 0.00 | 32.67 |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | 0 | 0 |
| **(H) Scheduled Derates: percent of Period Hrs** | 0.00 | 0.00 |
| **(I) Net mWh Not Generated due to Full Forced Outages** | 0 | 0 |
| **(J) Forced Outages: percent of Period Hrs** | 0.00 | 0.00 |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | 0 | 0 |
| **(L) Forced Derates: percent of Period Hrs** | 0.00 | 0.00 |
| **(M) Net mWh Not Generated due to Economic Dispatch** | 239,042 | 279,239 |
| **(N) Economic Dispatch: percent of Period Hrs** | 48.83 | 56.87 |
| **(O) Net mWh Possible in Period** | 489,552 | 491,040 |
| **(P) Equivalent Availability (%)** | 100.00 | 67.33 |
| **(Q) Output Factor (%)** | 51.17 | 46.92 |
| **(R) Heat Rate (BTU/NkWh)** | 9,867 | 10,142 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's
- Data is reflected at 100% ownership.

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## December 2018

### WS Lee Combined Cycle

| | Unit 11 | Unit 12 | Unit ST10 | Block Total |
|---|---|---|---|---|
| **(A) MDC (mW)** | 223 | 223 | 337 | 783 |
| **(B) Period Hrs** | 744 | 744 | 744 | 744 |
| **(C) Net Generation (mWh)** | 65,805 | 67,050 | 82,122 | 214,977 |
| **(D) Capacity Factor (%)** | 39.66 | 40.41 | 32.75 | 36.90 |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | 781 | 0 | 0 | 781 |
| **(F) Scheduled Outages: percent of Period Hrs** | 0.47 | 0.00 | 0.00 | 0.13 |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | 0 | 0 | 0 | 0 |
| **(H) Scheduled Derates: percent of Period Hrs** | 0.00 | 0.00 | 0.00 | 0.00 |
| **(I) Net mWh Not Generated due to Full Forced Outages** | 90,519 | 90,519 | 140,922 | 321,961 |
| **(J) Forced Outages: percent of Period Hrs** | 54.56 | 54.56 | 56.21 | 55.27 |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | 0 | 0 | 0 | 0 |
| **(L) Forced Derates: percent of Period Hrs** | 0.00 | 0.00 | 0.00 | 0.00 |
| **(M) Net mWh Not Generated due to Economic Dispatch** | 8,807 | 8,343 | 27,684 | 44,834 |
| **(N) Economic Dispatch: percent of Period Hrs** | 5.31 | 5.03 | 11.04 | 7.70 |
| **(O) Net mWh Possible in Period** | 165,912 | 165,912 | 250,728 | 582,552 |
| **(P) Equivalent Availability (%)** | 44.97 | 45.44 | 43.79 | 44.60 |
| **(Q) Output Factor (%)** | 91.32 | 94.95 | 83.12 | 89.03 |
| **(R) Heat Rate (BTU/NkWh)** | 9,815 | 9,566 | 2,061 | 6,775 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's
- Data is reflected at 100% ownership.

# Duke Energy Carolinas
# Intermediate Power Plant Performance
# Review Plan
## December 2018

| | | Cliffside Station |
|---|---|---|
| | | **Cliffside 6** |
| **(A)** | **MDC (mW)** | 844 |
| **(B)** | **Period Hrs** | 744 |
| **(C)** | **Net Generation (mWh)** | 383,291 |
| **(D)** | **Net mWh Possible in Period** | 627,936 |
| **(E)** | **Equivalent Availability (%)** | 87.46 |
| **(F)** | **Output Factor (%)** | 69.10 |
| **(G)** | **Capacity Factor (%)** | 61.04 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

# Duke Energy Carolinas
# Peaking Power Plant Performance
# Review Plan
## December 2018

| | | Cliffside Station |
|---|---|---|
| | | **Unit 5** |
| **(A)** | **MDC (mW)** | 546 |
| **(B)** | **Period Hrs** | 744 |
| **(C)** | **Net Generation (mWh)** | 113,103 |
| **(D)** | **Net mWh Possible in Period** | 406,224 |
| **(E)** | **Equivalent Availability (%)** | 80.73 |
| **(F)** | **Output Factor (%)** | 74.07 |
| **(G)** | **Capacity Factor (%)** | 27.84 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

# Duke Energy Carolinas
## Base Load Power Plant Performance Review Plan

## January 2018 - December 2018
## Oconee Nuclear Station

| | Unit 1 | | Unit 2 | | Unit 3 | |
|---|---|---|---|---|---|---|
| (A) MDC (mW) | 847 | | 848 | | 859 | |
| (B) Period Hours | 8760 | | 8760 | | 8760 | |
| (C) Net Gen (mWh) and Capacity Factor (%) | 6,745,635 | 90.91 | 7,581,168 | 102.06 | 6,967,442 | 92.59 |
| (D) Net mWh Not Gen due to Full Schedule Outages | 524,378 | 7.07 | 0 | 0.00 | 582,288 | 7.74 |
| * (E) Net mWh Not Gen due to Partial Scheduled Outages | 29,529 | 0.40 | 347 | 0.00 | 46,294 | 0.62 |
| (F) Net mWh Not Gen due to Full Forced Outages | 184,787 | 2.49 | 0 | 0.00 | 0 | 0.00 |
| * (G) Net mWh Not Gen due to Partial Forced Outages | -64,608 | -0.87 | -153,035 | -2.06 | -71,184 | -0.95 |
| * (H) Net mWh Not Gen due to Economic Dispatch | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| * (I) Core Conservation | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| (J) Net mWh Possible in Period | 7,419,720 | 100.00% | 7,428,480 | 100.00% | 7,524,840 | 100.00% |
| (K) Equivalent Availability (%) | | 89.94 | | 100.00 | | 92.12 |
| (L) Output Factor (%) | | 100.52 | | 102.06 | | 100.36 |
| (M) Heat Rate (BTU/NkWh) | | 10,233 | | 10,127 | | 10,102 |

* Estimate
FOOTNOTE: D and F Include Ramping Losses

# Duke Energy Carolinas
## Base Load Power Plant Performance Review Plan

## January 2018 - December 2018
## McGuire Nuclear Station

| | Unit 1 | | Unit 2 | |
|---|---|---|---|---|
| (A) MDC (mW) | 1158 | | 1158 | |
| (B) Period Hours | 8760 | | 8760 | |
| (C) Net Gen (mWh) and Capacity Factor (%) | 10,359,250 | 102.12 | 9,502,818 | 93.68 |
| (D) Net mWh Not Gen due to Full Schedule Outages | 0 | 0.00 | 791,628 | 7.80 |
| * (E) Net mWh Not Gen due to Partial Scheduled Outages | 796 | 0.01 | 28,506 | 0.28 |
| (F) Net mWh Not Gen due to Full Forced Outages | 34,991 | 0.34 | 0 | 0.00 |
| * (G) Net mWh Not Gen due to Partial Forced Outages | -250,957 | -2.47 | -178,872 | -1.76 |
| * (H) Net mWh Not Gen due to Economic Dispatch | 0 | 0.00 | 0 | 0.00 |
| * (I) Core Conservation | 0 | 0.00 | 0 | 0.00 |
| (J) Net mWh Possible in Period | 10,144,080 | 100.00% | 10,144,080 | 100.00% |
| (K) Equivalent Availability (%) | | 99.56 | | 91.80 |
| (L) Output Factor (%) | | 102.47 | | 101.61 |
| (M) Heat Rate (BTU/NkWh) | | 9,957 | | 10,015 |



* Estimate
FOOTNOTE: D and F Include Ramping Losses

## Duke Energy Carolinas
## Base Load Power Plant Performance Review Plan

## January 2018 - December 2018
## Catawba Nuclear Station

| | Unit 1 | | Unit 2 | |
|---|---|---|---|---|
| (A) MDC (mW) | 1160 | | 1150 | |
| (B) Period Hours | 0 | | 8760 | |
| (C) Net Gen (mWh) and Capacity Factor (%) | 9,510,487 | 102.28 | 9,269,228 | 92.01 |
| (D) Net mWh Not Gen due to Full Schedule Outages | 0 | 0.00 | 777,783 | 7.72 |
| * (E) Net mWh Not Gen due to Partial Scheduled Outages | 0 | 0.00 | 76,740 | 0.76 |
| (F) Net mWh Not Gen due to Full Forced Outages | 0 | 0.00 | 0 | 0.00 |
| * (G) Net mWh Not Gen due to Partial Forced Outages | 0 | 0.00 | -49,751 | -0.49 |
| * (H) Net mWh Not Gen due to Economic Dispatch | 0 | 0.00 | 0 | 0.00 |
| * (I) Core Conservation | 0 | 0.00 | 0 | 0.00 |
| (J) Net mWh Possible in Period | 0 | 100.00% | 10,074,000 | 100.00% |
| (K) Equivalent Availability (%) | | 95.52 | | 91.84 |
| (L) Output Factor (%) | | 100.33 | | 99.71 |
| (M) Heat Rate (BTU/NkWh) | | 10,098 | | 10,048 |

* Estimate
FOOTNOTE: D and F Include Ramping Losses

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## January, 2018 through December, 2018

### Belews Creek Station

| | Unit 1 | Unit 2 |
|---|---|---|
| **(A) MDC (mW)** | 1,110 | 1,110 |
| **(B) Period Hrs** | 8,760 | 8,760 |
| **(C) Net Generation (mWh)** | 4,793,474 | 3,227,943 |
| **(D) Capacity Factor (%)** | 49.30 | 33.20 |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | 747,659 | 2,689,881 |
| **(F) Scheduled Outages: percent of Period Hrs** | 7.69 | 27.66 |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | 1,040 | 740 |
| **(H) Scheduled Derates: percent of Period Hrs** | 0.01 | 0.01 |
| **(I) Net mWh Not Generated due to Full Forced Outages** | 311,892 | 173,216 |
| **(J) Forced Outages: percent of Period Hrs** | 3.21 | 1.78 |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | 100,192 | 86,443 |
| **(L) Forced Derates: percent of Period Hrs** | 1.03 | 0.89 |
| **(M) Net mWh Not Generated due to Economic Dispatch** | 3,769,344 | 3,545,377 |
| **(N) Economic Dispatch: percent of Period Hrs** | 38.76 | 36.46 |
| **(O) Net mWh Possible in Period** | 9,723,600 | 9,723,600 |
| **(P) Equivalent Availability (%)** | 88.06 | 69.66 |
| **(Q) Output Factor (%)** | 73.99 | 67.36 |
| **(R) Heat Rate (BTU/NkWh)** | 9,305 | 9,599 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- Data is reflected at 100% ownership.
- Footnote: (R) Includes Light Off BTU's

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## January, 2018 through December, 2018

### Buck Combined Cycle Station

| | Unit 11 | Unit 12 | Unit ST10 | Block Total |
|---|---|---|---|---|
| **(A) MDC (mW)** | 206 | 206 | 312 | 724 |
| **(B) Period Hrs** | 8,760 | 8,760 | 8,760 | 8,760 |
| **(C) Net Generation (mWh)** | 1,463,456 | 1,471,968 | 2,237,637 | 5,173,061 |
| **(D) Capacity Factor (%)** | 81.10 | 81.57 | 81.87 | 81.57 |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | 61,021 | 56,502 | 58,692 | 176,215 |
| **(F) Scheduled Outages: percent of Period Hrs** | 3.38 | 3.13 | 2.15 | 2.78 |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | 139,166 | 139,968 | 28,219 | 307,353 |
| **(H) Scheduled Derates: percent of Period Hrs** | 7.71 | 7.76 | 1.03 | 4.85 |
| **(I) Net mWh Not Generated due to Full Forced Outages** | 4,003 | 354 | 806 | 5,163 |
| **(J) Forced Outages: percent of Period Hrs** | 0.22 | 0.02 | 0.03 | 0.08 |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | 0 | 0 | 277 | 277 |
| **(L) Forced Derates: percent of Period Hrs** | 0.00 | 0.00 | 0.01 | 0.00 |
| **(M) Net mWh Not Generated due to Economic Dispatch** | 136,914 | 135,768 | 407,489 | 680,170 |
| **(N) Economic Dispatch: percent of Period Hrs** | 7.59 | 7.52 | 14.91 | 10.72 |
| **(O) Net mWh Possible in Period** | 1,804,560 | 1,804,560 | 2,733,120 | 6,342,240 |
| **(P) Equivalent Availability (%)** | 88.68 | 89.09 | 96.78 | 92.29 |
| **(Q) Output Factor (%)** | 84.66 | 84.85 | 84.14 | 84.49 |
| **(R) Heat Rate (BTU/NkWh)** | 10,221 | 9,937 | 2,440 | 6,774 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- Data is reflected at 100% ownership.
- Footnote: (R) Includes Light Off BTU's

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## January, 2018 through December, 2018

### Dan River Combined Cycle Station

| | Unit 8 | Unit 9 | Unit ST07 | Block Total |
|---|---|---|---|---|
| **(A) MDC (mW)** | 199 | 199 | 320 | 718 |
| **(B) Period Hrs** | 8,760 | 8,760 | 8,760 | 8,760 |
| **(C) Net Generation (mWh)** | 1,433,925 | 1,410,200 | 2,118,133 | 4,962,258 |
| **(D) Capacity Factor (%)** | 82.26 | 80.90 | 75.56 | 78.90 |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | 97,347 | 105,218 | 156,480 | 359,045 |
| **(F) Scheduled Outages: percent of Period Hrs** | 5.58 | 6.04 | 5.58 | 5.71 |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | 132,928 | 132,170 | 5,760 | 270,858 |
| **(H) Scheduled Derates: percent of Period Hrs** | 7.63 | 7.58 | 0.21 | 4.31 |
| **(I) Net mWh Not Generated due to Full Forced Outages** | 7,068 | 9,462 | 11,920 | 28,450 |
| **(J) Forced Outages: percent of Period Hrs** | 0.41 | 0.54 | 0.43 | 0.45 |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | 0 | 0 | 67,418 | 67,418 |
| **(L) Forced Derates: percent of Period Hrs** | 0.00 | 0.00 | 2.41 | 1.07 |
| **(M) Net mWh Not Generated due to Economic Dispatch** | 71,972 | 86,190 | 443,489 | 601,650 |
| **(N) Economic Dispatch: percent of Period Hrs** | 4.13 | 4.94 | 15.82 | 9.57 |
| **(O) Net mWh Possible in Period** | 1,743,240 | 1,743,240 | 2,803,200 | 6,289,680 |
| **(P) Equivalent Availability (%)** | 86.38 | 85.84 | 91.38 | 88.46 |
| **(Q) Output Factor (%)** | 87.94 | 87.41 | 80.83 | 84.62 |
| **(R) Heat Rate (BTU/NkWh)** | 10,614 | 10,673 | 2,397 | 7,123 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- Data is reflected at 100% ownership.
- Footnote: (R) Includes Light Off BTU's

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## January, 2018 through December, 2018

## Marshall Station

| | Unit 3 | Unit 4 |
|---|---|---|
| **(A) MDC (mW)** | 658 | 660 |
| **(B) Period Hrs** | 8,760 | 8,760 |
| **(C) Net Generation (mWh)** | 3,176,205 | 3,675,692 |
| **(D) Capacity Factor (%)** | 55.10 | 63.58 |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | 372,746 | 501,545 |
| **(F) Scheduled Outages: percent of Period Hrs** | 6.47 | 8.67 |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | 2,091 | 12,896 |
| **(H) Scheduled Derates: percent of Period Hrs** | 0.04 | 0.22 |
| **(I) Net mWh Not Generated due to Full Forced Outages** | 95,739 | 81,433 |
| **(J) Forced Outages: percent of Period Hrs** | 1.66 | 1.41 |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | 145,499 | 69,994 |
| **(L) Forced Derates: percent of Period Hrs** | 2.52 | 1.21 |
| **(M) Net mWh Not Generated due to Economic Dispatch** | 1,971,800 | 1,440,040 |
| **(N) Economic Dispatch: percent of Period Hrs** | 34.21 | 24.91 |
| **(O) Net mWh Possible in Period** | 5,764,080 | 5,781,600 |
| **(P) Equivalent Availability (%)** | 89.31 | 88.48 |
| **(Q) Output Factor (%)** | 68.89 | 75.74 |
| **(R) Heat Rate (BTU/NkWh)** | 9,553 | 9,406 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- Data is reflected at 100% ownership.
- Footnote: (R) Includes Light Off BTU's

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## January, 2018 through December, 2018

### WS Lee Combined Cycle

| | Unit 11 | Unit 12 | Unit ST10 | Block Total |
|---|---|---|---|---|
| **(A) MDC (mW)** | 223 | 223 | 337 | 783 |
| **(B) Period Hrs** | 6,601 | 6,601 | 6,601 | 6,601 |
| **(C) Net Generation (mWh)** | 1,030,538 | 1,090,492 | 1,402,639 | 3,523,669 |
| **(D) Capacity Factor (%)** | 70.01 | 74.08 | 63.05 | 68.17 |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | 200,652 | 187,320 | 291,168 | 679,140 |
| **(F) Scheduled Outages: percent of Period Hrs** | 13.63 | 12.73 | 13.09 | 13.14 |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | 27,459 | 28,514 | 67,117 | 123,090 |
| **(H) Scheduled Derates: percent of Period Hrs** | 1.87 | 1.94 | 3.02 | 2.38 |
| **(I) Net mWh Not Generated due to Full Forced Outages** | 138,565 | 122,014 | 167,641 | 428,220 |
| **(J) Forced Outages: percent of Period Hrs** | 9.41 | 8.29 | 7.54 | 8.29 |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | 0 | 0 | 0 | 0 |
| **(L) Forced Derates: percent of Period Hrs** | 0.00 | 0.00 | 0.00 | 0.00 |
| **(M) Net mWh Not Generated due to Economic Dispatch** | 74,809 | 43,683 | 295,972 | 414,464 |
| **(N) Economic Dispatch: percent of Period Hrs** | 5.08 | 2.97 | 13.30 | 8.02 |
| **(O) Net mWh Possible in Period** | 1,472,023 | 1,472,023 | 2,224,537 | 5,168,583 |
| **(P) Equivalent Availability (%)** | 75.09 | 77.05 | 76.36 | 76.19 |
| **(Q) Output Factor (%)** | 96.75 | 98.41 | 85.00 | 92.16 |
| **(R) Heat Rate (BTU/NkWh)** | 10,365 | 10,240 | 1,646 | 6,855 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- Data is reflected at 100% ownership.
- Footnote: (R) Includes Light Off BTU's

# Duke Energy Carolinas
# Base Load Power Plant
# Performance Review Plan
## January 2018 through December 2018

### Pre-Commercial
### Lee Combined Cycle Station

| | Unit 11 | Unit 12 | Unit ST10 | Block Total |
|---|---|---|---|---|
| **(A) MDC (mW)** | | | | |
| **(B) Period Hrs** | | | | |
| **(C) Net Generation (mWh)** | 38,546 | 20,580 | 7,645 | 66,771 |
| **(D) Capacity Factor (%)** | | | | |
| **(E) Net mWh Not Generated due to Full Scheduled Outages** | | | | |
| **(F) Scheduled Outages: percent of Period Hrs** | | | | |
| **(G) Net mWh Not Generated due to Partial Scheduled Outages** | | | | |
| **(H) Scheduled Derates: percent of Period Hrs** | | | | |
| **(I) Net mWh Not Generated due to Full Forced Outages** | | | | |
| **(J) Forced Outages: percent of Period Hrs** | | | | |
| **(K) Net mWh Not Generated due to Partial Forced Outages** | | | | |
| **(L) Forced Derates: percent of Period Hrs** | | | | |
| **(M) Net mWh Not Generated due to Economic Dispatch** | | | | |
| **(N) Economic Dispatch: percent of Period Hrs** | | | | |
| **(O) Net mWh Possible in Period** | | | | |
| **(P) Equivalent Availability (%)** | | | | |
| **(Q) Output Factor (%)** | | | | |
| **(R) Heat Rate (BTU/NkWh)** | | | | |

Note: The Power Plant Performance Data reports are limited to capturing data beginning the first month a station is in commercial operation. Lee CC began commercial operations April 5, 2018.

# Duke Energy Carolinas
# Intermediate Power Plant
# Performance Review Plan
## January, 2018 through December, 2018

**Cliffside Station**

| Units | Unit 6 |
|---|---|
| (A) MDC (mW) | 844 |
| (B) Period Hrs | 8,760 |
| (C) Net Generation (mWh) | 4,311,369 |
| (D) Net mWh Possible in Period | 7,393,440 |
| (E) Equivalent Availability (%) | 75.32 |
| (F) Output Factor (%) | 79.29 |
| (G) Capacity Factor (%) | 58.31 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

# Duke Energy Carolinas
# Peaking Power Plant
# Performance Review Plan
## January, 2018 through December, 2018

### Cliffside Station

| Units | Unit 5 |
|---|---|
| (A) MDC (mW) | 546 |
| (B) Period Hrs | 8,760 |
| (C) Net Generation (mWh) | 1,243,104 |
| (D) Net mWh Possible in Period | 4,782,960 |
| (E) Equivalent Availability (%) | 60.18 |
| (F) Output Factor (%) | 71.78 |
| (G) Capacity Factor (%) | 25.99 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

February 8, 2019

**VIA ELECTRONIC FILING**

Ms. M. Lynn Jarvis
Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4300

**RE: Duke Energy Carolinas, LLC Monthly Fuel Report Report**
**Docket No. E-7 Sub 1161**

Dear Ms. Jarvis:

Commission Rule R8-52 requires that on or before the 15th day of each month, each public utility that uses fossil and/or nuclear fuel in the generation of electric power for providing North Carolina retail electric service shall file a fuel report for the second preceding month for review by the Commission, the Public Staff and any other interested party. Enclosed for filing with the Commission please find Duke Energy Carolinas, LLC's monthly fuel report pursuant to NCUC Rule R8-52 for the month of December 2018.

Should you have any questions or need further assistance, please contact me.

Sincerely,

/s/ *Robert W. Kaylor*

Robert W. Kaylor

RWK/trh
Enclosures

DUKE ENERGY CAROLINAS
SUMMARY OF MONTHLY FUEL REPORT

Docket No. E-7, Sub 1161

| Line No. | | December 2018 | 12 Months Ended December 2018 |
|---|---|---|---|
| 1 | Fuel and fuel-related costs | $ 167,457,560 | $ 1,885,269,344 |
| | MWH sales: | | |
| 2 | Total system sales | 7,718,637 | 92,433,072 |
| 3 | Less intersystem sales | 228,210 | 1,945,444 |
| 4 | Total sales less intersystem sales | 7,490,427 | 90,487,628 |
| 5 | Total fuel and fuel-related costs (¢/KWH) (line 1/line 4) | 2.2356 | 2.0835 |
| 6 | Current fuel and fuel-related cost component (¢/KWH) (per Schedule 4, Line 2a Total) | 1.8969 | |
| | Generation Mix (MWH): | | |
| | Fossil (by primary fuel type): | | |
| 7 | Coal | 1,366,724 | 22,653,740 |
| 8 | Fuel Oil | 12,042 | 232,515 |
| 9 | Natural Gas - Combined Cycle | 1,059,332 | 13,695,555 |
| 10 | Natural Gas - Combustion Turbine | 42,178 | 2,550,671 |
| 11 | Natural Gas - Steam | 127,536 | 187,574 |
| 12 | Biogas | 3,259 | 30,204 |
| 13 | Total fossil | 2,611,071 | 39,350,259 |
| 14 | Nuclear 100% | 4,981,169 | 59,936,028 |
| 15 | Hydro - Conventional | 368,610 | 2,877,050 |
| 16 | Hydro - Pumped storage | (44,946) | (529,226) |
| 17 | Total hydro | 323,664 | 2,347,824 |
| 18 | Solar Distributed Generation | 5,768 | 130,018 |
| 19 | Total MWH generation | 7,921,672 | 101,764,129 |
| 20 | Less joint owners' portion - Nuclear | 1,147,290 | 15,165,371 |
| 21 | Less joint owners' portion - Combined Cycle | 27,377 | 465,202 |
| 22 | Adjusted total MWH generation | 6,747,005 | 86,133,556 |

Note: Detail amounts may not add to totals shown due to rounding.

DUKE ENERGY CAROLINAS
DETAILS OF FUEL AND FUEL-RELATED COSTS

Docket No. E-7, Sub 1161

| Fuel and fuel-related costs: | December 2018 | 12 Months Ended December 2018 |
|---|---|---|
| 0501110 coal consumed - steam | $ 46,847,568 | $ 675,888,074 |
| 0501222-0501223 biomass/test fuel consumed | - | |
| 0501310 fuel oil consumed - steam | 1,223,578 | 8,586,389 |
| 0501330 fuel oil light-off - steam | 593,669 | 7,287,851 |
| Total Steam Generation - Account 501 | 48,664,815 | 691,762,314 |
| Nuclear Generation - Account 518 | | |
| 0518100 burnup of owned fuel | 23,069,842 | 275,311,826 |
| Other Generation - Account 547 | | |
| 0547100, 0547124 - natural gas consumed - Combustion Turbine | 2,272,971 | 98,161,049 |
| 0547100 natural gas consumed - Steam | 5,696,114 | 8,633,545 |
| 0547101 natural gas consumed - Combined Cycle | 31,773,516 | 373,047,230 |
| 0547106 biogas consumed - Combined Cycle | 175,961 | 1,523,560 |
| 0547200 fuel oil consumed - Combustion Turbine | 57,020 | 25,830,495 |
| Total Other Generation - Account 547 | 39,975,582 | 507,195,879 |
| Reagents | | |
| Reagents (lime, limestone, ammonia, urea, dibasic acid, and sorbents) | 1,549,134 | 27,110,200 |
| Total Reagents | 1,549,134 | 27,110,200 |
| By-products | | |
| Net proceeds from sale of by-products | 583,525 | 6,085,203 |
| Total By-products | 583,525 | 6,085,203 |
| Total Fossil and Nuclear Fuel Expenses Included in Base Fuel Component | 113,842,898 | 1,507,465,422 |
| Purchased Power and Net Interchange - Account 555 | | |
| Capacity component of purchased power (economic) | 211,474 | 10,514,290 |
| Capacity component of purchased power (renewables) | 594,915 | 13,300,661 |
| Capacity component of purchased power (PURPA) | 159,399 | 6,541,261 |
| Fuel and fuel-related component of purchased power | 59,686,689 | 434,709,945 |
| Total Purchased Power and Net Interchange - Account 555 | 60,652,477 | 465,066,157 |
| Less: | | |
| Fuel and fuel-related costs recovered through intersystem sales | 6,944,585 | 86,336,253 |
| Fuel in loss compensation | 92,474 | 925,224 |
| Solar integration charge revenue | 758 | 758 |
| Total Fuel Credits - Accounts 447 /456 | 7,037,817 | 87,262,235 |
| Total Fuel and Fuel-related Costs | $ 167,457,560 | $ 1,885,269,344 |

Notes: Detail amounts may not add to totals shown due to rounding.
Report reflects net ownership costs of jointly owned facilities.

**DUKE ENERGY CAROLINAS**
**PURCHASED POWER AND INTERCHANGE**
**SYSTEM REPORT - NORTH CAROLINA VIEW**

**December 2018**

| Purchased Power | Total | Capacity | Non-capacity | | | |
|---|---|---|---|---|---|---|
| **Economic** | $ | $ | mWh | Fuel $ | Fuel-related $ | Not Fuel $ Not Fuel-related $ |
| Cherokee County Cogeneration Partners | $ 1,287,426 | $ 211,474 | 27,369 | $ 946,407 | $ 129,545 | |
| City of Kings Mountain | 8,979 | 8,979 | - | - | - | |
| DE Progress - Native Load Transfer | 27,945,591 | - | 741,793 | 23,410,601 | 4,543,696 | $ (8,706) |
| DE Progress - Native Load Transfer Benefit | 1,156,134 | - | - | 1,156,134 | - | |
| DE Progress - Fees | (156,964) | - | - | - | (156,964) | |
| Haywood Electric - Economic | 40,903 | 20,630 | 336 | 12,367 | 7,906 | |
| Macquarie Energy, LLC | 6,826,931 | - | 146,439 | 4,164,428 | 2,662,503 | |
| NCEMC - Economic | 115,200 | - | 3,600 | 70,272 | 44,928 | |
| NCMPA Instantaneous - Economic | 1,813,810 | - | 53,310 | 1,088,467 | 725,343 | |
| NTE Carolinas LLC | 3,232,610 | - | 78,830 | 1,971,892 | 1,260,718 | |
| Piedmont Municipal Power Agency | 307,201 | - | 10,960 | 184,355 | 122,846 | |
| PJM Interconnection, LLC. | 11,214,935 | - | 313,334 | 6,841,110 | 4,373,825 | |
| Southern Company Services, Inc. | 250,370 | - | 9,167 | 152,726 | 97,644 | |
| Tennesse Valley Authority | 96,400 | - | 2,600 | 58,804 | 37,596 | |
| Town of Dallas | 584 | 584 | - | - | - | |
| Town of Forest City | 19,856 | 19,856 | - | - | - | |
| | **$ 54,159,966** | **$ 261,523** | **1,387,738** | **$ 40,057,563** | **$ 13,849,586** | **$ (8,706)** |
| **Renewable Energy** | | | | | | |
| REPS | $ 4,406,020 | $ 594,902 | 77,027 | $ - | $ 3,811,118 | $ - |
| DERP - Purchased Power | 149 | 13 | 3 | - | 136 | |
| | **$ 4,406,169** | **$ 594,915** | **77,030** | **$ -** | **$ 3,811,254** | **$ -** |
| **HB589 PURPA Purchases** | | | | | | |
| Qualifying Facilities | 1,936,441 | 159,399 | 37,040 | | 1,712,356 | 64,686 |
| | **$ 1,936,441** | **$ 159,399** | **37,040** | **$ -** | **$ 1,712,356** | **$ 64,686** |
| **Non-dispatchable** | | | | | | |
| Blue Ridge Electric Membership Corp. | $ 1,244,696 | $ 724,668 | 26,268 | $ 317,217 | | $ 202,811 |
| Haywood Electric | 351,238 | 152,148 | 7,201 | 121,445 | | 77,645 |
| Macquarie Energy, LLC | 957,341 | - | 12,433 | 583,978 | | 373,363 |
| NCEMC - Other | 4,398 | 4,398 | - | - | | - |
| NCMPA | 155,400 | - | 1,110 | 94,794 | | 60,606 |
| Piedmont Electric Membership Corp. | 592,764 | 346,426 | 11,904 | 150,266 | | 96,072 |
| Generation Imbalance | 1,078,303 | - | 8,735 | 242,385 | | 835,918 |
| Energy Imbalance - Purchases | (277,960) | - | (11,956) | (169,556) | | (108,404) |
| Energy Imbalance - Sales | (269,174) | - | - | (269,534) | | 360 |
| Other Purchases | 648 | - | 19 | - | | 648 |
| | **$ 3,837,654** | **$ 1,227,640** | **55,714** | **$ 1,070,995** | **$ -** | **$ 1,539,019** |
| **Total Purchased Power** | **$ 64,340,230** | **$ 2,243,477** | **1,557,522** | **$ 41,128,558** | **$ 19,373,196** | **$ 1,594,999** |
| Interchanges In | | | | | | |
| Other Catawba Joint Owners | 6,629,878 | - | 579,425 | 3,870,366 | | 2,759,512 |
| WS Lee Joint Owner | 1,406,837 | | 43,619 | 1,229,697 | | 177,140 |
| Total Interchanges In | 8,036,714 | - | 623,044 | 5,100,063 | - | 2,936,651 |
| | | | | | | (1) |
| Interchanges Out | | | | | | |
| Other Catawba Joint Owners | (7,985,890) | (134,209) | (695,363) | (4,647,804) | | (3,203,877) |
| Catawba- Net Negative Generation | (66,943) | - | (2,964) | (51,150) | | (15,793) |
| WS Lee Joint Owner | (1,402,174) | | (42,514) | (1,216,174) | | (186,000) |
| Total Interchanges Out | (9,455,007) | (134,209) | (740,841) | (5,915,128) | - | (3,405,670) |
| **Net Purchases and Interchange Power** | **$ 62,921,937** | **$ 2,109,268** | **1,439,725** | **$ 40,313,493** | **$ 19,373,196** | **$ 1,125,979** |

NOTE: Detail amounts may not add to totals shown due to rounding.

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**DUKE ENERGY CAROLINAS**
**INTERSYSTEM SALES***
**SYSTEM REPORT - NORTH CAROLINA VIEW**

**DECEMBER 2018**

| | Total | Capacity | Non-capacity | | |
|---|---|---|---|---|---|
| **Sales** | $ | $ | mWh | Fuel $ | Non-fuel $ |
| **Utilities:** | | | | | |
| SC Public Service Authority - Emergency | $ 19,312 | - | 475 | $ 16,530 | $ 2,782 |
| SC Electric & Gas - Emergency | 22,373 | - | 383 | 21,699 | 674 |
| **Market Based:** | | | | | |
| NCMPA | 110,344 | $ 87,568 | 392 | 22,919 | (143) |
| PJM Interconnection, LLC. | 69 | - | - | - | 69 |
| SC Electric & Gas | 2,050 | - | - | - | 2,050 |
| **Other:** | | | | | |
| DE Progress - Native Load Transfer Benefit | 287,133 | - | - | 287,133 | - |
| DE Progress - Native Load Transfer | 8,259,541 | - | 225,840 | 6,529,920 | 1,729,621 |
| Generation Imbalance | 76,917 | - | 1,120 | 66,384 | 10,533 |
| BPM Transmission | (67,517) | - | | | (67,517) |
| **Total Intersystem Sales** | **$ 8,710,222** | **$ 87,568** | **228,210** | **$ 6,944,585** | **$ 1,678,069** |

* Sales for resale other than native load priority.

NOTE: Detail amounts may not add to totals shown due to rounding.



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**DUKE ENERGY CAROLINAS**
**PURCHASED POWER AND INTERCHANGE**
**SYSTEM REPORT - NORTH CAROLINA VIEW**

**Twelve Months Ended December 2018**

| Purchased Power | Total | Capacity | Non-capacity | | | |
|---|---|---|---|---|---|---|
| **Economic** | $ | $ | mWh | Fuel $ | Fuel-related $ | Not Fuel $ Not Fuel-related $ |
| Cherokee County Cogeneration Partners | $ 31,713,488 | $ 10,514,290 | 536,248 | $ 18,602,696 | $ 2,596,502 | |
| City of Kings Mountain | 107,748 | 107,748 | - | - | - | |
| DE Progress - Native Load Transfer | 194,410,960 | - | 5,426,920 | 174,475,494 | 19,671,245 | $ 264,221 |
| DE Progress - Native Load Transfer Benefit | 13,751,828 | - | - | 13,751,828 | - | |
| DE Progress - Fees | (1,093,167) | - | - | - | (1,093,167) | |
| EDF Trading North America, LLC. | 76,115 | - | 3,005 | 46,430 | 29,685 | |
| Exelon Generation Company, LLC. | 118,087 | - | 4,060 | 72,034 | 46,053 | |
| Haywood Electric - Economic | 487,779 | 251,870 | 5,097 | 143,904 | 92,005 | |
| Macquarie Energy, LLC | 29,508,026 | - | 770,088 | 17,999,896 | 11,508,130 | |
| Morgan Stanley Capital Group | 24,839 | - | 1,112 | 15,152 | 9,687 | |
| NCEMC | 169,200 | - | 5,490 | 103,212 | 65,988 | |
| NCMPA | 4,490,834 | - | 71,519 | 3,053,238 | 1,437,596 | |
| NCMPA Load Following Economic | 16,007,553 | - | 506,485 | 10,121,981 | 5,885,572 | |
| NTE Carolinas LLC | 7,004,810 | - | 195,650 | 4,272,935 | 2,731,875 | |
| Piedmont Municipal Power Agency | 2,609,446 | - | 88,744 | 1,680,985 | 928,461 | |
| PJM Interconnection, LLC. | 51,171,173 | - | 864,902 | 31,214,417 | 19,956,756 | |
| Rainbow Energy Marketing Corporation | 87,525 | - | 3,285 | 53,390 | 34,135 | |
| South Carolina Electric & Gas Company | 212,527 | - | 4,600 | 127,811 | 84,716 | |
| Southern Company Services, Inc. | 1,289,556 | - | 45,702 | 786,630 | 502,926 | |
| Tennesse Valley Authority | 1,603,241 | - | 30,841 | 977,977 | 625,264 | |
| The Energy Authority | 38,483 | - | 1,167 | 23,475 | 15,008 | |
| Town of Dallas | 7,008 | 7,008 | - | - | - | |
| Town of Forest City | 238,272 | 238,272 | - | - | - | |
| | **$ 354,035,331** | **$ 11,119,188** | **8,564,915** | **$ 277,523,485** | **$ 65,128,437** | **$ 264,221** |
| **Renewable Energy** | | | | | | |
| REPS | $ 62,977,408 | $ 13,300,096 | 976,170 | $ - | $ 49,677,312 | $ - |
| DERP - Purchased Power | 2,713 | 565 | 49 | - | 2,148 | |
| DERP - Net Metered Generation | 43,550 | 7,964 | 15 | - | | 35,586 |
| | **$ 63,023,671** | **$ 13,308,625** | **$ 976,235** | **$ -** | **$ 49,679,460** | **$ 35,586** |
| **HB589 PURPA Purchases** | | | | | | |
| Qualifying Facilities | 33,208,999 | 6,541,261 | 549,098 | | $ 25,585,400 | $ 1,082,338 |
| | **$ 33,208,999** | **6,541,261** | **549,098** | **$ -** | **$ 25,585,400** | **$ 1,082,338** |
| **Non-dispatchable** | | | | | | |
| Blue Ridge Electric Membership Corp. | $ 14,972,210 | $ 8,136,773 | 295,129 | $ 4,169,615 | | $ 2,665,822 |
| Haywood Electric | 4,206,307 | 1,935,370 | 80,216 | 1,385,271 | | 885,666 |
| Macquarie Energy, LLC | 18,266,985 | - | 307,544 | 11,142,861 | | 7,124,124 |
| NCEMC - Other | 647,276 | 52,776 | 6,570 | 362,645 | | 231,855 |
| NCMPA - Reliability | 245,400 | - | 2,610 | 149,694 | | 95,706 |
| NTE Carolinas LLC | 1,828,310 | - | 36,865 | 1,115,269 | | 713,041 |
| Piedmont Electric Membership Corp. | 7,179,987 | 3,902,138 | 140,568 | 1,999,488 | | 1,278,361 |
| South Carolina Electric & Gas Company | 131,734 | - | 1,400 | 80,358 | | 51,376 |
| Southern Company Services, Inc. | 2,984,720 | - | 47,510 | 1,820,679 | | 1,164,041 |
| Generation Imbalance | 3,782,664 | | 82,265 | 1,893,961 | | 1,888,703 |
| Energy Imbalance - Purchases | 2,199,376 | | 25,123 | 1,350,748 | | 848,628 |
| Energy Imbalance - Sales | (1,765,005) | | - | (6,529,253) | | 4,764,248 |
| Other Purchases | 12,518 | - | 352 | - | | 12,518 |
| | **$ 54,692,482** | **$ 14,027,057** | **1,026,152** | **$ 18,941,336** | **$ -** | **$ 21,724,089** |
| **Total Purchased Power** | **$ 504,960,483** | **$ 44,996,131** | **11,116,400** | **$ 296,464,821** | **$ 140,393,297** | **$ 23,106,234** |
| | | | | | | - |
| Interchanges In | | | | | | |
| Other Catawba Joint Owners | 91,135,514 | - | 7,642,809 | 56,961,998 | | 34,173,516 |
| WS Lee Joint Owner | 7,725,713 | - | 271,306 | 6,611,033 | | 1,114,680 |
| Total Interchanges In | 98,861,227 | - | 7,914,116 | 63,573,032 | - | 35,288,195 |
| Interchanges Out | | | | | | |
| Other Catawba Joint Owners | (93,139,372) | (1,580,207) | (7,784,646) | (57,610,256) | | (33,948,909) |
| Catawba- Net Negative Generation | (231,152) | - | (11,304) | (180,241) | | (50,911) |
| WS Lee Joint Owner | (9,390,983) | - | (327,441) | (7,930,708) | | (1,460,275) |
| Total Interchanges Out | (102,761,507) | (1,580,207) | (8,123,391) | (65,721,205) | - | (35,460,095) |
| **Net Purchases and Interchange Power** | **$ 501,060,203** | **$ 43,415,924** | **10,907,125** | **$ 294,316,648** | **$ 140,393,297** | **$ 22,934,334** |

NOTES: Detail amounts may not add to totals shown due to rounding.

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**DUKE ENERGY CAROLINAS**
**INTERSYSTEM SALES***
**SYSTEM REPORT - NORTH CAROLINA VIEW**

**Twelve Months Ended**
**DECEMBER 2018**

| | Total | | Capacity | | Non-capacity | | |
|---|---|---|---|---|---|---|---|
| **Sales** | $ | | $ | | mWh | Fuel $ | Non-fuel $ |
| **Utilities:** | | | | | | | |
| DE Progress - Emergency | $ 15,390 | | - | | 333 | $ 13,113 | $ 2,277 |
| SC Public Service Authority - Emergency | 2,315,135 | | $ 224,000 | | 7,527 | 2,007,790 | 83,345 |
| SC Electric & Gas - Emergency | 103,368 | **A** | - | **A** | 1,974 | 87,826 | 15,542 |
| **Market Based:** | | | | | | | |
| Central Electric Power Cooperative, Inc. | 2,793,800 | **B** | 2,793,800 | **B** | - | - | - |
| EDF Trading Company | 2,600 | | - | | 50 | 1,976 | 624 |
| Macquarie Energy, LLC | 19,200 | | - | | - | - | 19,200 |
| NCMPA | 1,454,481 | | 1,050,069 | | 5,529 | 368,868 | 35,544 |
| PJM Interconnection, LLC. | 1,502,443 | | - | | 24,365 | 918,000 | 584,443 |
| SC Electric & Gas | 317,950 | **A** | - | **A** | 4,050 | 268,115 | 49,835 |
| Tennessee Valley Authority | 49,525 | | - | | 1,025 | 37,501 | 12,024 |
| The Energy Authority | 55,545 | | - | | 604 | 33,101 | 22,444 |
| **Other:** | | | | | | | |
| DE Progress - Native Load Transfer Benefit | 5,666,748 | | - | | - | 5,666,748 | - |
| DE Progress - Native Load Transfer | 78,027,793 | | - | | 1,883,308 | 74,808,327 | 3,219,466 |
| Generation Imbalance | 1,760,829 | | - | | 16,679 | 2,124,888 | (364,059) |
| BPM Transmission | (245,056) | | - | | | - | (245,056) |
| **Total Intersystem Sales** | **$ 93,839,751** | | **$ 4,067,869** | | **1,945,444** | **$ 86,336,253** | **$ 3,435,629** |

* Sales for resale other than native load priority.

NOTES: Detail amounts may not add to totals shown due to rounding.

**A** - Twelve months ended December 2018 includes a correction to reclassify market sales for the month of October 2018 as an emergency sale. The October 2018 sales were as follows: Total dollars = $24,456, Non capacity MWH = 408, Non-capacity fuel dollars = $20,096, and Non-capacity non-fuel dollars = $3,550.

**B** - Twelve months ended December 2018 includes a correction to include market capacity sales for the period January 2018 - October 2018. Market capacity sales each month were as follows: Total dollars = $279,380, and capacity dollars= $279,380. Total market capacity sales dollars for the period January 2018 - October 2018 = $2,793,800.

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## Duke Energy Carolinas
## (Over) / Under Recovery of Fuel Costs
## December 2018

| Line No. | | | Residential | Commercial | Industrial | Total |
|---|---|---|---|---|---|---|
| 1 | Actual System kWh sales | Input | | | | 7,490,426,895 |
| 2 | DERP Net Metered kWh generation | Input | | | | 10,412,429 |
| 3 | Adjusted System kWh sales | L1 + L2 | | | | 7,500,839,324 |
| 4 | N.C. Retail kWh sales | Input | 2,038,461,729 | 1,880,040,961 | 974,229,470 | 4,892,732,160 |
| 5 | NC kWh sales % of actual system kWh sales | L4 T / L1 | | | | 65.32% |
| 6 | NC kWh sales % of adjusted system kWh sales | L4 T / L3 | | | | 65.23% |
| 7 | Approved fuel and fuel-related rates (¢/kWh) | | | | | |
| | 7a Billed rates by class (¢/kWh) | Input Annually | 1.7983 | 1.9382 | 2.0233 | 1.8969 |
| | 7b Billed fuel expense | L7a * L4 / 100 | $36,657,657 | $36,438,954 | $19,711,585 | $92,808,196 |
| 8 | Incurred base fuel and fuel-related (less renewable purchased power capacity) rates by class (¢/kWh) | | | | | |
| | 8a Docket E-7, Sub 1163 allocation factor | Input | 35.64% | 41.77% | 22.59% | |
| | 8b System incurred expense | Input | | | | $166,830,104 |
| | 8c Incurred base fuel and fuel-related expense | L8b * L6 * 8a | $38,786,219 | $45,458,159 | $24,577,446 | $108,821,824 |
| | 8d Incurred base fuel rates by class (¢/kWh) | L8c / L4 * 100 | 1.9027 | 2.4179 | 2.5228 | 2.2242 |
| 9 | Incurred renewable purchased power capacity rates by class (¢/kWh) | | | | | |
| | 9a NC retail production plant % | Input | | | | 67.56% |
| | 9b Production plant allocation factors | Input | 43.68% | 37.64% | 18.68% | 100.00% |
| | 9c System incurred expense | Input | | | | $965,788 |
| | 9d Incurred renewable capacity expense | L9a * L9b * 9c | $285,027 | $245,590 | $121,872 | $652,488 |
| | 9e Incurred renewable capacity rates by class (¢/kWh) | (L9a * L9c) * L9b / L4 * 100 | 0.0140 | 0.0131 | 0.0125 | 0.0133 |
| 10 | Total incurred rates by class (¢/kWh) | L8d + L9e | 1.9167 | 2.4310 | 2.5353 | 2.2375 |
| 11 | Difference in ¢/kWh (incurred - billed) | L7c - L10 | 0.1184 | 0.4928 | 0.5120 | 0.3406 |
| 12 | (Over) / under recovery [See footnote] | (L4 * L11) / 100 | $2,413,589 | $9,264,795 | $4,987,733 | $16,666,116 |
| 13 | Prior period adjustments | Input | | | | |
| 14 | Total (over) / under recovery [See footnote] | L12+ L13 | $2,413,589 | $9,264,795 | $4,987,733 | $16,666,116 |
| 15 | Total system incurred expense | L8b + L9c | | | | $167,795,892 |
| 16 | Less: Jurisdictional allocation adjustment(s) | Input | | | | 338,332 |
| 17 | Total Fuel and Fuel-related Costs per Schedule 2 | L15 + L16 | | | | $167,457,560 |

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18 (Over) / under recovery for each month of the current calendar year [See footnote]

| | | | (Over) / Under Recovery | | | |
|---|---|---|---|---|---|---|
| | Year 2018 | Total To Date | Residential | Commercial | Industrial | Total Company |
| | January | $70,210,459 | $12,463,615 | $33,104,497 | $24,642,348 | $70,210,459 |
| | February | 48,920,711 | ($11,989,284) | ($6,434,005) | ($2,866,460) | (21,289,748) |
| _/1 | March | 53,688,504 | $1,587,096 | $1,503,768 | $1,676,929 | 4,767,793 |
| _/1 | April | 39,952,067 | ($3,469,659) | ($6,335,002) | ($3,931,775) | (13,736,437) |
| | May | 46,088,897 | $5,910,833 | ($210,465) | $436,461 | 6,136,830 |
| | June | 52,711,139 | $2,162,126 | $1,145,088 | $3,315,028 | 6,622,242 |
| _/2 | July | 67,208,623 | $2,375,059 | $5,295,453 | $6,826,972 | 14,497,484 |
| | August | 80,715,732 | $3,875,805 | $4,054,944 | $5,576,360 | 13,507,109 |
| _/2 | September | 71,719,783 | ($925,298) | ($6,412,545) | ($1,658,106) | (8,995,949) |
| _/2 | October | 82,876,726 | $4,264,193 | $4,018,244 | $2,874,506 | 11,156,943 |
| | November | $94,666,066 | $7,833,590 | $4,009,350 | ($53,600) | $11,789,340 |
| | December | $111,332,182 | $2,413,589 | $9,264,795 | $4,987,733 | $16,666,116 |
| | | | $26,501,665 | $43,004,122 | $41,826,396 | $111,332,182 |

Notes:
Detail amounts may not recalculate due to percentages presented as rounded.

Presentation of over or under collected amounts reflects a regulatory asset or liability. Over collections, or regulatory liabilities, are shown as negative amounts. Under collections, or regulatory assets, are shown as positive amounts.

_/1 Includes prior period adjustments.
_/2 Reflects a prorated rate and prorated allocation factor for periods in which the approved rates changed.



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DUKE ENERGY CAROLINAS
FUEL AND FUEL RELATED COST REPORT
DECEMBER 2018

| Description | Allen Steam | Belews Creek Steam | Buck CC | Catawba Nuclear | Cliffside Steam - Dual Fuel | Dan River CC | Lee CC | Lee Steam/CT | Lincoln CT | Marshall Steam | McGuire Nuclear | Mill Creek CT | Oconee Nuclear | Rockingham CT | Current Month | Total 12 ME December 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cost of Fuel Purchased ($)** | | | | | | | | | | | | | | | | |
| Coal | $49,933 | $17,907,637 | | | $8,548,228 | | | | | $22,079,739 | | | | | $48,585,537 | $657,498,215 |
| Oil | 143,133 | 1,082,966 | - | | 273,156 | - | - | - | - | - | | - | | - | 1,499,256 | 48,634,501 |
| Gas - CC | | | $13,103,055 | | | $12,923,682 | $6,858,257 | | | | | | | | 32,884,994 | 384,692,206 |
| Gas - CT | | | | | | | | 104,195 | $110,569 | | | $158,525 | | $1,899,682 | 2,272,971 | 98,161,049 |
| Gas - Steam | | | | | 5,695,205 | | | 909 | | | | | | | 5,696,114 | 8,633,545 |
| Biogas | | | - | | | 361,043 | - | | | | | | | | 361,043 | 3,466,205 |
| Total | $193,066 | $18,990,604 | $13,103,055 | | $14,516,590 | $13,284,725 | $6,858,257 | $105,103 | $110,569 | $22,079,739 | | $158,525 | | $1,899,682 | $91,299,914 | $1,201,085,721 |
| **Average Cost of Fuel Purchased (¢/MBTU)** | | | | | | | | | | | | | | | | |
| Coal | | 555.02 | | | 687.75 | - | | | | 399.01 | | | | | 485.71 | 324.71 |
| Oil | 1,321.84 | 172.99 | | | 692.52 | | | - | - | - | | - | | - | 221.68 | 1,358.88 |
| Gas - CC | | | 442.19 | | | 442.08 | 455.27 | | | | | | | | 442.14 | 392.80 |
| Gas - CT | | | | | | | | 532.70 | 467.48 | | | 510.56 | | 457.22 | 464.11 | 343.97 |
| Gas - Steam | | | | | 445.73 | | | | | | | | | | - | 410.58 |
| Biogas | | | - | | . | 1,577.30 | - | | | | | | | | 1,577.30 | 1,603.31 |
| Weighted Average | 1,782.98 | 492.94 | 442.19 | | 567.03 | 450.90 | 455.27 | 532.60 | 467.48 | 399.01 | | 510.56 | | 457.22 | 459.65 | 358.68 |
| **Cost of Fuel Burned ($)** | | | | | | | | | | | | | | | | |
| Coal | $741,089 | $19,525,109 | | | $12,888,384 | - | - | - | | $13,692,987 | | | | | $46,847,568 | $675,888,074 |
| Oil - CC | | | - | | | - | - | | | | | | | | - | - |
| Oil - Steam/CT | 163,523 | 1,219,227 | | | 286,271 | | | 25,472 | $25,788 | 148,226 | | - | | - | 1,874,266 | 41,704,735 |
| Gas - CC | | | $13,103,055 | | | $12,923,682 | $6,858,257 | | | | | | | | 32,884,994 | 384,692,206 |
| Gas - CT | | | | | | | | $104,195 | 110,569 | | | $158,525 | | $1,899,682 | 2,272,971 | 98,161,049 |
| Gas - Steam | | | | | 5,695,205 | | | 909 | | | | | | | 5,696,114 | 8,633,545 |
| Biogas | | | - | | | 361,043 | - | | | | | | | | 361,043 | 3,466,205 |
| Nuclear | | | | $8,356,486 | | | | | | | $10,990,838 | | $10,470,715 | | 29,818,039 | 370,839,248 |
| Total | $904,613 | $20,744,336 | $13,103,055 | $8,356,486 | $18,869,860 | $13,284,725 | $6,858,257 | $130,575 | $136,358 | $13,841,212 | $10,990,838 | $158,525 | $10,470,715 | $1,899,682 | $119,754,995 | $1,583,385,062 |
| **Average Cost of Fuel Burned (¢/MBTU)** | | | | | | | | | | | | | | | | |
| Coal | 359.55 | 352.99 | | | 354.20 | | | - | | 341.94 | | | | | 350.11 | 315.40 |
| Oil - CC | | | | | | | | | | | | | | | - | - |
| Oil - Steam/CT | 1,564.97 | 1,487.41 | | | 1,505.97 | | | 12,245.96 | 1,521.44 | 1,620.84 | | - | | - | 1,530.31 | 1,604.54 |
| Gas - CC | | | 442.19 | | | 442.08 | 455.27 | | | | | | | | 442.14 | 392.80 |
| Gas - CT | | | | | | | | 532.70 | 467.48 | | | 510.56 | | 457.22 | 464.11 | 343.97 |
| Gas - Steam | | | | | 445.73 | | | - | | | | | | | - | 410.58 |
| Biogas | | | - | | | 1,577.30 | - | | | | | | | | 1,577.30 | 1,603.31 |
| Nuclear | | | | 58.63 | | | | | | | 62.46 | | 58.28 | | 59.86 | 61.43 |
| Weighted Average | 417.71 | 369.55 | 442.19 | 58.63 | 382.33 | 450.90 | 455.27 | 654.77 | 537.96 | 344.86 | 62.46 | 510.56 | 58.28 | 457.22 | 165.17 | 166.78 |
| **Average Cost of Generation (¢/kWh)** | | | | | | | | 1,287.30 | 632.18 | | | | | | | |
| Coal | 2.92 | 3.41 | | | 3.52 | - | - | - | - | 3.41 | | | | | 3.43 | 2.98 |
| Oil - CC | | | - | | | - | - | | | | | | | | - | - |
| Oil - Steam/CT | 12.43 | 15.65 | | | 14.52 | - | - | 128.73 | 63.22 | 16.41 | | - | | - | 15.56 | 17.94 |
| Gas - CC | | | 3.06 | | | 3.11 | 3.19 | | | | | | | | 3.10 | 2.81 |
| Gas - CT | | | | | | | | 5.57 | 10.88 | | | 8.08 | | 5.09 | 5.39 | 3.85 |
| Gas - Steam | | | | | 4.45 | | | | - | | | | | | 4.47 | 4.60 |
| Biogas | | | - | | | 11.08 | - | | | | | | | | 11.08 | 11.48 |
| Nuclear | | | | 0.59 | | | | | | | 0.62 | | 0.59 | | 0.60 | 0.62 |
| Weighted Average | 3.39 | 3.57 | 3.06 | 0.59 | 3.80 | 3.17 | 3.19 | 9.16 | 12.90 | 3.44 | 0.62 | 8.08 | 0.59 | 5.09 | 1.51 | 1.56 |
| **Burned MBTU's** | | | | | | | | | | | | | | | | |
| Coal | 206,117 | 5,531,427 | | | 3,638,779 | | | - | | 4,004,460 | | | | | 13,380,783 | 214,294,473 |
| Oil - CC | | | | | | | | | | | | | | | - | - |
| Oil - Steam/CT | 10,449 | 81,970 | | | 19,009 | | | 208 | 1,695 | 9,145 | | - | | - | 122,476 | 2,599,178 |
| Gas - CC | | | 2,963,222 | | | 2,923,367 | 1,506,423 | | | | | | | | 7,393,012 | 97,936,802 |
| Gas - CT | | | | | | | | 19,560 | 23,652 | | | 31,049 | | 415,485 | 489,746 | 28,537,792 |
| Gas - Steam | | | | | 1,277,737 | | 174 | | | | | | | | 1,277,911 | 2,102,783 |
| Biogas | | | - | | | 22,890 | - | | | | | | | | 22,890 | 216,190 |
| Nuclear | | | | 14,252,377 | | | | | | | 17,596,869 | | 17,965,994 | | 49,815,240 | 603,676,564 |
| Total | 216,566 | 5,613,397 | 2,963,222 | 14,252,377 | 4,935,525 | 2,946,257 | 1,506,423 | 19,942 | 25,347 | 4,013,605 | 17,596,869 | 31,049 | 17,965,994 | 415,485 | 72,502,058 | 949,363,782 |

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DUKE ENERGY CAROLINAS
FUEL AND FUEL RELATED COST REPORT
DECEMBER 2018

| Description | Allen | Belews Creek | Buck | Catawba | Cliffside | Dan River | Lee | Lee | Lincoln | Marshall | McGuire | Mill Creek | Oconee | Rockingham | Current Month | Total 12 ME December 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Steam | Steam | CC | Nuclear | Steam - Dual Fuel | CC | CC | Steam/CT | CT | Steam | Nuclear | CT | Nuclear | CT | | |
| **Net Generation (mWh)** | | | | | | | | | | | | | | | | |
| Coal | 25,397 | 573,052 | | | 366,421 | | | | | 401,855 | | | | | 1,366,724 | 22,653,740 |
| Oil - CC | | | | | | | | | | | | | | | - | - |
| Oil - Steam/CT | 1,315 | 7,791 | | | 1,972 | - | - | 20 | 41 | 903 | | - | | - | 12,042 | 232,515 |
| Gas - CC | | | 428,198 | | | 416,157 | 214,977 | - | | | | | | | 1,059,332 | 13,695,555 |
| Gas - CT | | | | | | | | 1,871 | 1,016 | | | 1,961 | | 37,330 | 42,178 | 2,550,671 |
| Gas - Steam | | | | | 128,002 | | | (466) | | | | | | | 127,536 | 187,574 |
| Biogas | | | - | | | 3,259 | - | | | | | | | | 3,259 | 30,204 |
| Nuclear 100% | | | | 1,420,722 | | | | | | | 1,778,199 | | 1,782,248 | | 4,981,169 | 59,936,028 |
| Hydro (Total System) | | | | | | | | | | | | | | | 323,664 | 2,347,824 |
| Solar (Total System) | | | | | | | | | | | | | | | 5,768 | 130,018 |
| Total | 26,712 | 580,843 | 428,198 | 1,420,722 | 496,394 | 419,416 | 214,977 | 1,425 | 1,057 | 402,758 | 1,778,199 | 1,961 | 1,782,248 | 37,330 | 7,921,672 | 101,764,129 |
| **Cost of Reagents Consumed ($)** | | | | | | | | | | | | | | | | |
| Ammonia | | ($46,049) | $14,280 | | $11,119 | $8,043 | $11,630 | | | | | | | | ($977) | $4,077,078 |
| Limestone | $24,711 | 467,587 | | | 478,632 | | | | | $374,113 | | | | | 1,345,043 | 19,594,631 |
| Sorbents | - | 53,543 | | | | | | | | 73,539 | | | | | 127,081 | 2,353,883 |
| Urea | - | | | | | | | | | 45,004 | | | | | 45,004 | 928,117 |
| Re-emission Chemical | | - | | | | | | | | | | | | | - | 69,161 |
| Dibasic Acid | - | | | | | | | | | | | | | | - | - |
| Activated Carbon | 34,464 | | | | | | | | | - | | | | | 34,464 | 170,782 |
| Total | $59,175 | $475,081 | $14,280 | | 489,751 | $8,043 | $11,630 | | | $492,656 | | | | | $1,550,615 | $27,193,652 |

**Notes:**
Detail amounts may not add to totals shown due to rounding.
Data is reflected at 100% ownership.
Schedule excludes in-transit and terminal activity.
Cents/MBTU and cents/kWh are not computed when costs and/or net generation is negative.
Re-emission chemical reagent expense is not recoverable in NC.



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DUKE ENERGY CAROLINAS
FUEL AND FUEL RELATED CONSUMPTION AND INVENTORY REPORT
DECEMBER 2018

| Description | Allen | Belews Creek | Buck | Cliffside | Dan River | Lee | Lee | Lincoln | Marshall | Mill Creek | Rockingham | Current Month | Total 12 ME December 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Steam | Steam | CC | Steam - Dual Fuel | CC | CC | Steam/CT | CT | Steam | CT | CT | | |
| **Coal Data:** | | | | | | | | | | | | | |
| Beginning balance | 196,674 | 741,379 | | 565,251 | | | - | | 448,731 | | | 1,952,035 | 2,321,844 |
| Tons received during period | - | 221,261 | | 95,812 | | | | | 262,988 | | | 580,061 | 8,353,369 |
| Inventory adjustments | (16,000) | (91,871) | | (46,501) | | | - | | (41,785) | | | (196,158) | (171,512) |
| Tons burned during period | 8,841 | 221,660 | | 146,683 | | | - | | 158,816 | | | 536,000 | 8,703,762 |
| Ending balance | 171,833 | 649,109 | | 467,879 | | | - | | 511,118 | | | 1,799,939 | 1,799,939 |
| MBTUs per ton burned | 23.31 | 24.95 | | 24.81 | | | - | | 25.21 | | | 24.96 | 24.62 |
| Cost of ending inventory ($/ton) | 83.82 | 88.09 | | 87.87 | | | - | | 86.22 | | | 87.09 | 87.09 |
| **Oil Data:** | | | | | | | | | | | | | |
| Beginning balance | 90,694 | 221,182 | - | 236,089 | - | - | 714,747 | 9,834,797 | 312,274 | 4,366,782 | 3,238,190 | 19,014,755 | 16,962,536 |
| Gallons received during period | 75,652 | 578,080 | - | 144,399 | - | - | - | - | - | - | - | 798,131 | 21,144,157 |
| Miscellaneous adjustments | 448 | (35,415) | - | (11,633) | - | - | (9,425) | - | - | - | - | (57,379) | (352,297) |
| Gallons burned during period | 75,879 | 596,667 | - | 137,943 | - | - | 1,520 | 12,305 | 66,449 | - | - | 889,408 | 18,888,297 |
| Ending balance | 90,915 | 167,180 | - | 230,912 | - | - | 703,802 | 9,822,492 | 245,825 | 4,366,782 | 3,238,190 | 18,866,098 | 18,866,098 |
| Cost of ending inventory ($/gal) | 2.16 | 1.99 | - | 2.08 | - | - | 2.33 | 2.10 | 2.23 | 2.47 | 2.17 | 2.20 | 2.20 |
| **Natural Gas Data:** | | | | | | | | | | | | | |
| Beginning balance | | | | | | | | | | | | | |
| MCF received during period | | | 2,880,290 | 1,244,450 | 2,818,207 | 1,473,258 | 19,360 | 23,206 | | 30,487 | 400,698 | 8,889,956 | 125,135,402 |
| MCF burned during period | | | 2,880,290 | 1,244,450 | 2,818,207 | 1,473,258 | 19,360 | 23,206 | | 30,487 | 400,698 | 8,889,956 | 125,135,402 |
| Ending balance | | | | | | | | | | | | | |
| **Biogas Data:** | | | | | | | | | | | | | |
| Beginning balance | | | | | | | | | | | | | |
| MCF received during period | | | - | | 22,062 | - | | | | | | 22,062 | 210,727 |
| MCF burned during period | | | - | | 22,062 | - | | | | | | 22,062 | 210,727 |
| Ending balance | | | | | | | | | | | | | |
| **Limestone Data:** | | | | | | | | | | | | | |
| Beginning balance | 23,869 | 38,673 | | 34,190 | | | | | 37,083 | | | 133,815 | 169,322 |
| Tons received during period | - | 6,707 | | 7,615 | | | | | 12,836 | | | 27,159 | 444,242 |
| Inventory adjustments | (2,996) | (4,910) | | - | | | | | (7,085) | | | (14,991) | (14,991) |
| Tons consumed during period | 527 | 11,600 | | 9,514 | | | | | 9,187 | | | 30,828 | 483,419 |
| Ending balance | 20,346 | 28,870 | | 32,292 | | | | | 33,647 | | | 115,155 | 115,155 |
| Cost of ending inventory ($/ton) | 46.89 | 39.54 | | 39.44 | | | | | 40.72 | | | 41.16 | 41.16 |
| | | | | | | | | | | | | Qtr Ending December 2018 | Total 12 ME December 2018 |
| **Ammonia Data:** | | | | | | | | | | | | | |
| Beginning balance | | 1,315 | | | | | | | | | | 1,315 | 1,159 |
| Tons received during period | | 901 | | | | | | | | | | 901 | 4,715 |
| Tons consumed during period | | 583 | | | | | | | | | | 583 | 4,241 |
| Ending balance | | 1,633 | | | | | | | | | | 1,633 | 1,633 |
| Cost of ending inventory ($/ton) | | 620.44 | | | | | | | | | | 620.44 | 620.44 |

**Notes:**
Detail amounts may not add to totals shown due to rounding.
Schedule excludes in-transit and terminal activity.
Gas is burned as received; therefore, inventory balances are not maintained.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1214 / E1-46b

Schedule 6

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**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**DECEMBER 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | - | $ - | $ - |
| | CONTRACT | - | - | - |
| | ADJUSTMENTS | - | 49,933 | - |
| | TOTAL | - | 49,933 | - |
| **BELEWS CREEK** | SPOT | - | 11,982 | - |
| | CONTRACT | 221,261 | 17,706,037 | 80.02 |
| | ADJUSTMENTS | - | 189,618 | - |
| | TOTAL | 221,261 | 17,907,637 | 80.93 |
| **CLIFFSIDE** | SPOT | - | - | - |
| | CONTRACT | 95,812 | 7,221,379 | 75.37 |
| | ADJUSTMENTS | - | 1,326,849 | - |
| | TOTAL | 95,812 | 8,548,228 | 89.22 |
| **MARSHALL** | SPOT | 96,525 | 8,181,703 | 84.76 |
| | CONTRACT | 166,463 | 13,355,663 | 80.23 |
| | ADJUSTMENTS | - | 542,373 | - |
| | TOTAL | 262,988 | 22,079,739 | 83.96 |
| **ALL PLANTS** | SPOT | 96,525 | 8,193,685 | 84.89 |
| | CONTRACT | 483,536 | 38,283,079 | 79.17 |
| | ADJUSTMENTS | - | 2,108,773 | - |
| | TOTAL | 580,061 | $ 48,585,537 | $ 83.76 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL QUALITY RECEIVED**

**DECEMBER 2018**

| STATION | PERCENT MOISTURE | PERCENT ASH | HEAT VALUE | PERCENT SULFUR |
|---|---|---|---|---|
| BELEWS CREEK | 6.91 | 10.15 | 12,468 | 1.58 |
| CLIFFSIDE | 8.48 | 7.60 | 12,603 | 2.35 |
| MARSHALL | 6.73 | 10.02 | 12,508 | 1.73 |

# DUKE ENERGY CAROLINAS
## ANALYSIS OF OIL PURCHASED
## DECEMBER 2018

| | ALLEN | BELEWS CREEK | CLIFFSIDE |
|---|---|---|---|
| **VENDOR** | HighTowers | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 | 0 |
| **GALLONS RECEIVED** | 75,652 | 578,080 | 144,399 |
| **TOTAL DELIVERED COST** | $ 143,133 | $ 1,082,966 | $ 273,156 |
| **DELIVERED COST/GALLON** | $ 1.89 | $ 1.87 | $ 1.89 |
| **BTU/GALLON** | 138,000 | 138,000 | 138,000 |

# Duke Energy Carolinas
## Power Plant Performance Data
## Twelve Month Summary

/A

**January, 2018 - December, 2018**

**Nuclear Units**

| Unit Name | Net Generation (mWh) | Capacity Rating (mW) | Capacity Factor (%) | Equivalent Availability (%) |
|---|---|---|---|---|
| Oconee 1 | 6,745,635 | 847 | 90.91 | 89.94 |
| Oconee 2 | 7,581,168 | 848 | 102.06 | 100.00 |
| Oconee 3 | 6,967,442 | 859 | 92.59 | 92.12 |
| McGuire 1 | 10,359,250 | 1,158 | 102.12 | 99.56 |
| McGuire 2 | 9,502,818 | 1,158 | 93.68 | 91.80 |
| Catawba 1 | 9,510,487 | 1,160 | 93.59 | 92.99 |
| Catawba 2 | 9,269,228 | 1,150 | 92.01 | 91.84 |

# Duke Energy Carolinas
# Power Plant Performance Data
## Twelve Month Summary
## January, 2018 through December, 2018
## Combined Cycle Units

| Unit Name | | Net Generation (mWh) | Capacity Rating (mW) | Capacity Factor (%) | Equivalent Availability (%) |
|---|---|---|---|---|---|
| Buck CC | 11 | 1,463,456 | 206 | 81.10 | 88.68 |
| Buck CC | 12 | 1,471,968 | 206 | 81.57 | 89.09 |
| Buck CC | ST10 | 2,237,637 | 312 | 81.87 | 96.78 |
| Buck CC | Block Total | 5,173,061 | 724 | 81.57 | 92.29 |
| Dan River CC | 8 | 1,433,925 | 199 | 82.26 | 86.38 |
| Dan River CC | 9 | 1,410,200 | 199 | 80.90 | 85.84 |
| Dan River CC | ST7 | 2,118,133 | 320 | 75.56 | 91.38 |
| Dan River CC | Block Total | 4,962,258 | 718 | 78.90 | 88.46 |
| WS Lee CC | 11 | 1,030,538 | 223 | 70.01 | 75.09 |
| WS Lee CC | 12 | 1,090,492 | 223 | 74.08 | 77.05 |
| WS Lee CC | ST10 | 1,402,639 | 337 | 63.05 | 76.36 |
| WS Lee CC | Block Total | 3,523,669 | 783 | 68.17 | 76.19 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- Data is reflected at 100% ownership.

# Duke Energy Carolinas
# Power Plant Performance Data
## Twelve Month Summary
## January, 2018 through December, 2018

### Baseload Steam Units

| Unit Name | Net Generation (mWh) | Capacity Rating (mW) | Capacity Factor (%) | Equivalent Availability (%) |
|---|---|---|---|---|
| Belews Creek 1 | 4,793,474 | 1,110 | 49.30 | 88.06 |
| Belews Creek 2 | 3,227,943 | 1,110 | 33.20 | 69.66 |
| Marshall 3 | 3,176,205 | 658 | 55.10 | 89.31 |
| Marshall 4 | 3,675,692 | 660 | 63.58 | 88.48 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

# Duke Energy Carolinas
# Power Plant Performance Data
## Twelve Month Summary
## January, 2018 through December, 2018

## Intermediate Steam Units

| Unit Name | Net Generation (mWh) | Capacity Rating (mW) | Capacity Factor (%) | Equivalent Availability (%) |
|---|---|---|---|---|
| Cliffside 6 | 4,311,369 | 844 | 58.31 | 75.32 |
| Marshall 1 | 958,416 | 380 | 28.79 | 88.74 |
| Marshall 2 | 675,957 | 380 | 20.31 | 68.31 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

# Duke Energy Carolinas
# Power Plant Performance Data
## Twelve Month Summary
## January, 2018 through December, 2018
## Other Cycling Steam Units

| Unit Name | | Net Generation (mWh) | Capacity Rating (mW) | Capacity Factor (%) | Operating Availability (%) |
|---|---|---|---|---|---|
| Allen | 1 | 71,408 | 167 | 4.88 | 83.17 |
| Allen | 2 | 86,505 | 167 | 5.91 | 84.03 |
| Allen | 3 | 158,113 | 270 | 6.68 | 80.91 |
| Allen | 4 | 178,336 | 267 | 7.62 | 89.89 |
| Allen | 5 | 325,399 | 259 | 14.34 | 85.49 |
| Cliffside | 5 | 1,243,104 | 546 | 25.99 | 61.63 |
| Lee | 3 | 54,152 | 173 | 3.57 | 36.34 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

# Duke Energy Carolinas
## Power Plant Performance Data
### Twelve Month Summary
### January, 2018 through December, 2018
### Combustion Turbine Stations

| Station Name | Net Generation (mWh) | Capacity Rating (mW) | Operating Availability (%) |
|---|---|---|---|
| Lee CT | 79,514 | 96 | 84.70 |
| Lincoln CT | 82,484 | 1,565 | 93.72 |
| Mill Creek CT | 201,194 | 735 | 99.23 |
| Rockingham CT | 2,325,235 | 895 | 90.19 |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

# Duke Energy Carolinas
# Power Plant Performance Data

/A



## Twelve Month Summary
## January, 2018 through December, 2018
## Hydroelectric Stations

| Station Name | Net Generation (mWh) | Capacity Rating (mW) | Operating Availability (%) |
|---|---|---|---|
| **Conventional Hydroelectric Stations:** | | | |
| Bear Creek | 37,232 | 9.5 | 86.90 |
| Bridgewater | 117,680 | 31.5 | 95.52 |
| Bryson | 4,632 | 0.9 | 85.69 |
| Cedar Cliff | 27,610 | 6.8 | 92.39 |
| Cedar Creek | 178,151 | 45.0 | 81.91 |
| Cowans Ford | 312,212 | 324.0 | 58.69 |
| Dearborn | 222,145 | 42.0 | 97.55 |
| Fishing Creek | 203,570 | 50.0 | 88.41 |
| Franklin | 3,726 | 1.0 | 58.90 |
| Gaston Shoals | 14,686 | 4.5 | 96.65 |
| Great Falls | -92 | 12.0 | 100.00 |
| Keowee | 98,064 | 152.0 | 99.21 |
| Lookout Shoals | 162,927 | 27.0 | 99.26 |
| Mission | 5,388 | 1.8 | 51.83 |
| Mountain Island | 207,502 | 62.0 | 90.56 |
| Nantahala | 270,145 | 50.0 | 99.03 |
| Ninety-Nine Islands | 83,267 | 15.2 | 91.67 |
| Oxford | 107,478 | 40.0 | 38.56 |
| Queens Creek | 4,621 | 1.4 | 99.89 |
| Rhodhiss | 119,297 | 33.5 | 94.18 |
| Rocky Creek | -73 | 3.0 | 0.00 |
| Tennessee Creek | 48,111 | 9.8 | 93.76 |
| Thorpe | 96,019 | 19.7 | 93.15 |
| Tuckasegee | 7,077 | 2.5 | 85.11 |
| Tuxedo | 33,861 | 6.4 | 96.21 |
| Wateree | 336,004 | 85.0 | 81.96 |
| Wylie | 175,810 | 72.0 | 55.96 |
| **Pumped Storage Hydroelectric Stations:** | | | |
| **Gross Generation** | | | |
| Bad Creek | 1,447,036 | 1,360.0 | 65.67 |
| Jocassee | 1,204,730 | 780.0 | 92.99 |
| **Energy for Pumping** | | | |
| Bad Creek | -1,838,591 | | |
| Jocassee | -1,342,401 | | |
| **Net Generation** | | | |
| Bad Creek | -391,555 | | |
| Jocassee | -137,671 | | |

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

# Duke Energy Carolinas
# Power Plant Performance Data
## Twelve Month Summary
## January 2018 through December 2018
## Pre-commercial Combined Cycle Units

Note: The Power Plant Performance Data reports are limited to capturing data beginning the first month a station is in commercial operation. During the months identified, Lee CC produced pre-commercial generation.

| Unit Name | | Net Generation (mWh) | Capacity Rating (mW) | Capacity Factor (%) | Equivalent Availability (%) |
|---|---|---|---|---|---|
| January 2018 | | | | | |
| Lee | 11 | -10 | n/a | n/a | n/a |
| Lee | 12 | -11 | n/a | n/a | n/a |
| Lee | ST10 | 0 | n/a | n/a | n/a |
| Lee | Block Total | -21 | n/a | n/a | n/a |
| February 2018 | | | | | |
| Lee | 11 | -1,575 | n/a | n/a | n/a |
| Lee | 12 | -1,120 | n/a | n/a | n/a |
| Lee | ST10 | 0 | n/a | n/a | n/a |
| Lee | Block Total | -2,695 | n/a | n/a | n/a |
| March 2018 | | | | | |
| Lee | 11 | 25,973 | n/a | n/a | n/a |
| Lee | 12 | 14,939 | n/a | n/a | n/a |
| Lee | ST10 | -1,349 | n/a | n/a | n/a |
| Lee | Block Total | 39,563 | n/a | n/a | n/a |
| April 1 - 4 | | | | | |
| Lee | 11 | 14,158 | n/a | n/a | n/a |
| Lee | 12 | 6,771 | n/a | n/a | n/a |
| Lee | ST10 | 8,994 | n/a | n/a | n/a |
| Lee | Block Total | 29,923 | n/a | n/a | n/a |
| Total | | 66,771 | | | |

Note: Detail amounts may not add to totals shown due to rounding.

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**JANUARY 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | 24,003 | $ 1,582,791 | $ 65.94 |
| | CONTRACT | 23,141 | 1,752,236 | 75.72 |
| | ADJUSTMENTS | - | 50,389 | - |
| | TOTAL | 47,144 | 3,385,417 | 71.81 |
| **BELEWS** | SPOT | 13,237 | 975,310 | 73.68 |
| | CONTRACT | 141,013 | 10,615,618 | 75.28 |
| | ADJUSTMENTS | - | 129,496 | - |
| | TOTAL | 154,249 | 11,720,423 | 75.98 |
| **CLIFFSIDE** | SPOT | - | - | - |
| | CONTRACT | 89,707 | 6,801,608 | 75.82 |
| | ADJUSTMENTS | - | 309,670 | - |
| | TOTAL | 89,707 | 7,111,278 | 79.27 |
| **MARSHALL** | SPOT | 23,150 | 1,699,233 | 73.40 |
| | CONTRACT | 199,895 | 14,819,673 | 74.14 |
| | ADJUSTMENTS | - | 442,905 | - |
| | TOTAL | 223,045 | 16,961,811 | 76.05 |
| **ALL PLANTS** | SPOT | 60,390 | 4,257,334 | 70.50 |
| | CONTRACT | 453,756 | 33,989,135 | 74.91 |
| | ADJUSTMENTS | - | 932,460 | - |
| | TOTAL | 514,145 | $ 39,178,930 | $ 76.20 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**FEBRUARY 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | - | $ - | - |
| | CONTRACT | 46,796 | 3,544,083 | 75.73 |
| | ADJUSTMENTS | - | 44,259 | - |
| | TOTAL | 46,796 | 3,588,342 | 76.68 |
| **BELEWS CREEK** | SPOT | - | (13,578) | - |
| | CONTRACT | 275,092 | 20,734,731 | 75.37 |
| | ADJUSTMENTS | - | 156,863 | - |
| | TOTAL | 275,092 | 20,878,015 | 75.89 |
| **CLIFFSIDE** | SPOT | - | - | - |
| | CONTRACT | 176,863 | 12,594,616 | 71.21 |
| | ADJUSTMENTS | - | 330,929 | - |
| | TOTAL | 176,863 | 12,925,545 | 73.08 |
| **MARSHALL** | SPOT | - | - | - |
| | CONTRACT | 271,548 | 19,959,627 | 73.50 |
| | ADJUSTMENTS | - | 417,906 | - |
| | TOTAL | 271,548 | 20,377,533 | 75.04 |
| **ALL PLANTS** | SPOT | - | (13,578) | - |
| | CONTRACT | 770,299 | 56,833,056 | 73.78 |
| | ADJUSTMENTS | - | 949,957 | - |
| | TOTAL | 770,299 | $ 57,769,435 | $ 75.00 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**MARCH 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | 13,831 | $ 941,000 | $ 68.04 |
| | CONTRACT | 11,831 | 908,334 | 76.77 |
| | ADJUSTMENTS | - | 103,830 | - |
| | TOTAL | 25,662 | 1,953,163 | 76.11 |
| **BELEWS CREEK** | SPOT | - | - | - |
| | CONTRACT | 245,825 | 19,050,919 | 77.50 |
| | ADJUSTMENTS | - | 233,141 | - |
| | TOTAL | 245,825 | 19,284,061 | 78.45 |
| **CLIFFSIDE** | SPOT | - | - | - |
| | CONTRACT | 253,330 | 18,246,699 | 72.03 |
| | ADJUSTMENTS | - | 393,403 | - |
| | TOTAL | 253,330 | 18,640,102 | 73.58 |
| **MARSHALL** | SPOT | 35,132 | 2,650,813 | 75.45 |
| | CONTRACT | 307,199 | 23,456,604 | 76.36 |
| | ADJUSTMENTS | - | 590,091 | - |
| | TOTAL | 342,331 | 26,697,508 | 77.99 |
| **ALL PLANTS** | SPOT | 48,963 | 3,591,813 | 73.36 |
| | CONTRACT | 818,185 | 61,662,556 | 75.37 |
| | ADJUSTMENTS | - | 1,320,465 | - |
| | TOTAL | 867,148 | $ 66,574,834 | $ 76.77 |

**DUKE ENERGY CAROLINAS**
**ANALYSIS OF COAL PURCHASED**
**APRIL 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | 13,269 | $ 905,631 | $ 68.25 |
| | CONTRACT | 12,131 | 933,860 | 76.98 |
| | ADJUSTMENTS | - | 51,039 | - |
| | TOTAL | 25,400 | 1,890,530 | 74.43 |
| **BELEWS CREEK** | SPOT | - | - | - |
| | CONTRACT | 247,913 | 19,163,117 | 77.30 |
| | ADJUSTMENTS | - | 296,420 | - |
| | TOTAL | 247,913 | 19,459,537 | 78.49 |
| **CLIFFSIDE** | SPOT | - | - | - |
| | CONTRACT | 228,600 | 16,803,525 | 73.51 |
| | ADJUSTMENTS | - | 294,140 | - |
| | TOTAL | 228,600 | 17,097,665 | 74.79 |
| **MARSHALL** | SPOT | - | (3,469) | - |
| | CONTRACT | 239,381 | 18,333,677 | 76.59 |
| | ADJUSTMENTS | - | 664,705 | - |
| | TOTAL | 239,381 | 18,994,912 | 79.35 |
| **ALL PLANTS** | SPOT | 13,269 | 902,162 | 67.99 |
| | CONTRACT | 728,025 | 55,234,179 | 75.87 |
| | ADJUSTMENTS | - | 1,306,304 | - |
| | TOTAL | 741,294 | $ 57,442,644 | $ 77.49 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**MAY 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | - | $ - | $ - |
| | CONTRACT | 21,526 | 1,691,151 | 78.56 |
| | ADJUSTMENTS | - | 51,467 | - |
| | TOTAL | 21,526 | 1,742,618 | 80.95 |
| **BELEWS CREEK** | SPOT | - | - | - |
| | CONTRACT | 247,484 | 19,151,298 | 77.38 |
| | ADJUSTMENTS | - | 154,074 | - |
| | TOTAL | 247,484 | 19,305,371 | 78.01 |
| **CLIFFSIDE** | SPOT | - | - | - |
| | CONTRACT | 240,234 | 18,070,457 | 75.22 |
| | ADJUSTMENTS | - | 358,432 | - |
| | TOTAL | 240,234 | 18,428,890 | 76.71 |
| **MARSHALL** | SPOT | 11,116 | 870,920 | 78.35 |
| | CONTRACT | 203,222 | 15,374,825 | 75.66 |
| | ADJUSTMENTS | - | 531,155 | - |
| | TOTAL | 214,338 | 16,776,901 | 78.27 |
| **ALL PLANTS** | SPOT | 11,116 | 870,920 | 78.35 |
| | CONTRACT | 712,466 | 54,287,731 | 76.20 |
| | ADJUSTMENTS | - | 1,095,128 | - |
| | TOTAL | 723,582 | $ 56,253,780 | $ 77.74 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**JUNE 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | 11,734 | $ 796,808 | $ 67.91 |
| | CONTRACT | - | - | - |
| | ADJUSTMENTS | - | 49,914 | - |
| | TOTAL | 11,734 | 846,721 | 72.16 |
| **BELEWS CREEK** | SPOT | 14,143 | 1,135,672 | 80.30 |
| | CONTRACT | 262,104 | 20,545,926 | 78.39 |
| | ADJUSTMENTS | - | 146,082 | - |
| | TOTAL | 276,247 | 21,827,679 | 79.02 |
| **CLIFFSIDE** | SPOT | - | - | - |
| | CONTRACT | 139,986 | 10,420,544 | 74.44 |
| | ADJUSTMENTS | - | 328,120 | - |
| | TOTAL | 139,986 | 10,748,664 | 76.78 |
| **MARSHALL** | SPOT | 11,331 | 891,744 | 78.70 |
| | CONTRACT | 281,160 | 21,170,940 | 75.30 |
| | ADJUSTMENTS | - | 529,075 | - |
| | TOTAL | 292,491 | 22,591,760 | 77.24 |
| **ALL PLANTS** | SPOT | 37,208 | 2,824,224 | 75.90 |
| | CONTRACT | 683,250 | 52,137,410 | 76.31 |
| | ADJUSTMENTS | - | 1,053,191 | - |
| | TOTAL | 720,458 | $ 56,014,825 | $ 77.75 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**JULY 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | - | $ - | $ - |
| | CONTRACT | 33,623 | 2,687,139 | 79.92 |
| | ADJUSTMENTS | - | 49,914 | - |
| | TOTAL | 33,623 | 2,737,052 | 81.40 |
| **BELEWS CREEK** | SPOT | 60,608 | 5,000,505 | 82.51 |
| | CONTRACT | 224,401 | 17,401,162 | 77.55 |
| | ADJUSTMENTS | - | 175,938 | - |
| | TOTAL | 285,009 | 22,577,606 | 79.22 |
| **CLIFFSIDE** | SPOT | 64,655 | 5,101,906 | 78.91 |
| | CONTRACT | 189,665 | 13,928,992 | 73.44 |
| | ADJUSTMENTS | - | 319,467 | - |
| | TOTAL | 254,320 | 19,350,366 | 76.09 |
| **MARSHALL** | SPOT | 24,103 | 2,115,818 | 87.78 |
| | CONTRACT | 269,545 | 20,875,697 | 77.45 |
| | ADJUSTMENTS | - | 454,467 | - |
| | TOTAL | 293,649 | 23,445,982 | 79.84 |
| **ALL PLANTS** | SPOT | 149,366 | 12,218,229 | 81.80 |
| | CONTRACT | 717,234 | 54,892,990 | 76.53 |
| | ADJUSTMENTS | - | 999,786 | - |
| | TOTAL | 866,601 | $ 68,111,006 | $ 78.60 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**AUGUST 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | - | $ - | $ - |
| | CONTRACT | 33,659 | 2,689,461 | 79.90 |
| | ADJUSTMENTS | - | 50,600 | - |
| | TOTAL | 33,659 | 2,740,061 | 81.41 |
| **BELEWS CREEK** | SPOT | 76,537 | 6,294,875 | 82.25 |
| | CONTRACT | 215,656 | 16,841,160 | 78.09 |
| | ADJUSTMENTS | - | 140,483 | - |
| | TOTAL | 292,192 | 23,276,519 | 79.66 |
| **CLIFFSIDE** | SPOT | 38,513 | 3,036,162 | 78.84 |
| | CONTRACT | 215,052 | 16,690,263 | 77.61 |
| | ADJUSTMENTS | - | 505,763 | - |
| | TOTAL | 253,564 | 20,232,188 | 79.79 |
| **MARSHALL** | SPOT | 106,899 | 8,583,465 | 80.30 |
| | CONTRACT | 214,156 | 16,562,524 | 77.34 |
| | ADJUSTMENTS | - | 602,813 | - |
| | TOTAL | 321,055 | 25,748,802 | 80.20 |
| **ALL PLANTS** | SPOT | 221,949 | 17,914,502 | 80.71 |
| | CONTRACT | 678,523 | 52,783,408 | 77.79 |
| | ADJUSTMENTS | - | 1,299,659 | - |
| | TOTAL | 900,470 | $ 71,997,569 | $ 79.96 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**SEPTEMBER 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | 11,923 | $ 1,006,566 | $ 84 |
| | CONTRACT | 35,915 | 2,867,014 | 79.83 |
| | ADJUSTMENTS | - | 51,480 | - |
| | TOTAL | 47,837 | 3,925,060 | 82.05 |
| **BELEWS CREEK** | SPOT | 30,673 | 2,566,645 | 83.68 |
| | CONTRACT | 210,168 | 16,425,376 | 78.15 |
| | ADJUSTMENTS | - | 171,394 | - |
| | TOTAL | 240,841 | 19,163,415 | 79.57 |
| **CLIFFSIDE** | SPOT | 61,453 | 5,746,436 | 93.51 |
| | CONTRACT | 126,904 | 10,041,264 | 79.12 |
| | ADJUSTMENTS | - | 288,328 | - |
| | TOTAL | 188,356 | 16,076,027 | 85.35 |
| **MARSHALL** | SPOT | 114,811 | 9,506,873 | 82.80 |
| | CONTRACT | 191,693 | 14,523,205 | 75.76 |
| | ADJUSTMENTS | - | 491,431 | - |
| | TOTAL | 306,503 | 24,521,509 | 80.00 |
| **ALL PLANTS** | SPOT | 218,860 | 18,826,520 | 86.02 |
| | CONTRACT | 564,680 | 43,856,859 | 77.67 |
| | ADJUSTMENTS | - | 1,002,633 | - |
| | TOTAL | 783,537 | $ 63,686,011 | $ 81.28 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**OCTOBER 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | - | $ (4,062) | $ - |
| | CONTRACT | - | (10,623) | - |
| | ADJUSTMENTS | - | 49,933 | - |
| | TOTAL | - | 35,248 | - |
| **BELEWS CREEK** | SPOT | 14,402 | 1,194,391 | 82.93 |
| | CONTRACT | 121,591 | 9,411,323 | 77.40 |
| | ADJUSTMENTS | - | 163,753 | - |
| | TOTAL | 135,993 | 10,769,467 | 79.19 |
| **CLIFFSIDE** | SPOT | 36,714 | 3,474,703 | 94.64 |
| | CONTRACT | 86,096 | 6,422,692 | 74.60 |
| | ADJUSTMENTS | - | 482,940 | - |
| | TOTAL | 122,809 | 10,380,335 | 84.52 |
| **MARSHALL** | SPOT | 44,535 | 3,730,301 | 83.76 |
| | CONTRACT | 179,434 | 13,769,984 | 76.74 |
| | ADJUSTMENTS | - | 592,561 | - |
| | TOTAL | 223,969 | 18,092,846 | 80.78 |
| **ALL PLANTS** | SPOT | 95,651 | 8,395,333 | 87.77 |
| | CONTRACT | 387,121 | 29,593,376 | 76.44 |
| | ADJUSTMENTS | - | 1,289,187 | - |
| | TOTAL | 482,771 | $ 39,277,896 | $ 81.36 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**NOVEMBER 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | - | $ - | $ - |
| | CONTRACT | 10,092 | 806,942 | 79.96 |
| | ADJUSTMENTS | - | (11,755) | - |
| | TOTAL | 10,092 | 795,188 | 78.80 |
| **BELEWS CREEK** | SPOT | 30,607 | 2,574,046 | 84.10 |
| | CONTRACT | 220,646 | 17,287,396 | 78.35 |
| | ADJUSTMENTS | - | 238,678 | - |
| | TOTAL | 251,252 | 20,100,120 | 80.00 |
| **CLIFFSIDE** | SPOT | - | 5,367 | - |
| | CONTRACT | - | (2,205) | - |
| | ADJUSTMENTS | - | 232,334 | - |
| | TOTAL | - | 235,496 | - |
| **MARSHALL** | SPOT | 23,218 | 1,849,616 | 79.66 |
| | CONTRACT | 118,442 | 9,351,626 | 78.96 |
| | ADJUSTMENTS | - | 273,704 | - |
| | TOTAL | 141,659 | 11,474,945 | 81.00 |
| **ALL PLANTS** | SPOT | 53,825 | 4,429,029 | 82.29 |
| | CONTRACT | 349,180 | 27,443,759 | 78.60 |
| | ADJUSTMENTS | - | 732,961 | - |
| | TOTAL | 403,003 | $ 32,605,749 | $ 80.91 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF COAL PURCHASED**

**DECEMBER 2018**

| STATION | TYPE | QUANTITY OF TONS DELIVERED | DELIVERED COST | DELIVERED COST PER TON |
|---|---|---|---|---|
| **ALLEN** | SPOT | - | $ - | $ - |
| | CONTRACT | - | - | - |
| | ADJUSTMENTS | - | 49,933 | - |
| | TOTAL | - | 49,933 | - |
| **BELEWS CREEK** | SPOT | - | 11,982 | - |
| | CONTRACT | 221,261 | 17,706,037 | 80.02 |
| | ADJUSTMENTS | - | 189,618 | - |
| | TOTAL | 221,261 | 17,907,637 | 80.93 |
| **CLIFFSIDE** | SPOT | - | - | - |
| | CONTRACT | 95,812 | 7,221,379 | 75.37 |
| | ADJUSTMENTS | - | 1,326,849 | - |
| | TOTAL | 95,812 | 8,548,228 | 89.22 |
| **MARSHALL** | SPOT | 96,525 | 8,181,703 | 84.76 |
| | CONTRACT | 166,463 | 13,355,663 | 80.23 |
| | ADJUSTMENTS | - | 542,373 | - |
| | TOTAL | 262,988 | 22,079,739 | 83.96 |
| **ALL PLANTS** | SPOT | 96,525 | 8,193,685 | 84.89 |
| | CONTRACT | 483,536 | 38,283,079 | 79.17 |
| | ADJUSTMENTS | - | 2,108,773 | - |
| | TOTAL | 580,061 | $ 48,585,537 | $ 83.76 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**JANUARY 2018**

| | ALLEN | BELEWS CREEK | CLIFFSIDE |
|---|---|---|---|
| **VENDOR** | HighTowers | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 | 0 |
| **GALLONS RECEIVED** | 173,178 | 195,276 | 361,456 |
| **TOTAL DELIVERED COST** | $ 395,620 | $ 427,308 | $ 875,708 |
| **DELIVERED COST/GALLON** | $ 2.28 | $ 2.19 | $ 2.42 |
| **BTU/GALLON** | 137,810 | 137,810 | 137,657 |

| | LEE | LINCOLN | MARSHALL |
|---|---|---|---|
| **VENDOR** | HighTowers | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 | 0 |
| **GALLONS RECEIVED** | 943,545 | 4,712,215 | 339,136 |
| **TOTAL DELIVERED COST** | $ 2,219,600 | $ 11,617,759 | $ 769,358 |
| **DELIVERED COST/GALLON** | $ 2.35 | $ 2.47 | $ 2.27 |
| **BTU/GALLON** | 137,910 | 137,000 | 137,620 |

| | MILL CREEK | ROCKINGHAM |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 3,231,442 | 4,114,862 |
| **TOTAL DELIVERED COST** | $ 7,556,560 | $ 9,510,310 |
| **DELIVERED COST/GALLON** | $ 2.34 | $ 2.31 |
| **BTU/GALLON** | 137,000 | 137,000 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**FEBRUARY 2018**

| | ALLEN | BELEWS CREEK |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 523 | 144,831 |
| **TOTAL DELIVERED COST** | $ 1,026 | $ 302,108 |
| **DELIVERED COST/GALLON** | $ 1.96 | $ 2.09 |
| **BTU/GALLON** | 137,800 | 137,780 |

| | CLIFFSIDE | MARSHALL |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 195,738 | 7,620 |
| **TOTAL DELIVERED COST** | $ 405,208 | $ 16,747 |
| **DELIVERED COST/GALLON** | $ 2.07 | $ 2.20 |
| **BTU/GALLON** | 137,626 | 137,770 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**MARCH 2018**

| | ALLEN | BELEWS CREEK |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 371 | 314,770 |
| **TOTAL DELIVERED COST** | $ 367 | $ 638,479 |
| **DELIVERED COST/GALLON** | $ 0.99 | $ 2.03 |
| **BTU/GALLON** | 137,830 | 137,950 |

| | CLIFFSIDE | MARSHALL |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 243,605 | 180,617 |
| **TOTAL DELIVERED COST** | 484,863 | 361,579 |
| **DELIVERED COST/GALLON** | $ 1.99 | 2.00 |
| **BTU/GALLON** | 137,603 | 137,720 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**APRIL 2018**

| | ALLEN | BELEWS CREEK |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 22,426 | 52,496 |
| **TOTAL DELIVERED COST** | $ 48,134 | $ 109,839 |
| **DELIVERED COST/GALLON** | $ 2.15 | $ 2.09 |
| **BTU/GALLON** | 138,030 | 137,000 |

| | CLIFFSIDE | MARSHALL |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 113,969 | 217,618 |
| **TOTAL DELIVERED COST** | $ 247,716 | $ 461,533 |
| **DELIVERED COST/GALLON** | $ 2.17 | $ 2.12 |
| **BTU/GALLON** | 137,810 | 137,860 |

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1214

Schedule 9



**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**MAY 2018**

| | ALLEN | BELEWS CREEK |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 141,629 | 298,708 |
| **TOTAL DELIVERED COST** | $ 324,158 | $ 688,990 |
| **DELIVERED COST/GALLON** | $ 2.29 | $ 2.31 |
| **BTU/GALLON** | 137,810 | 137,890 |

| | CLIFFSIDE | MARSHALL |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 291,292 | 126,586 |
| **TOTAL DELIVERED COST** | $ 665,273 | $ 295,092 |
| **DELIVERED COST/GALLON** | $ 2.28 | $ 2.33 |
| **BTU/GALLON** | 137,568 | 137,860 |

## DUKE ENERGY CAROLINAS
## ANALYSIS OF OIL PURCHASED
## JUNE 2018

| | ALLEN | BELEWS CREEK |
|---|---|---|
| VENDOR | HighTowers | HighTowers |
| SPOT / CONTRACT | Contract | Contract |
| SULFUR CONTENT % | 0 | 0 |
| GALLONS RECEIVED | 110,713 | 207,965 |
| TOTAL DELIVERED COST | $ 243,502 | $ 467,656 |
| DELIVERED COST / GALLON | $ 2.20 | $ 2.25 |
| BTU / GALLON | 138,780 | 137,940 |

| | CLIFFSIDE | MARSHALL |
|---|---|---|
| VENDOR | HighTowers | HighTowers |
| SPOT / CONTRACT | Contract | Contract |
| SULFUR CONTENT % | 0 | 0 |
| GALLONS RECEIVED | 171,450 | 207,865 |
| TOTAL DELIVERED COST | $ 383,441 | $ 466,290 |
| DELIVERED COST / GALLON | $ 2.24 | $ 2.24 |
| BTU / GALLON | 137,677 | 137,830 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**JULY 2018**

| | ALLEN | BELEWS CREEK |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT / CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 30,156 | 333,840 |
| **TOTAL DELIVERED COST** | $ 67,120 | $ 750,198 |
| **DELIVERED COST / GALLON** | $ 2.23 | $ 2.25 |
| **BTU / GALLON** | 138,310 | 139,470 |

| | CLIFFSIDE | MARSHALL |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT / CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 147,699 | 76,107 |
| **TOTAL DELIVERED COST** | $ 330,579 | $ 167,637 |
| **DELIVERED COST / GALLON** | $ 2.24 | $ 2.20 |
| **BTU / GALLON** | 137,411 | 138,100 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**AUGUST 2018**

| | ALLEN | BELEWS CREEK | CLIFFSIDE |
|---|---|---|---|
| **VENDOR** | HighTowers | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 | 0 |
| **GALLONS RECEIVED** | 82,757 | 340,293 | 300,833 |
| **TOTAL DELIVERED COST** | $ 183,590 | $ 764,145 | $ 682,925 |
| **DELIVERED COST/GALLON** | $ 2.22 | $ 2.25 | $ 2.27 |
| **BTU/GALLON** | 138,350 | 137,750 | 137,382 |

| | LEE | LINCOLN |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 20,545 | 12,105 |
| **TOTAL DELIVERED COST** | $ 48,180 | $ 30,305 |
| **DELIVERED COST/GALLON** | $ 2.35 | $ 2.50 |
| **BTU/GALLON** | - | - |

| | MARSHALL | MILL CREEK |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 37,568 | 13,028 |
| **TOTAL DELIVERED COST** | $ 81,697 | $ 30,542 |
| **DELIVERED COST/GALLON** | $ 2.17 | $ 2.34 |
| **BTU/GALLON** | 138,110 | - |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**SEPTEMBER 2018**

| | ALLEN | BELEWS CREEK | CLIFFSIDE |
|---|---|---|---|
| **VENDOR** | HighTowers | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 | 0 |
| **GALLONS RECEIVED** | 133,137 | 213,152 | 75,115 |
| **TOTAL DELIVERED COST** | $ 309,376 | $ 495,151 | $ 175,043 |
| **DELIVERED COST/GALLON** | $ 2.32 | $ 2.32 | $ 2.33 |
| **BTU/GALLON** | 138,550 | 137,520 | 137,798 |

| | LEE | MARSHALL |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 145,732 | 59,236 |
| **TOTAL DELIVERED COST** | $ 342,223 | $ 137,415 |
| **DELIVERED COST/GALLON** | $ 2.35 | $ 2.32 |
| **BTU/GALLON** | 137,000 | 138,160 |

| | MILL CREEK | ROCKINGHAM |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 75,401 | 96,466 |
| **TOTAL DELIVERED COST** | $ - | $ 228,435 |
| **DELIVERED COST/GALLON** | $ - | $ 2.37 |
| **BTU/GALLON** | - | 137,000 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**OCTOBER 2018**

| | ALLEN | BELEWS CREEK |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 96,999 | 230,220 |
| **TOTAL DELIVERED COST** | $ 237,841 | $ 566,376 |
| **DELIVERED COST/GALLON** | $ 2.45 | $ 2.46 |
| **BTU/GALLON** | 137,390 | 137,220 |

| | CLIFFSIDE | MARSHALL |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 4,130 | 66,806 |
| **TOTAL DELIVERED COST** | $ 10,858 | $ 159,168 |
| **DELIVERED COST/GALLON** | $ 2.63 | $ 2.38 |
| **BTU/GALLON** | 138,010 | 138,120 |

**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**NOVEMBER 2018**

| | ALLEN | BELEWS CREEK |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 7,982 | 290,286 |
| **TOTAL DELIVERED COST** | $ 18,689 | $ 652,161 |
| **DELIVERED COST/GALLON** | $ 2.34 | $ 2.25 |
| **BTU/GALLON** | 138,000 | 138,000 |

| | CLIFFSIDE | MARSHALL |
|---|---|---|
| **VENDOR** | HighTowers | HighTowers |
| **SPOT/CONTRACT** | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 |
| **GALLONS RECEIVED** | 169,249 | 157,964 |
| **TOTAL DELIVERED COST** | $ 349,443 | $ 345,635 |
| **DELIVERED COST/GALLON** | $ 2.06 | $ 2.19 |
| **BTU/GALLON** | 138,000 | 138,000 |

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1214

Schedule 9



**DUKE ENERGY CAROLINAS**

**ANALYSIS OF OIL PURCHASED**

**DECEMBER 2018**

| | ALLEN | BELEWS CREEK | CLIFFSIDE |
|---|---|---|---|
| **VENDOR** | HighTowers | HighTowers | HighTowers |
| **SPOT / CONTRACT** | Contract | Contract | Contract |
| **SULFUR CONTENT %** | 0 | 0 | 0 |
| **GALLONS RECEIVED** | 75,652 | 578,080 | 144,399 |
| **TOTAL DELIVERED COST** | $ 143,133 | $ 1,082,966 | $ 273,156 |
| **DELIVERED COST / GALLON** | $ 1.89 | $ 1.87 | $ 1.89 |
| **BTU / GALLON** | 138,000 | 138,000 | 138,000 |

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Average Number of Days' Supply of Coal**
**For the test year ended December 31,2018 and five preceding years**
**(Inventory in Tons)**

| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 |
|---|---|---|---|---|---|---|
| December Prior Yr | 2,558,590 | 3,012,111 | 5,109,270 | 3,948,226 | 3,657,071 | 4,814,535 |
| January | 1,833,289 | 2,896,066 | 4,769,783 | 4,161,838 | 2,792,994 | 4,617,584 |
| February | 2,187,685 | 3,213,982 | 4,649,064 | 3,827,067 | 2,168,431 | 4,456,170 |
| March | 2,352,098 | 3,170,151 | 4,874,943 | 3,723,953 | 1,806,008 | 4,259,248 |
| April | 2,683,879 | 3,207,011 | 4,831,583 | 4,221,331 | 2,226,379 | 4,667,268 |
| May | 2,583,390 | 3,220,179 | 4,772,797 | 4,485,430 | 2,366,919 | 4,853,161 |
| June | 2,300,310 | 3,129,856 | 4,325,938 | 4,080,839 | 2,238,561 | 4,598,881 |
| July | 2,349,694 | 2,642,197 | 3,747,633 | 3,479,898 | 2,186,097 | 4,092,766 |
| August | 2,356,042 | 2,569,457 | 3,395,536 | 3,495,739 | 2,327,716 | 3,938,719 |
| September | 2,244,622 | 2,653,774 | 3,168,033 | 4,067,519 | 2,756,691 | 3,856,641 |
| October | 2,347,399 | 2,637,410 | 3,369,022 | 4,534,842 | 3,228,356 | 3,796,893 |
| November | 2,318,824 | 2,665,511 | 3,536,055 | 4,727,927 | 3,376,513 | 3,671,387 |
| December | 2,039,530 | 2,558,590 | 3,012,111 | 5,109,270 | 3,948,226 | 3,657,071 |
| 13 Mo Avg | 2,319,642 | 2,890,484 | 4,120,136 | 4,143,375 | 2,698,459 | 4,252,333 |
| Full Load Burn / Day | 63,129 | 63,129 | 63,129 | 63,129 | 66,881 | 74,247 |
| Avg # of Days | 37 | 46 | 65 | 66 | 40 | 57 |

Footnotes:

Full Load Burn = (Maximum Dependable Capacity X Heat Rate X 12) / Btu's/Lb

Source: Inventory Control Report (COMTRAC).

Description:
Days of coal inventory on the storage piles refers to "full load burn days". Therefore, one "day" of supply is equal to how much coal would be burned at any given generating unit if it were to run at full load for 24 hours uninterrupted. The current full load burn for the entire coal-fired fleet in the Carolinas is 63,129 tons per day which means that if there are 35 days of supply on the system, then there are 2,209,515 tons (35 * 63,129) on the storage piles.

The Company does not use "average" burn to report how many "days" of inventory in storage because the average burn for any given period can vary greatly due to many factors and it can over-state the amount of inventory in storage. For example, the biggest risk would be to run out of coal during a hot summer when the entire coal-fired fleet is needed to run at full load. If we were to use "average" burn to report how many days of inventory we have in storage, it would result in reporting a significantly larger number of days for the same number of tons. By reporting the inventory using "full load burn", we have not over-stated how a many days our units can run during a critical time when they are all expected to be running at full load.

**Duke Energy Carolinas, LLC** **E-1 Item 46E**
**Docket No. E-7, Sub 1214**
**Coal Consumption and Inventory Data**
**For the test year ended December 31, 2018**
**(Tons)**

| Station | December Full Load Burn |
|---|---|
| Belews Creek - Units 1, 2 | 19,853 |
| Marshall - Units 1, 2, 3, 4 | 18,891 |
| Cliffside - Units 5, 6 | 13,002 |
| Allen - Units 1, 2, 3, 4, 5 | 11,383 |
| System Total | 63,129 |

Footnotes:

Full Load Burn = (Maximum Dependable Capacity X Heat Rate X 12) / Btu's/Lb

**Proposed Working Capital Allowance - Coal Inventory**

The Company's proposed working capital allowance for coal inventory is based on the **target number of days inventory** at the end of the test year:

| | | | | |
|---|---|---|---|---|
| a | Actual Balance @ 12/31/2018 | E-1 Item 46D | 2,039,530 | tons |
| b | Estimated Full Load Burn (December 2018) | See above | 63,129 | tons |
| c | Actual Number of Days' Inventory | a / b | 32 | days |
| d | Target Number of Days' Inventory | Rate Case Target | 35 | days |
| e | Target Balance @ 12/31/18 | b x d | 2,209,515 | tons |

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Actual Fuel Cost**
**For the test period ended December 31, 2018**

**E-1 Item 46F**
Page 1 of 2



| | Coal | Oil | Gas - CT | Gas - CC | Gas-Steam | Biogas | Nuclear | Total |
|---|---|---|---|---|---|---|---|---|
| Cost of Fuel Burned (A) | $675,888,074 | $41,704,735 | $98,161,049 | $384,692,206 | $8,633,545 | $3,466,205 | $370,839,248 | $1,583,385,062 |
| Mbtu's Burned | 214,294,473 | 2,599,178 | 28,537,792 | 97,936,802 | 2,102,783 | 216,190 | 603,676,564 | 949,363,782 |
| MWH Generated | 22,653,740 | 232,515 | 2,550,671 | 13,695,555 | 187,574 | 30,204 | 59,936,028 | 99,286,287 |
| Cents per KWH Generated | 2 984 | 17 936 | 3 848 | 2.809 | 4.603 | 11.476 | 0.619 | 1.595 |
| Cents per Million Btu | 315.40 | 1,604.54 | 343.97 | 392.80 | 410.58 | 1,603.31 | 61.43 | 166.78 |
| Quantity of Fuel Used ( A) | 8,703,762 Tons | 18,888,297 Gallons | 27,698,274 MCF | 95,388,070 MCF | 2,049,057 MCF | 210,727 MCF | 605,008,564 Mbtu | |

Notes: Cost of Fuel & Mbtu's Burned include Light Off Fuel.

Coal excludes Emission Allowance Expense.

Nuclear includes 100% of Catawba Nuclear Station.

Nuclear includes Nuclear Fuel Disposal Costs.

Nuclear excludes Nuclear Fuel Canister Costs.

Source: 12 ME December 2018 Monthly Fuel Filing Schedules 5 and 6

**Duke Energy Carolinas, LLC**
**Docket No. E-7, Sub 1214**
**Projected Fuel Cost April 2019 - December 2020**
**Actual Fuel Cost January - March 2019**
**($000)**



| January 2019-December 2019 | Coal | Oil/Gas | Nuclear | Total |
|---|---|---|---|---|
| Cost of Fuel Burned | $532,735 | $420,103 | $363,264 | $1,316,101 |
| Cents per KWH Generated | 2.76 | 2.59 | 0.61 | 1.38 |
| Cents per Million Btu | 292.00 | 361.56 | 60.13 | 145.79 |

| January 2020-December 2020 | Coal | Oil/Gas | Nuclear | Total |
|---|---|---|---|---|
| Cost of Fuel Burned | $ 450,221.87 | $394,753 | $356,608 | $1,201,582 |
| Cents per KWH Generated | 2.53 | 2.00 | 0.61 | 1.25 |
| Cents per Million Btu | 232.24 | 329.23 | 60.29 | 132.74 |

Note: Cost of Fuel & Mbtu's Burned include Light Off Fuel.

Coal excludes Emission Allowance Expense.

Nuclear includes 100% of Catawba Nuclear Station.

Nuclear includes Nuclear Fuel Disposal Costs.

Nuclear excludes Nuclear Fuel Canister Costs.

Source: February'19 FOF Financial_Forecaset Report_DEC.xls
January '19 thru March '19 Actuals from Monthly fuel reports

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1214**
**DOCKET NO. E-7, SUB 1213**
**DOCKET NO. E-7, SUB 1187**

| | | |
|---|---|---|
| In the Matter of:<br><br>**DOCKET NO. E-7, SUB 1214**<br>Application of Duke Energy Carolinas, LLC For Adjustment of Rates and Charges Applicable to Electric Service in North Carolina<br><br>**DOCKET NO. E-7, SUB 1213**<br>In the matter of<br>Petition of Duke Energy Carolinas, LLC for Approval of Prepaid Advantage Program<br><br>**DOCKET NO. E-7, SUB 1187**<br>Petition of Duke Energy Carolinas, LLC for an Accounting Order to Defer Incremental Storm Damage Expenses Incurred as a Result of Hurricanes Florence and Michael and Winter Storm Diego | ) | **AGREEMENT AND STIPULATION OF PARTIAL SETTLEMENT** |

Duke Energy Carolinas, LLC ("DEC" or the "Company") and the Public Staff, North Carolina Utilities Commission (the "Public Staff"), collectively referred to herein as the "Stipulating Parties" through counsel and pursuant to N.C. Gen. Stat. § 62-69, respectfully submit the following Agreement and Stipulation of Partial Settlement ("Stipulation") for consideration by the North Carolina Utilities Commission ("Commission") in the above captioned dockets.

## I. BACKGROUND

1. In 2018, the Company incurred significant storm expenditures from Hurricanes Florence and Michael and Winter Storm Diego (individually, the "Storm" and collectively, the "Storms"). Subsequently, the Company filed a Petition for an Accounting

Order to Defer Incremental Storm Damage Expenses Incurred as a Result of Hurricanes Florence and Michael and Winter Storm Diego, in Docket No. E-7, Sub 1187 ("Storm Deferral Docket").

2. On November 6, 2019, Senate Bill 559, An Act to Permit Financing for Certain Storm Recovery Costs ("SB 559"), was signed into law.[1] SB 559 amended Article 8 of Chapter 62 of the North Carolina General Statutes to create a new financing tool that an electric public utility may use to recover storm recovery costs. SB 559 established a process by which an electric public utility in the State may petition the Commission for a financing order authorizing the issuance of storm recovery bonds; the imposition, collection, and periodic adjustments of a storm recovery charge; the creation of storm recovery property; and the sale, assignment, or transfer of storm recovery property. Before issuing a financing order, the Commission must find that the issuance of the storm recovery bonds and the imposition of storm recovery charges are expected to provide quantifiable benefits to customers as compared to the costs that would have been incurred absent the issuance of storm recovery bonds.

3. While SB 559 was pending before the General Assembly but not yet signed into law, on September 30, 2019, DEC filed an application ("Application") with the Commission in Docket No. E-7, Sub 1214 requesting a general rate increase, pursuant to N.C. Gen. Stat. §§ 62-133 and -134 and Commission Rule R1-17, along with direct testimony and exhibits. The Application requests a non-fuel base rate increase of approximately 9.2 percent in retail revenues, or approximately $445.3 million. DEC further proposes to partially offset the increase in revenues by refunding $154.6 million

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[1] S.L. 2019-244.

related to certain tax benefits resulting from the Federal Tax Cut and Jobs Act through a proposed rider. The net revenue increase with the rider is $290.8 million, which represents an approximate overall 6.0% increase in annual revenues. The revenue increase is based upon a 10.30 percent return on equity ("ROE") and a 53 percent equity component of the capital structure.

4. The Application also includes a request to consolidate the Storm Deferral Docket with the rate case. In the rate case, the Company seeks to amortize the incremental costs of the Storms over an eight-year period, including a return on the unrecovered balance, and with respect to the capital investments, a deferral of depreciation expense and a return on the investment. In his testimony, Company witness Stephen G. De May, North Carolina President, stated that if SB 559 was passed into law, the Company would pursue securitization if it provided a savings to its customers and would cease the recovery of the remaining storm costs in current rates, and instead begin recovering the remaining unrecovered storm costs as provided for in a securitization financing order.[2]

5. On October 29, 2019, the Commission issued an order establishing a general rate case, suspending rates, scheduling hearings and requiring public notice of the Company's Application. On November 20, 2019, the Commission issued an order consolidating the general rate proceeding in Docket No. E-7, Sub 1214, with DEC's request for approval of its Prepaid Advantage Program in Docket No. E-7, Sub 1213.

6. On February 14, 2020, the Company filed supplemental direct testimony and exhibits. On February 18, 2020, the Public Staff, and the other intervenors in this proceeding, filed testimony. Among other things, Public Staff witness Michelle M.

[2] *De May Direct Testimony* at 10-11.

Boswell made an adjustment to remove all capital and O&M costs associated with the Storms in the present case because the Company indicated that it would seek securitization if authorized by the General Assembly. Witness Boswell also stated that based upon the Public Staff's review of the costs the Company has included in the present case, the Public Staff believes the costs associated with these Storms were prudently incurred.[3]

7. The Public Staff filed first supplemental testimony and exhibits on February 25, 2020, and corrections to certain testimony on February 24, February 29, and March 4, 2020.

8. On March 4, 2020, the Company filed its rebuttal testimony. Among other things, Company witness De May stated in his testimony that the Company looked forward to pursuing securitization at the appropriate time but believed the cost of the Storms should remain a part of the Company's request in this proceeding until the Commission reaches the same determination of the Company and the Public Staff that the costs were prudently incurred, and the Commission subsequently approves a financing petition.

9. On March 25, 2020, the Public Staff filed supplemental testimony and exhibits.

10. The parties to this proceeding have conducted substantial discovery on the issues raised in the Application, as well as on the direct, supplemental and rebuttal testimonies of the Company and the direct and supplemental testimonies of the Public Staff. Prior to the evidentiary hearing, the Stipulating Parties reached a partial settlement with respect to some of the revenue requirement issues presented by the Company's Application, including those arising from the supplemental and rebuttal testimonies and

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[3] *Boswell Direct Testimony* at 27-28.

exhibits. In addition, the Stipulating Parties have reached a settlement as it relates to the ratemaking treatment of the cost of the Storms. The Stipulating Parties agree and stipulate as follows:

## II. UNRESOLVED ISSUES

The Stipulating Parties have not reached a compromise on the following issues ("Unresolved Issues"):

1. Coal ash costs - Cost recovery of the Company's coal ash costs, recovery amortization period and return during the amortization period.

2. Deferred Non-Asset Retirement Obligation ("ARO") Environmental Costs Amortization Period – Whether the Company's proposed amortization period of five (5) years should be approved versus the Public Staff's proposed amortization period of (10) ten years.

3. Adjustment for Hydro Station Sale: - Whether the Company's proposed amortization period of seven (7) years of the loss on the sale should be approved versus Public Staff's recommendation of a twenty (20) year amortization period.

4. Excess Deferred Income Taxes ("EDIT") – The following components of the Company's EDIT rider proposal remain contested both in length of amortization period and method of recovery: Unprotected federal EDIT, North Carolina EDIT and Deferred Revenue. The parties agree on the treatment of federal

protected EDIT as described below in the Resolved Issues.

5. <u>Return on Equity</u> ("ROE") – Whether the Company's proposed ROE of 10.3% should be adopted versus the Public Staff's proposed ROE of 9.0%.

6. <u>Capital Structure</u> – Whether the Company's proposed equity ratio of 53% should be adopted versus the Public Staff's proposed equity ratio of 50%.

7. <u>Cost of Debt</u>- The appropriate debt cost that should be adopted for the Company.

8. <u>Cost of Service Allocation Methodology</u> – The methodology for allocating the Company's production demand related costs.

9. <u>Depreciation Rates</u> – The depreciation rates appropriate for use in this case, including whether the Company's proposal to shorten the lives of certain coal-fired generating facilities should be approved.

10. <u>Grid Improvement Plan</u> - Whether the Company's request to defer certain categories of costs should be approved as appropriate costs under the Company's proposed Grid Improvement Plan and whether those costs are eligible for deferral under the Commission's deferral standards.

11. <u>Clemson Combined Heat and Power facility</u>- Whether it is appropriate for DEC to recover the costs of this facility from North Carolina customers.

12. Any other revenue requirement or non-revenue requirement issue other than those issues specifically addressed in this Stipulation or agreed upon in the testimony of the Stipulating Parties.

## III. RESOLVED ISSUES

The Stipulating Parties have reached an agreement regarding the following revenue requirement issues ("Resolved Issues"). The actual amount of the agreed-upon adjustments may differ due to the effects of the Unresolved Issues. The revenue requirement effects of the agreed-upon issues are shown on Boswell Supplemental and Stipulation Exhibit 1. The revenue requirement impacts of this Stipulation provide sufficient support for the annual revenue required on the issues agreed to in this Stipulation. No Stipulating Party waives any right to assert a position in any future proceeding or docket before the Commission or in any court, as the adjustments agreed to in this Stipulation are strictly for purposes of compromise and are intended to show a rational basis for reaching the agreed-upon revenue requirement adjustments without either party conceding any specific adjustment. The Stipulating Parties agree that settlement on these issues will not be used as a rationale for future adjustments on contested issues brought before the Commission. The areas of agreement are as follows:

***Storm Costs***

1. DEC hereby accepts Public Staff's adjustments to remove the capital and O&M costs associated with the Storms and to reflect a 10-year normalized level of storm expense for storms that would not otherwise be large enough for the Company to securitize.

2. DEC agrees to file a petition for a financing order under N.C. Gen. Stat. §

62-172 no later than 120 days from the issuance of an Order by the Commission in this rate case in which the Commission makes findings and conclusions regarding the costs of the Storms and this Stipulation, unless a party in the rate case appeals the Commission's order as it relates to costs of the Storms or the provisions of this Stipulation related to the costs of the Storms and securitization. If an appeal is filed, the 120-day limit shall be suspended until the Commission decision is affirmed, or if not affirmed, until the issuance of a Commission Order on remand following the decision on the appeal, unless the Company chooses before that time to pursue recovery under subsection (5), in which case the original 120-day limit shall be deemed to have applied. Should DEC fail to file a petition within the time period specified in this paragraph, the parties agree that in any subsequent ratemaking proceeding held to provide for recovery of the costs of the Storms, the parties reserve the right to assert their respective positions regarding the appropriate ratemaking treatment of the cost of the Storms.

3. The Stipulating Parties agree that to demonstrate quantifiable benefits to customers in accordance with N.C. Gen. Stat. § 62-172(b)(1)g., the Company must show that the net present value of the costs to customers using securitization is less than the net present value of the costs that would result under traditional storm cost recovery. For purposes of settlement for the cost of these Storms only, the Stipulating Parties agree that when conducting this comparison in the subsequent securitization docket for the Storms, the following assumptions shall be made:

a. For traditional storm cost recovery, 12 months of amortization for each Storm was expensed prior to the new rates going into effect;

b. For traditional storm cost recovery, no capital costs incurred due to the Storms during the 12-month period were included in the deferred balance;

c. For traditional storm cost recovery, no carrying charges were accrued on the deferred balance during the 12-month period following the date(s) of the Storm(s);

d. For traditional cost recovery, the amortization period for the Storms is a minimum of 10 years; and

e. For securitization, the imposition of the Storm recovery charge begins nine months after the new rates go into effect

4. The Stipulating Parties agree that pursuant to N.C. Gen. Stat. § 62-172, the amortization of securitized costs of the Storms shall not begin until the date the storm recovery bonds are issued.

5. The Stipulating Parties agree that a storm cost recovery rider in this proceeding that will be initially set at $0 should be established in the rate case. Should the Company not file a petition for a financing order or is unable to recover the costs of the Storms through N.C. Gen. Stat. § 62-172, the Company may request recovery of the costs of the Storms from the Commission by filing a petition requesting an adjustment to this rider. In such case, the Stipulating Parties reserve the right to argue their respective positions regarding the appropriate ratemaking treatment for recovering the costs of the Storms.

6. The Stipulating Parties agree to file a joint petition for rulemaking to establish the standards and procedures that will govern future financing petitions under N.C. Gen. Stat. § 62-172 upon the issuance of storm recovery bonds for the Storms.

***Accounting Adjustments***

7. The Company accepts the Public Staff's proposed adjustment to executive compensation to remove 50 percent of the benefits associated with the five Duke Energy executives with the highest amounts of compensation, in addition to the 50 percent of their

compensation removed in the Company's initial application.

8. The Stipulating Parties agree to amortize rate case expenses over a five-year period, but the unamortized balance will not be included in rate base.

9. The Stipulating Parties agree to remove aviation expenses associated with international flights, in addition to the 50 percent of the aviation expenses removed in the Company's initial application.

10. The Stipulating Parties agree that Company employee incentives should be adjusted to remove incentive pay related to earnings per share and total shareholder returns for the top levels of Company leadership.

11. The Stipulating Parties agree that certain sponsorships and donations expenses, including amounts paid to the U.S. Chamber of Commerce, should be excluded.

12. The Stipulating Parties agree that severance expenses should be amortized over a three-year period, but the unamortized balance will not be included in rate base.

13. The Company accepts the Public Staff's recommended adjustments to lobbying, Board of Directors, and retired hydro O&M expenses.

14. The Public Staff agrees to the Company's rebuttal position on credit card fees and advertising expenses.

15. The Company accepts the Public Staff's updated recommended adjustments to weather normalization, growth, and usage as reflected in Boswell Supplemental and Stipulation Exhibit 1.

16. The Stipulating Parties agree to remove the protected federal EDIT from the Company's proposed EDIT rider and return these amounts to customers through base rates.

## IV. AGREEMENT IN SUPPORT OF SETTLEMENT; NON-WAIVER.

1. The Stipulating Parties shall act in good faith and use their best efforts to recommend to the Commission that this Stipulation be accepted and approved. The Stipulating Parties further agree that this Stipulation is in the public interest because it reflects a give-and take of contested issues and results in rates (with respect to the stipulated issues) that are just and reasonable. The Stipulating Parties agree that they will support the reasonableness of this Stipulation before the Commission, and in any appeal from the Commission's adoption and/or enforcement of this Stipulation.

2. Neither this Stipulation nor any of the terms shall be admissible in any court or Commission except insofar as such court or Commission is addressing litigation arising out of the implementation of the terms herein or the approval of this Stipulation. This Stipulation shall not be cited as precedent by any of the Parties regarding any issue in any other proceeding or docket before this Commission or in any court.

3. The provisions of this Stipulation do not reflect any position asserted by any of the Stipulating Parties but reflect instead the compromise and settlement among the Stipulating Parties as to all the issues covered hereby. No Party waives any right to assert any position in any future proceeding or docket before the Commission or in any court.

4. This Stipulation is a product of negotiation among the Stipulating Parties, and no provision of this Stipulation shall be strictly construed in favor of or against any Party.

## V. RECEIPT OF TESTIMONY AND WAIVER OF CROSS-EXAMINATION

The pre-filed testimony and exhibits of the Stipulating Parties on Resolved Issues may be received in evidence without objection, and each Party waives all right to cross examine any witness with respect to such pre-filed testimony and exhibits. If, however, questions are asked by any Commissioner, or if questions are asked or positions are taken by any person who is not a Party, then any Party may respond to such questions by presenting testimony or exhibits and cross-examining any witness with respect to such testimony and exhibits.

**VI. STIPULATION BINDING ONLY IF ACCEPTED IN ITS ENTIRETY.**

This Stipulation is the product of negotiation and compromise of a complex set of issues, and no portion of this Stipulation is or will be binding on any of the Stipulating Parties unless the entire Agreement and Stipulation is accepted by the Commission. If the Commission rejects any part of this Stipulation or approves this Stipulation subject to any change or condition or if the Commission's approval of this Stipulation is rejected or conditioned by a reviewing court, the Stipulating Parties agree to meet and discuss the applicable Commission or court order within five business days of its issuance and to attempt in good faith to determine if they are willing to modify the Stipulation consistent with the order. No Party shall withdraw from the Stipulation prior to complying with the foregoing sentence. If any Party withdraws from the Stipulation, each Party retains the right to seek additional procedures before the Commission, including cross-examination of witnesses, with respect to issues addressed by the Stipulation and shall be bound or prejudiced by the terms and conditions of the Stipulation.

**VII. COUNTERPARTS.**

This Stipulation may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Execution by facsimile signature shall be deemed to be, and shall have the same effect as, execution by original signature.

## VIII. MERGER CLAUSE

This Stipulation supersedes all prior agreements and understandings between the Stipulating Parties and may not be changed or terminated orally, and no attempted change, termination or waiver of any of the provisions hereof shall be binding unless in writing and signed by the parties hereto.

The foregoing is agreed and stipulated this the 25th day of March 2020.

Duke Energy Carolinas, LLC

By: /s/ Stephen G. De May

Public Staff – North Carolina Utilities Commission

By: ______________________

/A

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1214**
**DOCKET NO. E-7, SUB 1213**
**DOCKET NO. E-7, SUB 1187**

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|---|---|
| In the Matter of:<br><br>DOCKET NO. E-7, SUB 1214<br>Application of Duke Energy Carolinas, LLC<br>For Adjustment of Rates and Charges<br>Applicable to Electric Service in North Carolina<br><br>DOCKET NO. E-7, SUB 1213<br>In the matter of<br>Petition of Duke Energy Carolinas, LLC for<br>Approval of Prepaid Advantage Program<br><br>DOCKET NO. E-7, SUB 1187<br>Petition of Duke Energy Carolinas, LLC for an<br>Accounting Order to Defer Incremental Storm<br>Damage Expenses Incurred as a Result of<br>Hurricanes Florence and Michael and Winter<br>Storm Diego | **SECOND AGREEMENT<br>AND<br>STIPULATION OF<br>PARTIAL SETTLEMENT** |

Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") and the Public Staff - North Carolina Utilities Commission (the "Public Staff") (collectively referred to herein as the "Stipulating Parties" or either individually, a "Stipulating Party"), through counsel and pursuant to N.C. Gen. Stat. § 62-69, respectfully submit the following Second Agreement and Stipulation of Settlement ("Second Partial Stipulation") for consideration by the North Carolina Utilities Commission ("Commission") in the above captioned dockets.

## I. BACKGROUND

1. On September 30, 2019, DE Carolinas filed an application ("Application") with the Commission requesting a general rate increase, pursuant to G.S. §§ 62-133 and -

134 and Commission Rule R1-17, along with direct testimony and exhibits requesting a non-fuel base rate increase of approximately 9.2% in retail revenues, or approximately $445.3 million. DE Carolinas further proposed to partially offset the increase in revenues by refunding $154.6 million, related to certain tax benefits resulting from the Federal Tax Cut and Jobs Act, through a proposed rider. The net revenue increase with the rider is $290.8 million, which represents an approximate overall 6.0% increase in annual revenues. The revenue increase was based upon a 10.30% return on equity ("ROE") and a 53% equity component of the capital structure.

2. On October 29, 2019, the Commission issued an order establishing the general rate case, suspending rates, scheduling hearings and requiring public notice of the Company's Application. On November 20, 2019, the Commission issued an order consolidating the general rate proceeding in Docket No. E-7, Sub 1219, with DE Carolinas' request for approval of its Prepaid Advantage Program in Docket No. E-7, Sub 1213.

3. On February 14, 2020, the Company filed supplemental direct testimony and exhibits. On February 18, 2020, the intervenors in this proceeding, including the Public Staff, filed testimony.

4. The Public Staff filed first supplemental testimony and exhibits on February 25, 2020, and corrections to certain testimony on February 19, February 24, and March 3, 2020.

5. On March 4, 2020, the Company filed its rebuttal testimony and on March 6, 2020, it filed supplemental rebuttal testimony.

6. On March 25, 2020, the Stipulating Parties reached a partial settlement with respect to some of the revenue requirement issues presented by the Company's

Application, including those arising from the supplemental and rebuttal testimonies and exhibits (the "First Partial Stipulation") which resolved several contested revenue requirement issues, including agreement as it relates to the ratemaking treatment of storm costs. That same day, the Public Staff filed supplemental and settlement testimony and exhibits, and the Company also filed settlement supporting testimony.

7. On April 6, 2020, the Company filed rebuttal and supplemental rebuttal testimony and on May 4, 2020, the Company filed additional supplemental rebuttal testimony.

8. On June 26, 2020, the Commission entered an *Order Consolidating Dockets* consolidating the rate case and Prepaid Advantage dockets with the Company's *Application for an Accounting Order to Defer Incremental Storm Damage Expenses Incurred as a Result of Hurricanes Florence and Michael and Winter Strom Diego* in Docket No. E-7, Sub 1187.

9. On July 2, 2020, the Company filed second supplemental direct testimony and exhibits updating certain material pro forma adjustments through May 31, 2020 ("the May 2020 Updates").

10. On July 7, 2020, the Public Staff filed a response to the filing of the May 2020 Updates. On July 9, 2020, the Company and Duke Energy Progress, LLC ("DE Progress") jointly filed a reply to the Public Staff's filing, and on July 14, 2020, the Public Staff filed a further response.

11. On July 20, 2020, the Company filed additional supplemental rebuttal testimony.

12. On July 21, 2020, the Commission issued its *Order on Duke Energy Carolinas, LLCs and Duke Energy Progress, LLCs Second Supplemental Testimony* requiring the Company to file a statement in each docket pursuant to the Commission's Order on or before July 27, 2020.

13. On July 27, 2020, the Public Staff, DE Carolinas and DE Progress filed a *Joint Motion to Postpone Hearing and Additional Procedural Deadlines*, which was approved by the Commission that same day in its *Order Granting Joint Motion and Further Rescheduling Consolidated, Remote Hearing* that rescheduled the consolidated, remote hearing for August 24, 2020.

14. The parties to this proceeding have conducted substantial discovery on the issues raised in the Application, as well as on the direct, supplemental, rebuttal, and supplemental rebuttal testimonies of the Company and the direct and supplemental testimonies of the Public Staff. The Stipulating Parties have reached a second partial settlement with respect to additional revenue requirement issues presented by the Company's Application, including those arising from the supplemental and rebuttal testimonies and exhibits. The Stipulating Parties have also reached settlement as it relates to other non-revenue requirement-related issues.

The Stipulating Parties agree and stipulate as follows:

## II. REVISED UNRESOLVED ISSUES

The Stipulating Parties have not reached a compromise on the following issues, which remain contested (the "Revised Unresolved Issues"):

A. Coal ash costs - Cost recovery of the Company's coal ash costs, recovery amortization period, and return during the amortization period.

B. Adjustment for Hydro Station Sale - The Company's proposed amortization period of seven (7) years of the loss on the sale versus the Public Staff's recommendation of a twenty (20) year amortization period.

C. Depreciation Rates – The depreciation rates appropriate for use in this case, including the Company's proposal to shorten the lives of certain coal-fired generating facilities.

D. Any other revenue requirement or non-revenue requirement issue other than those issues specifically addressed in this Second Partial Stipulation, the First Partial Stipulation, or agreed upon in the testimony of the Stipulating Parties.

## III. ADDITIONAL REVENUE REQUIREMENT ISSUES RESOLVED BETWEEN THE PARTIES

Since executing the First Partial Stipulation, the Stipulating Parties have reached an agreement regarding the following additional revenue requirement issues. The actual amount of the agreed-upon adjustments may differ due to the effects of the Revised Unresolved Issues or any issues arising out of the Public Staff's audit of the Company's May 2020 Updates. This Second Partial Stipulation provides sufficient support for the annual revenue required on the issues agreed to in this Second Partial Stipulation.[1] No Stipulating Party waives any right to assert a position in any future proceeding or docket

[1] The total increase in base rate revenues and the resulting average increase, if any, will not be determined until the Commission rules on the Revised Unresolved Issues and any issues arising out of the Public Staff's audit of the Company's May 2020 Updates.

before the Commission or in any court, as the adjustments agreed to in this Second Partial Stipulation are strictly for purposes of compromise and are intended to show a rational basis for reaching the agreed-upon revenue requirement adjustments without either Stipulating Party conceding any specific adjustment. The Stipulating Parties agree that settlement on these issues will not be used as a rationale for future adjustments on contested issues brought before the Commission. The areas of agreement are as follows:

***Excess Deferred Income Taxes***

A. With regard to Excess Deferred Income Taxes ("EDIT"), DE Carolinas and the Public Staff agree as follows:

1) Protected federal EDIT will be returned to customers in base rates via use of the Average Rate Assumption Method, as previously agreed to by the parties in the First Partial Stipulation.

2) The regulatory liabilities related to (a) unprotected federal EDIT (both the portion identified by the Company as related to property, plant, and equipment and the portion identified as not related to such) (collectively, "total unprotected federal EDIT"); (b) North Carolina EDIT, and (c) deferred revenues related to the provisional overcollection of federal income taxes ("deferred revenues") will be returned to customers through a rider by using the levelized rider calculation methodology described and set forth in the testimony and exhibits of the Public Staff in this proceeding.

3) Total unprotected federal EDIT will be returned to customers over a five-year amortization period (the "Unprotected Federal EDIT Amortization Period").

4) North Carolina EDIT will be returned to customers over a two-year

amortization period (the "NC EDIT Amortization Period").

5) Deferred revenues will be returned to customers over a two-year amortization period.

6) Should an increase or decrease in the federal income tax rate occur during the five-year Unprotected Federal EDIT Amortization Period, the Company may file for an adjustment to the unprotected federal EDIT levelized rider, updating the unamortized balance of unprotected federal EDIT, subject to review by the Public Staff and other intervenors in this proceeding, and approval by the Commission. The updated calculation will be filed with the Commission with supporting schedules no less than 90 days prior to the proposed rider change effective date. The Stipulating Parties agree to support the amortization periods as described in paragraphs 7 and 8 below.

7) If the net unamortized unprotected federal EDIT balance as of the effective date of the tax rate increase, after taking into account the effect of the tax rate change, remains a net regulatory liability owed to customers, the annual levelized amortization of the net regulatory liability will be recalculated to reflect amortization of the net balance over the remainder of the five-year Unprotected Federal EDIT Amortization Period made effective in this general rate case proceeding.

8) If the net unamortized unprotected federal EDIT balance as of the effective date of the tax rate increase, after taking into account the effect of the tax rate change, becomes a net regulatory asset recoverable from customers, the annual levelized amortization of the net regulatory asset will be recalculated to reflect

amortization of the net balance over a new time period of at least five years, beginning as of the date the rider is changed. The Public Staff and the Company agree that each Stipulating Party may propose a longer amortization period, if a five-year amortization produces a rate increase for customers that either Stipulating Party believes to be unreasonably high.

9) Any adjustment to the levelized unprotected federal EDIT rider made as a result of changes in the federal income tax rate will include a component taking into account the changes in rate base appropriate to reflect the levelized adjustment(s) made to the rider.

10) This agreement applies to any federal income tax rate changes occurring and becoming effective during the five-year Unprotected Federal EDIT Amortization Period made effective in this general rate case proceeding. It shall not apply to any tax rate change occurring after the five-year Unprotected Federal EDIT Amortization Period.

11) Should an increase or decrease in the North Carolina state income tax rate occur during the two-year NC EDIT Amortization Period, the Company may file for an adjustment to the North Carolina EDIT portion of the levelized rider, updating the unamortized balance of North Carolina EDIT, subject to review by the Public Staff and other intervenors in this proceeding, and approval by the Commission. The updated calculation will be filed with the Commission with supporting schedules no less than 90 days prior to the proposed rider change effective date. The Stipulating Parties agree to support the amortization periods as described in paragraphs 12 and 13 below.

12) If the net unamortized North Carolina EDIT balance as of the effective date of the tax rate increase, after taking into account the effect of the tax rate change, remains a net regulatory liability owed to customers, the annual levelized amortization of the net regulatory liability will be recalculated to reflect amortization of the net balance over the remainder of the two-year NC EDIT Amortization Period made effective in this general rate case proceeding.

13) If the net unamortized North Carolina EDIT balance as of the effective date of the tax rate increase(s), after taking into account the effect of the tax rate change(s), becomes a net regulatory asset recoverable from customers, the annual levelized amortization of the net regulatory asset will be recalculated to reflect amortization of the net balance over a new time period of five years, beginning as of the date the rider is changed. The Public Staff and the Company agree that each Stipulating Party may propose a longer amortization period, if a five-year amortization produces a rate increase for customers that either Stipulating Party believes to be unreasonably high.

14) Any adjustment to the North Carolina EDIT portion of the levelized rider made as a result of changes in the North Carolina state income tax rate will include a component taking into account the changes in rate base appropriate to reflect the levelized adjustment(s) made to the rider.

15) This agreement applies to any North Carolina state income tax rate changes occurring and becoming effective during the two-year NC EDIT Amortization Period made effective in this general rate case proceeding. It shall not apply to any tax rate change occurring after the two-year NC EDIT Amortization Period.

***Cost of Capital***

B. Revenues approved for DE Carolinas in this proceeding should be adjusted to provide DE Carolinas, through sound management, the opportunity to earn a return on equity ("ROE") of 9.60%. This ROE will be applied to the common equity component of the Company's ratemaking capital structure consisting of 52% equity and 48% long-term debt. The embedded cost of debt agreed to by the Stipulating Parties as appropriate and reasonable for purposes of this proceeding is the May 2020 debt cost of 4.27%. The weighted overall rate of return resulting from the above inputs is 7.04%.

***Grid Improvement Plan***

C. For purposes of settlement, the Public Staff agrees to the Company's requested deferral accounting treatment, as described in more detail below, for the following Grid Improvement Plan ("GIP") programs, as set forth in Company witness Oliver's Exhibit 10, limited to the estimated three-year capital budget period of 2020-2022: Self-Optimizing Grid ("SOG") (all subprograms including Capacity and Connectivity, Segmentation and Automation, ADMS), Integrated Volt Var Control ("IVVC"), Integrated System and Operations Planning ("ISOP"), Transmission System Intelligence, Distribution Automation, Power Electronics, DER Dispatch Tool, and Cyber Security. For all other GIP investments proposed by the Company in this docket, the Company agrees that it will withdraw its request for deferral accounting.

D. The Stipulating Parties' agreement regarding deferral treatment of GIP costs constitutes only approval of the decision to incur GIP program costs. The Public Staff reserves the right to review costs for reasonableness and prudence.

E. DE Carolinas, in conjunction with the concurrent commitment of DE

Progress, and the Public Staff will work together to develop biannual reporting requirements to track GIP expenditures that receive accounting deferral treatment. At a minimum, the reporting requirements will include (1) tracking of costs for each program, including the number of devices installed, types of projects completed, or circuits modified or impacted; (2) reporting on a circuit and substation level; (3) a summary of actual benefits compared to projected benefits, (4) operational system impacts of SOG and IVVC (i.e., number of SOG activations and failure rates, voltage and load reduction gained from IVVC), and (5) supporting data and analyses that informed significant changes to the original scope for the SOG and IVVC programs. The first of these reports shall be filed reflecting GIP expenditures eligible for deferral occurring in the last six months of 2020.

F. The Company agrees to assess the cost effectiveness of GIP-related projects in an ongoing manner. In addition, the Company agrees to undertake a cost benefit analysis for its automated lateral device program.

G. Deferral should be restricted to incremental capital costs (return, property tax, and depreciation) related to plant in service and incremental expenses (offset by incremental operating benefits) (in total, Eligible Net Costs) for plant placed in service between June 1, 2020 and December 31, 2022 (Eligible Plant), and a return on the deferred balance (Carrying Costs). Deferral of any specific portion of Eligible Net Costs and Carrying Costs (as reasonably determined through direct assignment or allocation) shall cease upon the effective date of any general rate case in which the associated Eligible Plant is recognized as included in rate base. If no general rate case order that recognizes the entirety of Eligible Plant in rate base has been issued by December 31, 2024, the Company shall cease deferral of all Eligible Net Costs and Carrying Costs, and shall consult with the

Public Staff regarding beginning the amortization of the deferred costs for regulatory accounting and ratemaking purposes.

H. The Stipulating Parties agree that the deferral will not include overhead or administrative and general costs. However, the capitalized project costs will be allowed to include a reasonable allocation of management and supervision costs for people who manage and supervise GIP projects (limited to costs for which the expensed portion is normally recorded in the 500 series of FERC USOA accounts). For purposes of this deferral, these costs are not considered overhead and shall not be excluded.

***Cost of Service***

I. For this case only, the Public Staff accepts, subject to the conditions in Section IV. B. below, the Company's proposal to calculate and allocate the Company's cost of service based on a Summer Coincident Peak ("SCP") methodology. This provision shall not constitute precedent and shall have no effect on the Rate Design Study proposed by the Public Staff and agreed to by the Company.

***Accounting Adjustments***

J. Concerning the Company's May 2020 Updates to certain pro forma adjustments, the Stipulating Parties agree to include these updates, pending and subject to the Public Staff's audit of the updates. In addition, the Stipulating Parties agree to limit the update to revenues to 75% of the difference between the May 2020 Updates and the Company's January 2020 update to recognize the uncertainty regarding the effects of COVID-19. This 75% limitation is applicable only if the net effect of the updates on revenues is a revenue requirement increase. The Stipulating Parties further agree that the May 2020 Updates shall also include updates for benefits and executive compensation through May 2020.

K. The Company accepts the Public Staff's recommended system disallowance of $19.1 million for the Clemson Combined Heat and Power Project.

L. The Stipulating Parties agree to amortize deferred non-asset retirement obligation ("non-ARO") environmental costs over an 8-year period.

## IV. OTHER AREAS OF AGREEMENT

The Stipulating Parties also agree to the following:

***May 2020 Updates***

A. The Stipulating Parties agree that the Public Staff shall have until September 8, 2020 to audit the DE Carolinas May 2020 Updates, and file testimony or affidavits, with schedules, addressing both the updates and the information requested by the Commission by its Order Requiring Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, to File Additional Testimony on Grid Improvement Plans and Coal Combustion Residual Costs dated July 23, 2020. To the extent that the expert evidentiary hearings on DE Carolinas' Application (including consolidated and Company-specific portions) are completed prior to September 8, 2020, the record shall remain open to allow the Public Staff the opportunity to file testimony or affidavits, with schedules; and to allow the Company to file a response, if necessary. In order to accomplish this timeline, the Company commits to provide complete responses to data requests within four business days of the receipt of the Public Staff's requests and commits to verbally engaging with the Public Staff to resolve any questions or ambiguities as soon as reasonably possible. To the extent the Company believes it necessary or appropriate to file rebuttal testimony, the Company shall have no fewer than two business days to review the Public Staff's filing and serve discovery. The Public Staff shall have no fewer than one business day to respond. The Company shall file rebuttal within five business days after the filing of Public Staff testimony. The Public Staff and intervenors shall have no fewer than two business days outside of the hearing to review the rebuttal and serve discovery. The Companies shall have no fewer than one business day to respond. If the filings of the Public Staff and the Company require resumption of the hearings, such hearings shall be resumed within three business days after the filing of the Company's rebuttal testimony, and the record shall accordingly remain open through the completion of the hearing and filing of any late-filed exhibits.

***Additional Cost of Service Studies***

B. DE Carolinas has based its filing in this Docket on the SCP methodology for cost allocation among jurisdictions and among customer classes. The Public Staff advocates the use of the Summer-Winter Peak and Average ("SWPA") methodology for those purposes. As noted in Section III above, the Stipulating Parties agree that for purposes of settlement, the Company may use the SCP methodology. However, the Stipulating Parties agree that prior to the filing of its next general rate case, the Company shall undertake an analysis of additional cost of service studies subject to the following conditions:

1) The Company agrees to analyze and develop cost of service studies based on each of the following methodologies:

a. Single Summer Coincident Peak;

b. Single Winter Coincident Peak;

c. One that utilizes the four highest monthly system peaks (two monthly peaks in summer and two monthly peaks in winter);

d. SWPA;

e. Base Intermediate and Peak (as described in the Regulatory Assistance Project ("RAP") "Electric Cost Allocation for a New Era" Manual, published January 2020); since the Company's accounting systems do not have the data developed to produce such a study, this method may be analyzed by looking at how it has been used at another utility or with a higher level hypothetical analysis;

f. One that utilizes the twelve highest monthly system peaks in the test year; and

g. Any other identified relevant methodologies.

To the extent cost of service studies were developed in the current rate cases for these methodologies, those studies may be used for the analysis, and to the extent cost of service studies for a methodology have not already been developed, the underlying adjusted cost of service data from the current rate cases may be used to develop the studies.

2) Each methodology studied will include an evaluation of the allocation of the functions of utility service (production plant, transmission plant, distribution plant, and customer costs), including an identification of which cost components associated with these functions of utility service are fixed, and which are variable costs of service. The above methodologies only impact production and transmission allocations; however, the cost of service studies will show the allocation of all functions. For purposes of these studies, all demand and customer

classified costs can be designated as fixed and all energy classified costs can be designated as variable.

3) Each methodology studied will include an evaluation of its strengths and weaknesses on both a jurisdictional and class allocation basis.

4) Included in the studies shall be a discussion of how the allocation of fuel and other variable operations and maintenance ("O&M") expenses align with system planning.

5) The Company shall consult with the Public Staff and any other interested parties throughout the study process.

This settlement shall not be a precedent for, and may be contested in, future general rate case proceedings, and the Company will continue to file annual cost of service studies based on both the SCP and SWPA methodologies until instructed to do otherwise by the Commission. The Company also agrees that it will not cite Commission approval of the Second Partial Stipulation as support for approval of the SCP methodology in future proceedings.

***Rate Design***

C. The Company agrees that any proposed revenue change will be apportioned to the customer classes such that:

1) With the exception of DE Carolinas' lighting customer class where the Rate of Return ("ROR") falls significantly below the overall North Carolina retail ROR, any revenue increase assigned to any customer class is limited to no more than two percentage points greater than the overall jurisdictional revenue percentage increase, thus avoiding rate shock;

2) Class RORs are maintained within a band of reasonableness of ± 10% relative to the overall NC retail ROR; for class RORs currently above the band of reasonableness, the Company will gradually move class RORs closer to the band of reasonableness;

3) All class RORs move closer to parity with the North Carolina retail ROR; and

4) Subsidization among the customer classes is minimized.

D. The Stipulating Parties agree that the proposed modifications to the Company's rate schedules are reasonable for purposes of this proceeding.

E. The Stipulating Parties agree that the Commission should order a comprehensive rate design study that will address rate design questions related to, among other things:

1) Firm and non-firm utility service, and the degree of customer-owned generation receiving both types of service.

2) Various types of end-uses such as electric vehicles ("EVs"), microgrids, energy storage, and distributed energy resources ("DERs").

3) The formats of future rate schedules (basic customer charges, demand charges, energy charges, etc.).

4) Marginal cost versus average cost rate designs and pricing.

5) Unbundling of average rates into the various functions of utility service (i.e., production, transmission, distribution, customer, general/administrative, etc.).

6) Socialization of costs versus categorization of specific costs and corresponding impact on rates/revenues.

F. The Stipulating Parties agree that the Company's Prepaid Advantage program should be approved, subject to the conditions in the Commission's November 15, 2019 Order in Docket No. E-7, Sub 1210.

G. The Stipulating Parties agree that the Commission should order the Company to convene a stakeholder process that is tasked with addressing affordability issues for low-income residential customers, with a timeline for the process, including deadlines for periodic reporting and filing recommendations to the Commission. The Stipulating Parties propose one year for this process. The recommended topics to be discussed, investigated, and analyzed should include:

1) How "affordability" has changed over time and seek to define it for purposes of utility service today.

2) The success of existing rates, assistance, and energy efficiency programs to address affordability.

3) The data related to load, cost, and revenue profiles of low-income customers and the residential class in general, cost-causation, impact to cost-of-service, potential for subsidization, impact on revenues and rates for all customers, program eligibility, extent of assistance needed to be meaningful, definition of a "successful program," and other reasonably appropriate matters as agreed to by the Stipulating Parties.

H. The Stipulating Parties agree that DE Carolinas will develop and propose EV rate designs as part of the rate design study agreed to in this Second Partial Stipulation.

I. The Stipulating Parties agree that any costs associated with Rider MRM not recovered by the rider itself should be socialized and recovered from all customers.

***Audits and Reporting Obligations***

J. The Company agrees to work with the Public Staff on document retention, project reporting and other reasonably applicable matters to better assist the Public Staff in future audits of plant within 90 days after the Commission issues its final order in this rate case.

K. The Company agrees to conduct an independent review/audit of its Material & Supplies inventory to be performed by the Company's Internal Audit Services. The terms of the audit should, at a minimum, meet those recommended in the testimony of Public Staff witness Metz.

L. The Stipulating Parties agree to schedule a meeting to discuss the Company's plant unitization policies and reach agreement on reporting obligations.

***Quality of Service***

M. The Stipulating Parties agree that the overall quality of electric service provided by the Company is good.

***Base Fuel and Fuel-Related Cost Factors***

N. Should no final Commission Order be issued in Docket No. E-7, Sub 1228 (DE Carolinas' currently ongoing annual fuel rider proceeding) prior to the date the proposed orders are due in this general rate case proceeding, the total of the approved base fuel and fuel related cost factors, by customer class, will be as set forth in the following table (amounts are ¢/kWh excluding regulatory fee):

| | Residential | General Service/Lighting | Industrial |
|---|---|---|---|
| Total Base Fuel (matches approved fuel rate effective September 1, 2019, in E-7, Sub 1190) | 1.8126 | 1.9561 | 1.8934 |

Should a final Commission Order be issued in the fuel rider proceeding prior to the date the proposed orders are due in this general rate case proceeding, the total of the approved base fuel and fuel related cost factors, by customer class, will be the sum of the respective base fuel and fuel-related cost factors set in Docket No. E-7, Sub 1146 and the annual non-EMF fuel and fuel-related cost riders approved by the Commission in Sub 1228.

***Shareholder Contribution***

O. The Company will make an annual $2.5 million shareholder contribution to the Share the Warmth Fund in 2021 and 2022, for a total contribution of $5 million.

## V. AGREEMENT IN SUPPORT OF SETTLEMENT; NON-WAIVER

1. The Stipulating Parties shall act in good faith and use their best efforts to recommend to the Commission that this Second Partial Stipulation be accepted and approved. The Stipulating Parties further agree that this Second Partial Stipulation is in the public interest because it reflects a give-and take of contested issues and results in rates (with respect to the stipulated issues) that are just and reasonable. The Stipulating Parties agree that they will support the reasonableness of this Second Partial Stipulation before the Commission, and in any appeal from the Commission's adoption and/or enforcement of this Second Partial Stipulation.

2. Neither this Second Partial Stipulation nor any of the terms shall be admissible in any court or Commission except insofar as such court or Commission is addressing litigation arising out of the implementation of the terms herein or the approval of this Second Partial Stipulation. This Second Partial Stipulation shall not be cited as precedent by any of the Parties regarding any issue in any other proceeding or docket

before this Commission or in any court.

3. The provisions of this Second Partial Stipulation do not reflect any position asserted by any of the Stipulating Parties but reflect instead the compromise and settlement among the Stipulating Parties as to all the issues covered hereby. No Party waives any right to assert any position in any future proceeding or docket before the Commission or in any court.

4. This Second Partial Stipulation is a product of negotiation among the Stipulating Parties, and no provision of this Second Partial Stipulation shall be strictly construed in favor of or against any Party.

## VI. RECEIPT OF TESTIMONY AND WAIVER OF CROSS-EXAMINATION

The pre-filed testimony and exhibits of the Stipulating Parties on Resolved Issues may be received in evidence without objection, and each Party waives all right to cross examine any witness with respect to such pre-filed testimony and exhibits. However, the Public Staff reserves the right to cross examine Company witnesses regarding settlements reached with other parties in this proceeding. Further, if questions are asked by any Commissioner, or if questions are asked or positions are taken by any person who is not a Party, then any Party may respond to such questions by presenting testimony or exhibits and cross-examining any witness with respect to such testimony and exhibits.

## VII. STIPULATION BINDING ONLY IF ACCEPTED IN ITS ENTIRETY

This Second Partial Stipulation is the product of negotiation and compromise of a complex set of issues, and no portion of this Second Partial Stipulation is or will be binding on any of the Stipulating Parties unless the entire Second Agreement and Stipulation is accepted by the Commission. If the Commission rejects any part of this Second Partial Stipulation or approves this Second Partial Stipulation subject to any change or condition or if the Commission's approval of this Second Partial Stipulation is rejected or conditioned by a reviewing court, the Stipulating Parties agree to meet and discuss the applicable Commission or court order within five business days of its issuance and to attempt in good faith to determine if they are willing to modify the Second Partial Stipulation consistent with the order. No Party shall withdraw from the Second Partial Stipulation prior to complying with the foregoing sentence. If any Party withdraws from the Second Partial Stipulation, each Party retains the right to seek additional procedures before the Commission, including cross-examination of witnesses, with respect to issues addressed by the Second Partial Stipulation and shall be bound or prejudiced by the terms and conditions of the Second Partial Stipulation.

## VIII. COUNTERPARTS

This Second Partial Stipulation may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Execution by facsimile signature shall be deemed to be, and shall have the same effect as, execution by original signature.

## IX. MERGER CLAUSE

Apart from the First Partial Stipulation, this Second Partial Stipulation supersedes all prior agreements and understandings between the Stipulating Parties. This Second Partial Stipulation may not be changed or terminated orally, and no attempted change, termination or waiver of any of the provisions hereof shall be binding unless in writing and signed by the parties hereto.

Lawrence B. Somers
Deputy General Counsel

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May 29, 2020

**VIA ELECTRONIC FILING**

Ms. Kimberley A. Campbell
Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

**Re: Duke Energy Carolinas, LLC's Agreement and Stipulation of Settlement with CIGFUR**
**Docket No. E-7, Sub 1214**

Dear Ms. Campbell:

I enclose the Agreement and Stipulation of Settlement between Duke Energy Carolinas, LLC and Carolina Industrial Group for Fair Utility Rates III for filing in connection with the referenced matter.

Thank you for your attention to this matter. If you have any questions, please let me know.

Sincerely,

Lawrence B. Somers

Enclosure

cc: Parties of Record

**STATE OF NORTH CAROLINA**
**UTILITIES COMMISSION**
**RALEIGH**

**DOCKET NO. E-7, SUB 1214**

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

| | | |
|---|---|---|
| In the Matter of:<br>Application of Duke Energy Carolinas, LLC<br>For Adjustment of Rates and Charges<br>Applicable to Electric Service in North<br>Carolina | )<br>)<br>)<br>)<br>) | **AGREEMENT AND STIPULATION OF SETTLEMENT** |

Duke Energy Carolinas, LLC ("DEC" or the "Company") and the Carolina Industrial Group for Fair Utility Rates III ("CIGFUR III"), collectively referred to herein as the "Stipulating Parties" through counsel and pursuant to N.C. Gen. Stat. § 62-69, respectfully submit the following Agreement and Stipulation of Settlement ("Stipulation") for consideration by the North Carolina Utilities Commission ("Commission") in the above captioned docket (the "Docket").

## I. Background

A. On August 29, 2019, the Company filed its Notice of Intent to file a General Rate Case Application in the Docket.

B. On September 23, 2019, CIGFUR III filed its Petition to Intervene. The Commission granted CIGFUR III's intervention in an order dated September 6, 2019.

A. On September 20, 2019, the Company filed its application for a general rate increase pursuant to N.C. Gen. Stat. §§ 62-133 and 62-134 and Commission Rule R1-17, along with direct testimony and exhibits requesting a non-fuel base rate increase of approximately $445.3 million. DEC further proposed to partially offset the increase in revenues by refunding $154.6 million related to certain tax benefits resulting from the Federal Tax Cut and Jobs Act through a proposed rider. The net revenue increase with the rider is $290.8 million. Further, DEC's filing requested that the Commission authorize a rate of return on equity ("ROE") of 10.30% and approve a 53 percent equity component of the capital structure.

B. On October 29, 2019, the Commission issued its Order Establishing General Rate Case, Suspending Rates, Scheduling Hearings and Requiring Public Notice.

C. On November 20, 2019, the Commission issued an order consolidating the general rate proceeding in Docket No. E-7, Sub 1214, with DEC's request for approval of its Prepaid Advantage Program in Docket No. E-7, Sub 1213.

D. On February 14, 2020, the Company filed supplemental direct testimony and exhibits.

E. On February 18, 2020, CIGFUR III filed the Direct Testimony and Exhibits of Nicholas Phillips, Jr. Mr. Phillips' focused on cost allocation methodology and revenue distribution between the customer classes, industrial rate design, the Company's requested ROE and capital structure, the Company's request to defer Grid Improvement Plan ("GIP") costs, and Rider EDIT-2[1].

F. On March 4, 2020, the Company filed its rebuttal testimony.

G. On March 25, 2020, DEC and the Public Staff, North Carolina Utilities Commission filed an Agreement and Stipulation of Partial Settlement as to certain issues in the Docket.

H. On May 28, 2020, DEC filed a Settlement Agreement with Harris Teeter, LLC as to certain issues in the Docket.

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[1] Mr. Phillips did not provide an opinion on a number of the contested issues underlying this docket and nothing in this Stipulation should be interpreted as CIGFUR III's agreement with the Company's proposals on any issue not expressly described herein.

I. The parties to this proceeding have conducted substantial discovery on the issues raised in the Company's Application as well as on the direct, supplemental, and rebuttal testimony of the Company and the testimony of the intervenors.

J. The Company and CIGFUR III now desire to resolve and settle issues that will narrow the number of issues in controversy in this docket.

## II. Rate of Return & Capital Structure

The Stipulating Parties agree that the revenues to be approved in this proceeding should be adjusted to provide the Company, through sound management, the opportunity to earn an ROE of 9.75%. The Stipulating Parties further agree that this ROE should be applied to the common equity component of the stipulated ratemaking capital structure consisting of 52% equity and 48% long-term debt.

## III. Grid Improvement Plan

A. For the purposes of settlement only and without taking a position on the appropriateness of the individual items comprising the proposed three-year GIP, CIGFUR III supports the Company's request in the Docket for an accounting order for approval to defer costs associated with the incremental grid investments not included in this case and incurred over a three-year period for cost recovery consideration in future general rate cases. Because the three-year GIP plan contains estimates, CIGFUR III's support for the GIP deferral will be subject to a reservation of its rights to review and object to the reasonableness of specific project costs in future rate cases. To the extent that DEC enters into an agreement with other intervening parties agreeing to a cost cap or to otherwise limit the maximum allowed amount of the three-year GIP deferral, CIGFUR III supports such cost containment measures.

B. With regard to allocating the deferred GIP costs amongst the customer classes, in its next general rate case, DEC will propose to allocate these costs consistent with its distribution cost allocation methodologies as proposed in this Docket. This includes use of the minimum system methodology and use of voltage differentiated allocation factors for distribution plant. Finally, assuming NCUC approval, DEC agrees to use this methodology to allocate any GIP costs occurring during the three-year period for which it may seek cost recovery in future rate cases.

C. For GIP costs incurred beyond the three-year period nothing herein shall be precedent for appropriateness of future deferrals or the allocation of deferred costs and these issues may be contested in future general rate case proceedings.

## IV. Unprotected Excess Deferred Income Taxes

The Stipulating Parties agree that unprotected Excess Deferred Income Taxes and deferred revenue giveback to be provided through the EDIT rider should be refunded to customers on a uniform cent/kWh basis.

## V. Cost Allocation & Rate Design

A. Prior to the Company's next general rate case, the Stipulating Parties agree to meet to discuss potential cost of service methodologies that the Company may recommend for the purpose of allocating production and transmission costs. In addition, in its next general rate case, the Company shall also file the results of a class cost of service study with production and transmission costs allocated on the basis of the Summer/Winter Coincident Peak method and consider such results for the sole purpose of apportionment of the change in revenue to the customer classes.

B. In its next general rate case, the Company will adjust its peak demand to remove curtailable/non-firm load, even if it does not call the load. If the Commission approves this adjustment in the Company's next general rate case, then DEC will propose use of this adjustment in its next subsequent rate case.

C. In the Company's next two annual fuel cost recovery proceedings (to be filed in 2021 and 2022), it will propose the uniform percentage average bill adjustment methodology that was most recently approved by the Commission in the Company's 2019 fuel cost recovery proceeding.

D. In its next three general rate cases, DEC agrees to propose to allocate distribution expenses using the minimum system approach; however if the Commission orders a different approach be used in the current rate case or either of the next two rate cases, DEC may elect to propose the minimum system approach in the next subsequent rate case after the NCUC denial, but DEC is not obligated to do so.

E. Should the Company independently undertake or should the Commission order a comprehensive rate design process prior to the Company's next general rate case, the Company agrees to explore the following: (1) a rate schedule targeted at high load users similar to Duke Energy Indiana's HLF rate, (2) allowing customers to move existing load to the existing HP-Hourly Pricing rate, and (3) an emergency demand response program similar to Southern California Edison's Time-of-Use Base Interruptible Program (TOU-BIP) tariff. If there is mutual agreement between CIGFUR and the Company on the terms of any of the above-referenced rates, and CIGFUR indicates that at least one of its member customers is willing to take service under such rates, the Company agrees to file said rates with the Commission for approval in its next rate case filing.

1. In the event that the NCUC does not order or DEC does not independently undertake a comprehensive rate design process prior to its next general rate case, then prior to its next general rate case, the Company agrees to consult with CIGFUR on: (1) a rate schedule targeted at high load users similar to Duke Energy Indiana's HLF rate, (2) allowing customers to move existing load to the existing HP-Hourly Pricing rate, and (3) an emergency demand response program similar to Southern California Edison's Time-of-Use Base Interruptible Program (TOU-BIP) tariff. If there is mutual agreement between CIGFUR and the Company on the terms of discussed rates, and CIGFUR indicates that at least one of its member customers is willing to take service under such rates, the Company agrees to file said rates with the Commission for approval in its next rate case filing.

2. In the event that rate(s) proposed by the Company pursuant to either section V.C. or section V.C.1., above, are withdrawn by the Company or not approved by the Commission, the Company shall be obligated to work with CIGFUR to identify an agreeable alternative, and if there is mutual agreement between CIGFUR and the Company on the terms of alternative rate(s), and CIGFUR indicates that at least one of its member customers is willing to take service under such rate(s), the Company agrees to file said alternative rates with the Commission for approval in its subsequent rate case filing.

## VI. Agreement in Support of Settlement; Non-Waiver

A. The Stipulating Parties shall act in good faith and use their best efforts to recommend to the Commission that this Stipulation be accepted and approved. The Stipulating Parties further agree that this Stipulation is in the public interest because it reasonably balances customer interests in mitigating rate impacts with investor interests in providing for reasonable recovery of investments, thereby providing the necessary level of revenue requirement to allow the Company to maintain its financial strength and credit quality and continue to provide high quality electric utility service to its customers. The Stipulating Parties intend to support the reasonableness of this Stipulation in any hearing before the Commission and any proposed order or brief in this docket.

## VII. Receipt of Testimony and Waiver of Cross-Examination

The Stipulating Parties agree that all pre-filed testimony and exhibits filed by the Stipulating Parties may be received into evidence without objection. Each Stipulating Party waives all right to cross-examine each other's witnesses with respect to such pre-filed testimony and exhibits. If, however, questions are asked by any Commissioner, or if questions are asked or positions are taken by any person who is not a Stipulating Party, then any Stipulating Party may respond to such questions by presenting testimony or exhibits and cross-examining any witness with respect to such testimony and exhibits, provided such testimony, exhibits, and cross-examination are not inconsistent with this Stipulation.

## VIII. Stipulation Binding Only If Accepted in its Entirety

This Stipulation is the product of negotiation and compromise of a complex set of issues, and no portion of this Stipulation is or will be binding on any of the Stipulating Parties unless the entire Agreement and Stipulation is accepted by the Commission. If the Commission rejects any part of this Stipulation or approves this Stipulation subject to any change or condition or if the Commission's approval of this Stipulation is rejected or conditioned by a reviewing court, the Parties agree to meet and discuss the applicable Commission or court order within five business days of its issuance and to attempt in good faith to determine if they are willing to modify the Stipulation consistent with the order. No Party shall withdraw from the Stipulation prior to complying with the foregoing sentence. If any Party withdraws from the Stipulation, each Party retains the right to seek additional procedures before the Commission, including cross-examination of witnesses, with respect to issues addressed by the Stipulation and shall not be bound or prejudiced by the terms and conditions of the Stipulation.

## IX. Counterparts

This Stipulation may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Execution by facsimile signature shall be deemed to be, and shall have the same effect as, execution by original signature.

The foregoing is agreed upon and stipulated to this the 29th day of May 2020.

**DUKE ENERGY CAROLINAS, LLC**

By: ______________________
Lawrence B. Somers, Deputy General Counsel

**CAROLINA INDUSTRIAL GROUP FOR FAIR UTILITY RATES III**

By: Warren K. Hicks
Warren K. Hicks, CIGFUR III Counsel

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC's Agreement and Stipulation of Settlement with CIGFUR, in Docket No. E-7, Sub 1214, has been served by electronic mail, hand delivery or by depositing a copy in the United States mail, postage prepaid to the following parties:

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This the 29th day of May, 2020.

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BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1214

| | | |
|---|---|---|
| **In the Matter of** | ) | |
| **Application of Duke Energy Carolinas, LLC** | ) | **Amendment to** |
| **For Adjustment of Rates and Charges Applicable** | ) | **Agreement and Stipulation** |
| **To Electric Service in North Carolina** | ) | **of Settlement** |

This Amendment to Agreement and Stipulation of Settlement is entered into this the 6th day of August 2020 by and between Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") and Carolina Industrial Group for Fair Utility Rates III ("CIGFUR III") (collectively, the "Settling Parties").

WHEREAS, on September 30, 2019, DE Carolinas filed an application for a general rate increase with the North Carolina Utilities Commission in Docket No. E-7, Sub 1214 (the "Docket") that included a proposal for a Grid Improvement Plan ("GIP") and a deferral of associated costs for future cost recovery;

WHEREAS, CIGFUR III has intervened in the Docket, and in its pre-filed testimony CIGFUR III addressed issues on cost allocation methodology and revenue distribution between the customer classes, industrial rate design, the Company's requested return on equity ("ROE") and capital structure, the Company's request to defer Grid Improvement Plan costs, and Rider EDIT-2; and

WHEREAS, DE Carolinas and CIGFUR III filed an Agreement and Stipulation of Settlement on May 29, 2020 ("May 29, 2020 Agreement");

WHEREAS DE Carolinas and the Public Staff – North Carolina Utilities Commission filed a Second Agreement and Stipulation of Partial Settlement on July 31, 2020, which among other items stipulated to a Return on Equity of 9.6%; and

WHEREAS, DE Carolinas and CIGFUR III wish to make changes in Paragraph II of the May 29, 2020 Agreement.

NOW, THEREFORE, for and in consideration of the foregoing, the mutual commitments and promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Settling Parties do hereby mutually agree and consent to the amendment of the May 29, 2020 Agreement, which Agreement is hereby modified effective as of the date set forth above in the following respects only:

II. The Stipulating Parties agree that the revenues to be approved in this proceeding should be adjusted to provide the Company, through sound management, the opportunity to earn a return on equity ("ROE") of 9.75%. The Stipulating Parties further agree that this ROE should be applied to the common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt. Notwithstanding the terms of this paragraph, to the extent that the North Carolina Utilities Commission enters a final order in this docket approving an ROE of 9.6% to be applied to a common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt, the Stipulating Parties agree that the provisions of this Paragraph II shall have been fulfilled.

Except as expressly modified herein, the May 29, 2020 Agreement between the Settling Parties shall remain in full force and effect and is hereby ratified and affirmed.

IN WITNESS WHEREOF, the Parties have signed and executed as of the date set forth above.

**DUKE ENERGY CAROLINAS, LLC**

By: ______________________________
Lawrence B. Somers, Deputy General Counsel

**CAROLINA INDUSTRIAL GROUP FOR FAIR UTILITY RATES III**

By: ______________________________
Christina D. Cress, Counsel for CIGFUR III

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1214**

| | | |
|---|---|---|
| In the Matter of: | ) | |
| | ) | |
| Application of Duke Energy Carolinas, LLC For Adjustment of Rates and Charges Applicable to Electric Service in North Carolina | ) ) ) | **AGREEMENT AND STIPULATION OF SETTLEMENT** |
| | ) | |

Duke Energy Carolinas, LLC ("DEC" or the "Company") and the North Carolina Sustainable Energy Association ("NCSEA"), the North Carolina Justice Center ("NCJC"), the North Carolina Housing Coalition ("NCHC"), the Natural Resources Defense Council ("NRDC"), and the Southern Alliance for Clean Energy ("SACE") (collectively "NCSEA/NCJC et al."), (collectively with DEC the "Stipulating Parties"), through counsel and pursuant to N.C. Gen. Stat. § 62-69, respectfully submit the following Agreement and Stipulation of Settlement ("Stipulation") for consideration by the North Carolina Utilities Commission ("Commission") in the above captioned docket (the "Docket").

## I. BACKGROUND

1. On August 29, 2019, the Company filed its Notice of Intent to file a General Rate Case Application in the Docket.

2. On September 16, 2019, the North Carolina Sustainable Energy Association filed its Petition to Intervene. The Commission granted NCSEA's intervention in an order dated September 18, 2020.

3. On September 30, 2019, DEC filed its application requesting a general rate increase, pursuant to N.C.Gen. Stat. §§ 62-133 and -134 and Commission Rule R1-17, along with direct testimony and exhibits.

4. On October 29, 2019, the Commission issued an order establishing a general rate case, suspending rates, scheduling hearings and requiring public notice of the Company's Application.

5. On December 9, 2019, the North Carolina Justice Center, the North Carolina Housing Coalition, the Natural Resources Defense Council, and the Southern Alliance for Clean Energy ("NCJC et al.") filed a Petition to Intervene. The Commission granted NCJC et al.'s intervention in an order dated December 11, 2019.

6. On February 18, 2020, NCSEA/NCJC et al. filed the Direct Testimony and Exhibits of Paul J. Alvarez and Dennis Stephens in the Docket. The subject of Mr. Alvarez's and Mr. Stephen's respective testimonies was the Company's grid modernization efforts, including the Company's specific Grid Improvement Plan ("GIP") proposals in the Docket.

7. Also on February 18, 2020, NCJC et al. filed the Direct Testimony and Exhibits of John Howat in the Docket. The subject of Mr. Howat's testimony was affordability of electric service for DEC's customers, as well as rate designs, policies and programs to improve affordability; in addition, Mr. Howat's testimony addressed the Company's Prepaid Advantage proposal in Docket No. E-7, Sub 1213.

8. Also on February 18, 2020, NCSEA filed the Direct Testimony and Exhibits of Justin Barnes in the Docket. The subject of Mr. Barnes's testimony was to advocate for the establishment of new rate designs specifically targeting electric vehicle ("EV") charging both in the residential and commercial context.

9. On March 4, 2020, the Company filed its rebuttal testimony.

10. On March 25, 2020, DEC and the Public Staff, North Carolina Utilities Commission filed an Agreement and Stipulation of Partial Settlement as to certain issues in this Docket.

11. On May 28, 2020, DEC filed a Settlement Agreement with Harris Teeter, LLC as to certain issues in the Docket.

12. On May 29, 2020, DEC filed a Settlement Agreement with CIGFUR as to certain issues in the Docket.

13. On June 1, 2020, DEC filed a Settlement Agreement with the Commercial Group as to certain issues in the Docket.

14. On June 17, 2020, the Commission issued its Order Adopting Procedures for Expert Witness Hearings, which partially consolidated the hearing in this Docket with Duke Energy Progress, LLC's general rate case proceeding, Docket No. E-2, Sub 1219.

15. On July 9, 2020, DEC filed a Settlement Agreement with Vote Solar as to certain issues in the Docket.

16. The parties to this proceeding have conducted substantial discovery on the issues raised in the Application, as well as on the direct, supplemental and rebuttal testimony of the Company and the testimony of the intervenors.

15. The Company and NCSEA/NCJC et al. now desire to resolve and settle certain issues that will narrow the number of issues in controversy in this docket.

## II. RATE OF RETURN AND CAPITAL STRUCTURE

The Stipulating Parties agree that the revenues to be approved in this proceeding should be adjusted to provide the Company, through sound management, the opportunity to earn a return on equity ("ROE") of 9.75%. The Stipulating Parties further agree that this ROE should be applied to the common equity component of the stipulated ratemaking capital structure consisting of 52% equity and 48% long-term debt.

## III. GRID IMPROVEMENT PLAN

NCSEA/NCJC et al. support the Company's request in the Docket for an accounting order for approval to defer GIP costs for investments in Integrated System Operations Planning ("ISOP"), Integrated Volt Var Control ("IVVC"), Self-Optimizing Grid ("SOG"), Distribution Automation, Transmission System Intelligence, the Distributed Energy Resources ("DER") Dispatch Tool, and the 44 kilovolt Line Rebuild. NCSEA/NCJC et al. believe that these investments will directly enable and support the greater utilization of distributed energy resources ("DERs") on the Company's system. For all other GIP investments proposed by DEC in the Docket, NCSEA/NCJC et al. do not oppose the requested deferral accounting treatment. To the extent that DEC enters into an agreement with other intervening parties agreeing to a cost cap or to limit the amount of any GIP investment category specified for deferral treatment, NCSEA/NCJC et al. support such cost containment measures. NCSEA/NCJC et al.'s support for the GIP deferral will be subject to a reservation of its rights to review and object to the reasonableness of specific project costs in future rate cases.

DEC agrees that congestion relief will be a primary criterion in planning and decision-making regarding future transmission and distribution investments.

## IV. HELPING HOME FUND

DEC agrees to provide, in conjunction with the concurrent commitment of Duke Energy Progress, LLC ("DEP"), an aggregate combined shareholder-funded contribution to the Helping Home Fund of $3 million per year for two years (for a total of $6 million).

The Helping Home Fund is a program administered by the North Carolina Community Action Association and offered through a network of community action agencies that serve households in DEC and DEP service territories. The Helping Home Fund program delivers weatherization services, heating and cooling system repairs, appliance replacements and critical health and safety repairs at no cost to DEC and DEP customer households at or below 200 percent of federal poverty guidelines.

## V. LOW-INCOME EE/DSM

Within six months of the effective date of this Stipulation, in addition to the low-income collaborative proposed by DEC, the Stipulating Parties agree to collaborate to design additional low-income EE/DSM program pilots to present to the DEC and DEP EE/DSM Collaborative for consideration. On the condition that the majority of EE/DSM Collaborative participants, as listed on pages 9-10 in the Direct Testimony of Robert P. Evans, filed June 9, 2020 in Docket No. E-2, Sub 1252, including DEC, support the pilot programs, DEC agrees to file for approval of the pilot programs in North Carolina and South Carolina. If the Stipulating Parties mutually agree to programs for filing on a non-pilot basis, the Stipulating Parties agree to jointly file a petition for approval to implement the mutually agreed upon programs.

## VI. TARIFFED ON-BILL PILOT PROGRAM

Within six months of the effective date of this agreement, the Stipulating Parties agree to collaborate to design a tariffed on-bill pilot program, which shall include a Pay-As-You-Save® or other mutually agreeable alternative program design, for customers in North Carolina, addressing issues including but not limited to: (1) customer eligibility; (2) terms of the tariff and arrangement with the customer; (3) program safeguards for all customers and the Company; (4) utility company incentives; (5) ensuring a program would not result in DEC, or any parent or affiliate companies, becoming subject to state or federal banking, financial or similar laws or regulations; (6) ensuring that equipment can be tied to a meter, obligating a subsequent resident at that location to pay; (7) the Company's rights in the event the customer does not pay the cost-recovery charge; (8) possible relevance of Commission Rule R8-68; (9) consequences of a customer removing the equipment before the upgrades are paid; (10) deployment of the pilot program post-deployment of the Company's Customer Connect program; and (11) ownership of the equipment if the customer pays the electric bill but is renting from the property owner.

Within 18 months of the effective date of this agreement, DEC agrees to either (1) file the pilot for approval with the Commission, provided the Stipulating Parties mutually agree to the terms of the pilot program that is not less than three years in length and, in conjunction with the concurrent commitment of DEP, includes no fewer than 700 but no more than 1000 residential customers, or (2) file a status report with the Commission in these rate case dockets.

## VII. DISTRIBUTED GENERATION GUIDANCE MAP/HOSTING CAPACITY ANALYSES

1. DEC will preview a Distributed Generation Guidance Map for North Carolina with the Distributed Energy Resource ("DER") Interconnection Technical Standards Review Group ("TSRG") in the TSRG Meeting during the third quarter of 2020, as well as in the August 2020 Integrated System & Operations Planning ("ISOP") stakeholder meeting, after which DEC will incorporate TSRG and ISOP stakeholder input as appropriate and publish the Distributed Generation Guidance Map for North Carolina.

2. DEC will also include, in its 2021 Integrated Resource Plan ("IRP"), details about how both existing and new DERs and non-wires applications will be examined in its ISOP as means to defer traditional capital investments in the system.

3. DEC will implement the basic elements of the ISOP process in the 2022 IRP.

4. Following the 2024 IRP, but no later than December 31, 2024, DEC agrees to provide hosting capacity analyses for a representative sample of DEC North Carolina circuits. The hosting capacity analyses will include both peak and hourly loading data inputs for analyzed circuits and existing distributed energy resources and non-wires applications. DEC agreement is contingent on the Commission's approval of recovery of the costs associated with the hosting capacity analyses.

5. If any events occur that are beyond DEC control and that interfere with DEC compliance with the requirements of this Section, DEC may petition the Commission for a reasonable modification or extension of time of such requirements as may be appropriate given the particular facts and circumstances or, if agreed to in writing by the Stipulating Parties, may invoke such reasonable modification or extension of time without petitioning the Commission.

6. DEC will reasonably include the Stipulating Parties for input and feedback at material points in its selection process as it identifies the tools and capabilities necessary for ISOP implementation. DEC will also reasonably consider and, where appropriate, incorporate input from the Stipulating Parties with regard to the parameters that ISOP will use to assess issues such as distribution investment needs; the use of existing and future distributed energy resources and non-wires applications; load forecasts; pricing

assumptions; and modeling inputs, keeping in mind the overall objective of developing investment plans that meet customer needs and preferences by capturing efficiencies from being a vertically integrated electric utility.

7. For purposes of this agreement, “distributed energy resources” includes but is not limited to distributed solar photovoltaic generation, distributed energy storage, distributed natural gas generation, and customer-sited advanced energy management solutions; “non-wires applications” includes but is not limited to any methods used to meet the operational needs of the distribution system beyond the construction and operation of conventional grid assets.

## VIII. AGREEMENT IN SUPPORT OF SETTLEMENT; NON-WAIVER

1. The Stipulating Parties shall act in good faith and use their best efforts to recommend to the Commission that this Stipulation be accepted and approved. The Stipulating Parties further agree that this Stipulation is in the public interest because it reflects a give-and take of contested issues and results in rates (with respect to the stipulated issues) that are just and reasonable. The Stipulating Parties agree that they will support the reasonableness of this Stipulation before the Commission, and in any appeal from the Commission's adoption and/or enforcement of this Stipulation.

2. Neither this Stipulation nor any of the terms shall be admissible in any court or Commission except insofar as such court or Commission is addressing litigation arising out of the implementation of the terms herein or the approval of this Stipulation. This Stipulation shall not be cited as precedent by any of the Parties regarding any issue in any other proceeding or docket before this Commission or in any court.

3. The provisions of this Stipulation do not reflect any position asserted by

any of the Stipulating Parties but reflect instead the compromise and settlement among the Stipulating Parties as to all the issues covered hereby. No Party waives any right to assert any position in any future proceeding or docket before the Commission or in any court.

4. This Stipulation is a product of negotiation among the Stipulating Parties, and no provision of this Stipulation shall be strictly construed in favor of or against any Party.

## IX. RECEIPT OF TESTIMONY AND WAIVER OF CROSS-EXAMINATION

The Stipulating Parties agree that pre-filed testimony and exhibits filed by the Stipulating Parties on the settled issues may be received into evidence without objection. NCSEA/NCJC et al. agree to waive cross examination of DEC's witnesses and DEC agrees to waive cross examination of NCSEA/NCJC et al.'s witnesses in the upcoming evidentiary hearing in the Docket on all issues except 1) cost of service, cost allocation, the Company's use of the minimum system method, the amount of revenue increase to the residential class, and the basic facilities charge; and 2) rate design for electric vehicle charging tariffs. If, however, questions are asked by any Commissioner, or if questions are asked or positions are taken by any person who is not a Stipulating Party, then any Stipulating Party may respond to such questions by presenting testimony or exhibits and cross-examining any witness with respect to such testimony and exhibits.

## X. STIPULATION BINDING ONLY IF ACCEPTED IN ITS ENTIRETY

This Stipulation is the product of negotiation and compromise of a complex set of issues, and no portion of this Stipulation is or will be binding on any of the Stipulating Parties unless the entire Agreement and Stipulation is accepted by the Commission. If the

Commission rejects any part of this Stipulation or approves this Stipulation subject to any change or condition or if the Commission's approval of this Stipulation is rejected or conditioned by a reviewing court, the Stipulating Parties agree to meet and discuss the applicable Commission or court order within five business days of its issuance and to attempt in good faith to determine if they are willing to modify the Stipulation consistent with the order. No Party shall withdraw from the Stipulation prior to complying with the foregoing sentence. If any Party withdraws from the Stipulation, each Party retains the right to seek additional procedures before the Commission, including cross-examination of witnesses, with respect to issues addressed by the Stipulation and shall be bound or prejudiced by the terms and conditions of the Stipulation.

## XI. COUNTERPARTS

This Stipulation may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Execution by facsimile signature shall be deemed to be, and shall have the same effect as, execution by original signature.

## XII. MERGER CLAUSE

This Stipulation supersedes all prior agreements and understandings between the Stipulating Parties and may not be changed or terminated orally, and no attempted change, termination or waiver of any of the provisions hereof shall be binding unless in writing and signed by the parties hereto.

The foregoing is agreed and stipulated this the 23rd day of July, 2020.

**Duke Energy Carolinas, LLC**

By: /s/ STephen G. De May

**The North Carolina Justice Center**

**The North Carolina Housing Coalition**

**The Natural Resources Defense Council**

**The Southern Alliance for Clean Energy**

By: ____________________

**The North Carolina Sustainable Energy Association**

By: ____________________

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1214

| | | |
|---|---|---|
| **In the Matter of** | **)** | |
| **Application of Duke Energy Carolinas, LLC** | **)** | **Amendment to** |
| **For Adjustment of Rates and Charges Applicable** | **)** | **Agreement and Stipulation** |
| **To Electric Service in North Carolina** | **)** | **of Settlement** |

This Amendment to Agreement and Stipulation of Settlement is entered into this 10th day of August 2020 by and between Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") and the North Carolina Sustainable Energy Association ("NCSEA"), the North Carolina Justice Center ("NCJC"), the North Carolina Housing Coalition, the Natural Resources Defense Council, and the Southern Alliance for Clean Energy (collectively, the "NCSEA/NCJC et al.") (and together with DEC, the "Settling Parties").

WHEREAS, on September 30, 2019, DE Carolinas filed an application for a general rate increase with the North Carolina Utilities Commission in Docket No. E-7, Sub 1214 (the "Docket") that included a proposal for a Grid Improvement Plan ("GIP") and a deferral of associated costs for future cost recovery;

WHEREAS, NCSEA/NCJC et al. have intervened in the Docket and, in pre-filed testimony, NCSEA/NCJC et al. addressed issues on the Company's grid modernization efforts, including the Company's specific Grid Improvement Plan proposals, affordability of electric service for DEC's customers, as well as rate designs, policies and programs to improve affordability, the Company's Prepaid Advantage proposal, and new rate designs specifically targeting electric vehicle charging both in the residential and commercial context; and

WHEREAS, DE Carolinas and NCSEA/NCJC et al. filed an Agreement and Stipulation of Settlement on July 23, 2020 ("July 23, 2020 Agreement");

WHEREAS DE Carolinas and the Public Staff – North Carolina Utilities Commission filed a Second Agreement and Stipulation of Partial Settlement on July 31, 2020, which among other items stipulated to a Return on Equity of 9.6%; and

WHEREAS, DE Carolinas and NCSEA/NCJC et al. wish to make changes in Paragraph II of the July 23, 2020 Agreement.

NOW, THEREFORE, for and in consideration of the foregoing, the mutual commitments and promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Settling Parties do hereby mutually agree and consent to the amendment of the July 23, 2020 Agreement, which Agreement is hereby modified effective as of the date set forth above in the following respects only:

II. The Stipulating Parties agree that the revenues to be approved in this proceeding should be adjusted to provide the Company, through sound management, the opportunity to earn a return on equity ("ROE") of 9.75%. The Stipulating Parties further agree that this ROE should be applied to the common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt. Notwithstanding the terms of this paragraph, to the extent that the North Carolina Utilities Commission enters a final order in this docket approving an ROE of 9.6% to be applied to a common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt, the Stipulating Parties agree that the provisions of this Paragraph II shall have been fulfilled.

Except as expressly modified herein, the July 23, 2020 Agreement between the Settling Parties shall remain in full force and effect and is hereby ratified and affirmed.

IN WITNESS WHEREOF, the Parties have signed and executed as of the date set forth above.

**DUKE ENERGY CAROLINAS, LLC**

By: /s/ Stephen G. De May

**THE NORTH CAROLINA JUSTICE CENTER**
**THE NORTH CAROLINA HOUSING COALITION**
**THE NATURAL RESOURCES DEFENSE COUNCIL**
**THE SOUTHERN ALLIANCE FOR CLEAN ENERGY**

By:___________________________

**THE NORTH CAROLINA SUSTAINABLE ENERGY ASSOCIATION**

By:___________________________

IN WITNESS WHEREOF, the Parties have signed and executed as of the date set forth above.

**DUKE ENERGY CAROLINAS, LLC**

By:____________________________

**THE NORTH CAROLINA JUSTICE CENTER**
**THE NORTH CAROLINA HOUSING COALITION**
**THE NATURAL RESOURCES DEFENSE COUNCIL**
**THE SOUTHERN ALLIANCE FOR CLEAN ENERGY**

By:____________________________

**THE NORTH CAROLINA SUSTAINABLE ENERGY ASSOCIATION**

By:____________________________

Lawrence B. Somers
Deputy General Counsel

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July 9, 2020

**VIA ELECTRONIC FILING**

Ms. Kimberley A. Campbell
Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

**Re: Duke Energy Carolinas, LLC's Agreement and Stipulation of Settlement with Vote Solar**
**Docket No. E-7, Sub 1214**

Dear Ms. Campbell:

I enclose the Agreement and Stipulation of Settlement between Duke Energy Carolinas, LLC and Vote Solar for filing in connection with the referenced matter.

Thank you for your attention to this matter. If you have any questions, please let me know.

Sincerely,

Lawrence B. Somers

Enclosure

cc: Parties of Record

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1214**

| | | |
|---|---|---|
| In the Matter of: | ) | |
| | ) | |
| Application of Duke Energy Carolinas, LLC | ) | **AGREEMENT AND** |
| For Adjustment of Rates and Charges | ) | **STIPULATION OF** |
| Applicable to Electric Service in North Carolina | ) | **SETTLEMENT** |
| | ) | |

Duke Energy Carolinas, LLC ("DEC" or the "Company") and Vote Solar, collectively referred to herein as the "Stipulating Parties" through counsel and pursuant to N.C. Gen. Stat. § 62-69, respectfully submit the following Agreement and Stipulation of Settlement ("Stipulation") for consideration by the North Carolina Utilities Commission ("Commission") in the above captioned docket (the "Docket").

## I. BACKGROUND

1. On August 29, 2019, the Company filed its Notice of Intent to file a General Rate Case Application in the Docket.

2. On September 30, 2019, Vote Solar filed its Petition to Intervene. The Commission granted Vote Solar's intervention in an order dated October 3, 2019.

3. Also on September 30, 2019, DEC filed its application requesting a general rate increase, pursuant to N.C.Gen. Stat. §§ 62-133 and -134 and Commission Rule R1-17, along with direct testimony and exhibits.

4. On October 29, 2019, the Commission issued an order establishing a general rate case, suspending rates, scheduling hearings and requiring public notice of the Company's Application.

5. On February 18, 2020, Vote Solar filed the Direct Testimony and Exhibits of James M. Van Nostrand and Tyler Fitch. Messrs. Van Nostrand and Fitch's testimony

focused on the Company's grid modernization efforts, including the Company's Grid Improvement Plan ("GIP"), the importance of studying and managing climate change-related risks, and the role that demand energy resources plays in grid modernization and climate resilience.

6. On March 4, 2020, the Company filed its rebuttal testimony.

7. On March 25, 2020, DEC and the Public Staff, North Carolina Utilities Commission filed an Agreement and Stipulation of Partial Settlement as to certain issues in this Docket.

8. On May 28, 2020, DEC filed a Settlement Agreement with Harris Teeter, LLC as to certain issues in the Docket.

9. On May 29, 2020, DEC filed a Settlement Agreement with CIGFUR as to certain issues in the Docket.

10. On June 1, 2020, DEC filed a Settlement Agreement with the Commercial Group as to certain issues in the Docket.

11. On June 17, 2020, the Commission issued its Order Adopting Procedures for Expert Witness Hearings, which partially consolidated the hearing in this Docket with Duke Energy Progress, LLC's general rate case proceeding, Docket No. E-2, Sub 1219.

12. The parties to this proceeding have conducted substantial discovery on the issues raised in the Application, as well as on the direct, supplemental and rebuttal testimony of the Company and the testimony of the intervenors.

13. The Company and Vote Solar now desire to resolve and settle issues that will narrow the number of issues in controversy in this docket.

## II. RATE OF RETURN AND CAPITAL STRUCTURE

The Stipulating Parties agree that the revenues to be approved in this proceeding should be adjusted to provide the Company, through sound management, the opportunity to earn an ROE of 9.75%. The Stipulating Parties further agree that this ROE should be applied to the common equity component of the stipulated ratemaking capital structure consisting of 52% equity and 48% long-term debt.

## III. GRID IMPROVEMENT PLAN

1. Vote Solar supports the Company's request in the Docket for an accounting order for approval to defer GIP costs for investments in Integrated System Operations Plan ("ISOP"), Integrated Volt Var Control ("IVVC"), Self-Optimizing Grid ("SOG"), Distribution Automation, Transmission System Intelligence, the Distributed Energy Resources ("DER") Dispatch Tool, and the 44 kV Line Rebuild. Vote Solar believes that these investments will directly enable and support the greater utilization of distributed energy resources ("DERs") on the Company's system. For all other GIP investments proposed by DEC in the Docket, Vote Solar does not oppose the requested deferral accounting treatment. To the extent that DEC enters into an agreement with other intervening parties agreeing to a cost cap or to limit the amount of any GIP investment category specified for deferral treatment, Vote Solar supports such cost containment measures.

2. DEC commits to develop potential pilot customer programs prior to the submission of the 2022 Integrated Resource Plan to optimize the capability of the GIP investments to support greater utilization of DERs, including but not limited to customer-sited solar and/or storage facilities (e.g., net metering successor), microgrid systems that

benefit and would be paid for by specific benefitted customers, and programmable and load controllable devices or appliances for use in residential and non-residential demand response programs. If DEC and Vote Solar mutually agree that these programs are cost-effective and meet appropriate Commission requirements, DEC agrees to file such pilot programs for approval by the Commission, and Vote Solar agrees to support such approval by the Commission. Vote Solar's support for the GIP deferral will be subject to a reservation of its rights to review and object to the reasonableness of specific project costs in future rate cases.

## IV. CLIMATE-RESILIENCE PLANNING

1. Within six months from the effective date of the Commission's order in the DEC rate case, DEC agrees to convene a Climate Risk & Resilience Working Group ("Working Group") to hold meetings in the Carolinas, either separately or as part of ongoing forums for discussion (e.g., ISOP or IRP meeting) of impacts to the GIP to consult and collaborate with interested parties to:

i. Discuss and inform the Company's development or evaluation of models and analyses to study the impacts of climate change on the Company's GIP and existing grid, including operations, planning and physical assets on its transmission and distribution systems. The models and analyses will, at a minimum, assess the vulnerability of the Companies' distribution and transmission assets and operations to current and projected physical impacts of climate change by utilizing best-practices climate modeling and scenario analysis, utilizing the scenarios identified in the North Carolina Climate Science Report.

ii. Discuss and inform the development of ways to reflect the integration of climate change impacts into distribution and transmission system planning.

iii. Assist in developing an implementation plan based on aforementioned analyses and study that will be filed as part of the 2024 Integrated Resource Plan proceeding, or in a proceeding otherwise designated by the Commission.

2. Within sixty days of the effective date of the Commission's order, the Company shall make an informational filing in the Docket to describe its scoping plan and proposed schedule for the Working Group. DEC shall give notice of such filing to all interested parties in all North Carolina and South Carolina dockets and stakeholder processes to which it is a party related to climate or decarbonization policy, the Grid Improvement Plan, Integrated Resource Plan, and Integrated System Operations Plan.

3. DEC agrees to fund a third-party consultant with experience developing models or analyses for quantifying climate-related impacts on the electric grid, (e.g., ICF), to assist stakeholders and the Company with the working group. DEC's agreement is contingent on the Commission's approval of recovery of the costs associated with such third-party consultant and Vote Solar's commitment to support the Company's request for cost recovery.

**V. AGREEMENT IN SUPPORT OF SETTLEMENT; NON-WAIVER.**

1. The Stipulating Parties shall act in good faith and use their best efforts to recommend to the Commission that this Stipulation be accepted and approved. The Stipulating Parties further agree that this Stipulation is in the public interest because it reflects a give-and take of contested issues and results in rates (with respect to the stipulated issues) that are just and reasonable. The Stipulating Parties agree that they will support the reasonableness of this Stipulation before the Commission, and in any appeal from the Commission's adoption and/or enforcement of this Stipulation.

2. Neither this Stipulation nor any of the terms shall be admissible in any court or Commission except insofar as such court or Commission is addressing litigation arising out of the implementation of the terms herein or the approval of this Stipulation. This

Stipulation shall not be cited as precedent by any of the Parties regarding any issue in any other proceeding or docket before this Commission or in any court.

3. The provisions of this Stipulation do not reflect any position asserted by any of the Stipulating Parties but reflect instead the compromise and settlement among the Stipulating Parties as to all the issues covered hereby. No Party waives any right to assert any position in any future proceeding or docket before the Commission or in any court.

4. This Stipulation is a product of negotiation among the Stipulating Parties, and no provision of this Stipulation shall be strictly construed in favor of or against any Party.

**VI. RECEIPT OF TESTIMONY AND WAIVER OF CROSS-EXAMINATION**

The Stipulating Parties agree that pre-filed testimony and exhibits filed by the Stipulating Parties on the settled issues may be received into evidence without objection. Vote Solar agrees to waive cross examination on all issues except for rate design issues in the upcoming evidentiary hearing in the Docket and will seek to have witnesses Van Nostrand and Fitch excused from the evidentiary hearings. DEC agrees to waive cross examination of Vote Solar's witnesses. If, however, questions are asked by any Commissioner, or if questions are asked or positions are taken by any person who is not a Party, then any Party may respond to such questions by presenting testimony or exhibits and cross-examining any witness with respect to such testimony and exhibits.

**VII. STIPULATION BINDING ONLY IF ACCEPTED IN ITS ENTIRETY.**

This Stipulation is the product of negotiation and compromise of a complex set of issues, and no portion of this Stipulation is or will be binding on any of the Stipulating

Parties unless the entire Agreement and Stipulation is accepted by the Commission. If the Commission rejects any part of this Stipulation or approves this Stipulation subject to any change or condition or if the Commission's approval of this Stipulation is rejected or conditioned by a reviewing court, the Stipulating Parties agree to meet and discuss the applicable Commission or court order within five business days of its issuance and to attempt in good faith to determine if they are willing to modify the Stipulation consistent with the order. No Party shall withdraw from the Stipulation prior to complying with the foregoing sentence. If any Party withdraws from the Stipulation, each Party retains the right to seek additional procedures before the Commission, including cross-examination of witnesses, with respect to issues addressed by the Stipulation and shall be bound or prejudiced by the terms and conditions of the Stipulation.

**VIII. COUNTERPARTS.**

This Stipulation may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Execution by facsimile signature shall be deemed to be, and shall have the same effect as, execution by original signature.

## IX. MERGER CLAUSE

This Stipulation supersedes all prior agreements and understandings between the Stipulating Parties and may not be changed or terminated orally, and no attempted change, termination or waiver of any of the provisions hereof shall be binding unless in writing and signed by the parties hereto.

The foregoing is agreed and stipulated this the 8th day of July 2020.

Duke Energy Carolinas, LLC

By: /s/ Stephen G. De May

Vote Solar

By: /s/ Thadeus B. Culley

CERTIFICATE OF SERVICE

Docket No. E-7, Sub 1214

I certify that a copy of Duke Energy Carolinas, LLC's Agreement and Stipulation of Settlement with Vote Solar has been served by hand delivery, depositing a copy in the United States Mail, first class postage prepaid, or by electronic mail, properly addressed to the following parties of record:

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This the 9th day of July, 2020.

Deputy General Counsel
Duke Energy Corporation
Attorney for Duke Energy Carolinas, LLC
P.O. Box 1551/NCRH20
Raleigh, NC 27602-1551
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BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1214

| | | |
|---|---|---|
| **In the Matter of** | **)** | |
| **Application of Duke Energy Carolinas, LLC** | **)** | **Amendment to** |
| **For Adjustment of Rates and Charges Applicable** | **)** | **Agreement and Stipulation** |
| **To Electric Service in North Carolina** | **)** | **of Settlement** |

This Amendment to Agreement and Stipulation of Settlement is entered into this 5th day of August 2020 by and between Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") and Vote Solar (collectively, the "Settling Parties").

WHEREAS, on September 30, 2019, DE Carolinas filed an application for a general rate increase with the North Carolina Utilities Commission in Docket No. E-7, Sub 1214 (the "Docket") that included a proposal for a Grid Improvement Plan ("GIP") and a deferral of associated costs for future cost recovery;

WHEREAS, Vote Solar has intervened in the Docket, and in its pre-filed testimony Vote Solar addressed issues on the Company's grid modernization efforts, including the Company's Grid Improvement Plan, the importance of studying and managing climate change-related risks, and the role that demand energy resources play in grid modernization and resilience; and

WHEREAS, DE Carolinas and Vote Solar filed an Agreement and Stipulation of Settlement on July 9, 2020 ("July 9, 2020 Agreement");

WHEREAS DE Carolinas and the Public Staff – North Carolina Utilities Commission filed a Second Agreement and Stipulation of Partial Settlement on July 31, 2020, which among other items stipulated to a Return on Equity of 9.6%; and

WHEREAS, DE Carolinas and Vote Solar wish to make changes in Paragraph II of the July 9, 2020 Agreement.

NOW, THEREFORE, for and in consideration of the foregoing, the mutual commitments and promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Settling Parties do hereby mutually agree and consent to the amendment of the July 9, 2020 Agreement, which Agreement is hereby modified effective as of the date set forth above in the following respects only:

II. The Stipulating Parties agree that the revenues to be approved in this proceeding should be adjusted to provide the Company, through sound management, the opportunity to earn a return on equity ("ROE") of 9.75%. The Stipulating Parties further agree that this ROE should be applied to the common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt. Notwithstanding the terms of this paragraph, to the extent that the North Carolina Utilities Commission enters a final order in this docket approving an ROE of 9.6% to be applied to a common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt, the Stipulating Parties agree that the provisions of this Paragraph II shall have been fulfilled.

Except as expressly modified herein, the July 9, 2020 Agreement between the Settling Parties shall remain in full force and effect and is hereby ratified and affirmed.

IN WITNESS WHEREOF, the Parties have signed and executed as of the date set forth above.

**DUKE ENERGY CAROLINAS, LLC**

By: [signature]
Lawrence B. Somers, Deputy General Counsel

**VOTE SOLAR**

By: Thadeus B. Culley
Thadeus B. Culley, Counsel for Vote Solar

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1214

| | | |
|---|---|---|
| **In the Matter of** | ) | |
| **Application of Duke Energy Carolinas, LLC** | ) | |
| **For Adjustment of Rates and Charges Applicable** | ) | **Settlement Agreement** |
| **To Electric Service in North Carolina** | ) | |

This settlement agreement is entered into this 27th day of May 2020 by and between Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") and Harris Teeter, LLC, ("Harris Teeter") (collectively, the "Settling Parties").

WHEREAS, on September 30, 2019, DE Carolinas filed an application for a general rate increase with the North Carolina Utilities Commission in Docket No. E-7, Sub 1214 (the "Docket") that included a proposal for a Grid Improvement Plan ("GIP") and a deferral of associated costs for future cost recovery;

WHEREAS, Harris Teeter has intervened in the Docket and in its pre-filed testimony, Harris Teeter addressed issues with the OPT-V small secondary rate schedule ("OPT-VSS") and the Company's proposal to defer Grid Improvement Plan costs in a regulatory asset; and

WHEREAS, Harris Teeter and DE Carolinas now desire to resolve and settle certain issues that would narrow the number of issues in controversy in the Docket.

NOW, THEREFORE, for and in consideration of the foregoing, the mutual commitments and promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Settling Parties hereby agree to resolve issues among them regarding the Docket on the following terms:

1. Harris Teeter supports the approval of a Grid Improvement Plan deferral as requested by DE Carolinas in this Docket. To the extent that DE Carolinas enters into an agreement with other intervening parties agreeing to a cost cap

or to otherwise limit the maximum allowed amount of DE Carolinas' Grid Improvement Plan deferral, Harris Teeter supports such cost containment measures. Harris Teeter is not precluded from taking any position in future cost recovery proceedings regarding the reasonableness of specific Grid Improvement Plan project costs.

2. Harris Teeter and DE Carolinas agree that any Grid Improvement Plan costs allocated to OPT-V customers shall be recovered via OPT-V demand charges.

3. Harris Teeter and DE Carolinas agree that the OPT-VSS off-peak energy charge shall be set at 3.0222 cents/kwh and the on-peak energy charge shall be increased by a percentage amount that is equal to half of the overall percentage increase for the OPT-VSS rate schedule. The demand charges for the OPT-VSS rate schedule shall be adjusted by the amount necessary to recover the final OPT-VSS revenue target.

4. Harris Teeter and DE Carolinas agree that the revenues to be approved in this proceeding should be adjusted to provide the Company, through sound management, the opportunity to earn a return on equity ("ROE") of 9.75%. The Settling Parties further agree that this ROE will be applied to the common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt.

5. The Settling Parties agree that they have not reached agreement on any other revenue requirement or non-revenue requirement issue other than those issues specifically addressed in this Settlement Agreement.

6. The Settling Parties will support this Settlement Agreement and use their best efforts to implement and achieve its provisions.

7. This Settlement Agreement shall be binding upon the parties upon the execution hereof, but its substantive terms shall be effective only upon the approval of the Settlement Agreement, in its entirety, by the Commission in the Docket. In the event this condition fails to occur, the Settling Parties agree that the Stipulation shall not be binding upon the Settling Parties. If the Commission rejects any part of this Settlement Agreement or approves it subject to change or condition, the Settling Parties agree to meet and discuss the applicable Commission order within five business days of its issuance to attempt in good faith to determine if they are willing to modify this Settlement Agreement consistent with the order.

8. The provisions of this Settlement do not reflect any position asserted by any of the Settling Parties but instead reflect the compromise and settlement between the Settling Parties as to all of the issued covered hereby. This Settlement Agreement is a product of negotiation between the Settling Parties and no provision shall be strictly construed in favor or against any party.

9. The Settling Parties agree to waive their rights to cross-examine each other's witnesses with respect to their pre-filed testimony and exhibits. If questions should be asked on cross-examination by an intervenor who is not a party to this agreement or a member of the Commission, the Company and Harris Teeter reserve the right to present testimony and exhibits to respond to such questions and cross-examine any witnesses with respect to such testimony and exhibits, provided that such testimony, exhibits, and cross-examination are not inconsistent with this Settlement Agreement.

IN WITNESS WHEREOF, the Parties have signed and executed as of the date set forth above.

**DUKE ENERGY CAROLINAS, LLC**

By: ______________________
Lawrence B. Somers, Deputy General Counsel

**HARRIS TEETER, LLC**

By: ______________________
Kurt J. Boehm, Esq.
BOEHM, KURTZ & LOWRY
Attorney for Harris Teeter, LLC

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1214

| | | |
|---|---|---|
| **In the Matter of** | **)** | |
| **Application of Duke Energy Carolinas, LLC** | **)** | **Amendment to** |
| **For Adjustment of Rates and Charges Applicable** | **)** | **Settlement Agreement** |
| **To Electric Service in North Carolina** | **)** | |

This Amendment to Settlement Agreement is entered into this 6th day of August 2020 by and between Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") and Harris Teeter, LLC ("Harris Teeter") (collectively, the "Settling Parties").

WHEREAS, on September 30, 2019, DE Carolinas filed an application for a general rate increase with the North Carolina Utilities Commission in Docket No. E-7, Sub 1214 (the "Docket") that included a proposal for a Grid Improvement Plan ("GIP") and a deferral of associated costs for future cost recovery;

WHEREAS, Harris Teeter has intervened in the Docket and in its pre-filed testimony, Harris Teeter addressed issues with the OPT-V small secondary rate schedule and the Company's proposal to defer Grid Improvement Plan costs in a regulatory asset; and

WHEREAS, DE Carolinas and Harris Teeter filed a Settlement Agreement on May 28, 2020 ("May 28, 2020 Agreement");

WHEREAS DE Carolinas and the Public Staff – North Carolina Utilities Commission filed a Second Agreement and Stipulation of Partial Settlement on July 31, 2020, which among other items stipulated to a Return on Equity of 9.6%; and

WHEREAS, DE Carolinas and Harris Teeter wish to make changes in Paragraph 4 of the May 28, 2020 Agreement.

NOW, THEREFORE, for and in consideration of the foregoing, the mutual commitments and promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Settling Parties do hereby mutually agree and consent to the amendment of the May 28, 2020 Agreement, which Agreement is hereby modified effective as of the date set forth above in the following respects only:

4. Harris Teeter and DE Carolinas agree that the revenues to be approved in this proceeding should be adjusted to provide the Company, through sound management, the opportunity to earn a return on equity ("ROE") of 9.75%. The Settling Parties further agree that this ROE will be applied to the common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt. Notwithstanding the terms of this paragraph, to the extent that the North Carolina Utilities Commission enters a final order in this docket approving an ROE of 9.6% to be applied to a common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt, the Settling Parties agree that the provisions of this Paragraph 4 shall have been fulfilled.

Except as expressly modified herein, the May 28, 2020 Agreement between the Settling Parties shall remain in full force and effect and is hereby ratified and affirmed.

IN WITNESS WHEREOF, the Parties have signed and executed as of the date set forth above.

**DUKE ENERGY CAROLINAS, LLC**

By: ______________________________
Lawrence B. Somers, Deputy General Counsel

**HARRIS TEETER, LLC**

By: ______________________________
Kurt J. Boehm, Esq.
BOEHM, KURTZ & LOWRY
Attorney for Harris Teeter, LLC

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1214

| | | |
|---|---|---|
| **In the Matter of** | ) | |
| **Application of Duke Energy Carolinas, LLC** | ) | |
| **For Adjustment of Rates and Charges Applicable** | ) | **Settlement Agreement** |
| **To Electric Service in North Carolina** | ) | |

This settlement agreement is entered into this 1st day of June 2020 by and between Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") and the Commercial Group, an ad hoc association consisting of BJ's Wholesale Club, Inc., Food Lion, LLC, Ingles Markets, Inc., JC Penney Corp., Inc., Macy's Inc., and Walmart Inc., (collectively, the "Settling Parties").

WHEREAS, on September 30, 2019, DE Carolinas filed an application for a general rate increase with the North Carolina Utilities Commission in Docket No. E-7, Sub 1214 (the "Docket") that included a proposal for a Grid Improvement Plan ("GIP") and a deferral of associated costs for future cost recovery;

WHEREAS, the Commercial Group has intervened in the Docket and in its pre-filed testimony, the Commercial Group addressed general concerns regarding the Company's proposed revenue requirement, cost of service and revenue allocation, and meter data access; and

WHEREAS, The Commercial Group and DE Carolinas now desire to resolve and settle certain issues that would narrow the number of issues in controversy in the Docket.

NOW, THEREFORE, for and in consideration of the foregoing, the mutual commitments and promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Settling Parties hereby agree to resolve issues among them regarding the Docket on the following terms:

1. The Commercial Group does not oppose nor specifically support the approval of a Grid Improvement Plan deferral as requested by DE Carolinas in this Docket, except as set forth in paragraph 2 below.

2. The Commercial Group and DE Carolinas agree that any Grid Improvement Plan costs allocated to OPT-V customers shall be recovered via OPT-V demand charges.

3. The Commercial Group and DE Carolinas agree that the OPT-VSS off-peak energy charge shall be set at 3.0222 cents/kwh and the on-peak energy charge shall be increased by a percentage amount that is equal to half of the overall percentage increase for the OPT-VSS rate schedule. The demand charges for the OPT-VSS rate schedule shall be adjusted by the amount necessary to recover the final OPT-VSS revenue target.

4. The Commercial Group and DE Carolinas agree that the revenues to be approved in this proceeding should be adjusted to provide the Company, through sound management, the opportunity to earn a return on equity ("ROE") of 9.75%. The Settling Parties further agree that this ROE will be applied to the common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt.

5. The Commercial Group agrees that the Company has met with its representatives and adequately addressed its concerns regarding meter data access and Green Button functionality.

6. The Settling Parties agree that they have not reached agreement on any other revenue requirement or non-revenue requirement issue other than those issues specifically addressed in this Settlement Agreement.

7. The Settling Parties will support this Settlement Agreement and use their best efforts to implement and achieve its provisions.

8. This Settlement Agreement shall be binding upon the parties upon the execution hereof, but its substantive terms shall be effective only upon the approval of the Settlement Agreement, in its entirety, by the Commission in the Docket. In the event this condition fails to occur, the Settling Parties agree that the Stipulation shall not be binding upon the Settling Parties. If the Commission rejects any part of this Settlement Agreement or approves it subject to change or condition, the Settling Parties agree to meet and discuss the applicable Commission order within five business days of its issuance to attempt in good faith to determine if they are willing to modify this Settlement Agreement consistent with the order.

9. The provisions of this Settlement do not reflect any position asserted by any of the Settling Parties but instead reflect the compromise and settlement between the Settling Parties as to all of the issued covered hereby. This Settlement Agreement is a product of negotiation between the Settling Parties and no provision shall be strictly construed in favor or against any party.

10. The Settling Parties agree to waive their rights to cross-examine each other's witnesses with respect to their pre-filed testimony and exhibits. If questions should be asked on cross-examination by an intervenor who is not a party to this agreement or a member of the Commission, the Company and the Commercial Group reserve the right to present testimony and exhibits to respond to such questions and cross-examine any witnesses with respect to such testimony and exhibits, provided that such testimony, exhibits, and cross-examination are not inconsistent with this Settlement Agreement.

IN WITNESS WHEREOF, the Parties have signed and executed as of the date set forth above.

**DUKE ENERGY CAROLINAS, LLC**

By: ____________________
Lawrence B. Somers, Deputy General Counsel

**THE COMMERCIAL GROUP**

By: ____________________
Alan R. Jenkins, Counsel for Commercial Group

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1214

| | | |
|---|---|---|
| **In the Matter of** | **)** | |
| **Application of Duke Energy Carolinas, LLC** | **)** | **Amendment to** |
| **For Adjustment of Rates and Charges Applicable** | **)** | **Settlement Agreement** |
| **To Electric Service in North Carolina** | **)** | |

This Amendment to Settlement Agreement is entered into this 5th day of August 2020 by and between Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") and the Commercial Group, an ad hoc association consisting of BJ's Wholesale Club, Inc., Food Lion, LLC, Ingles Markets, Inc., JC Penney Corp., Inc., Macy's Inc., and Walmart Inc., (collectively, the "Settling Parties").

WHEREAS, on September 30, 2019, DE Carolinas filed an application for a general rate increase with the North Carolina Utilities Commission in Docket No. E-7, Sub 1214 (the "Docket") that included a proposal for a Grid Improvement Plan ("GIP") and a deferral of associated costs for future cost recovery;

WHEREAS, the Commercial Group has intervened in the Docket and in its pre-filed testimony, the Commercial Group addressed general concerns regarding the Company's proposed revenue requirement, cost of service and revenue allocation, and meter data access; and

WHEREAS, DE Carolinas and the Commercial Group filed a Settlement Agreement on June 1, 2020 ("June 1, 2020 Agreement");

WHEREAS DE Carolinas and the Public Staff – North Carolina Utilities Commission filed a Second Agreement and Stipulation of Partial Settlement on July 31, 2020, which among other items stipulated to a Return on Equity of 9.6%; and

WHEREAS, DE Carolinas and The Commercial Group wish to make changes in Paragraph 4 of the June 1, 2020 Agreement.

NOW, THEREFORE, for and in consideration of the foregoing, the mutual commitments and promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Settling Parties do hereby mutually agree and consent to the amendment of the June 1, 2020 Agreement, which Agreement is hereby modified effective as of the date set forth above in the following respects only:

4. The Commercial Group and DE Carolinas agree that the revenues to be approved in this proceeding should be adjusted to provide the Company, through sound management, the opportunity to earn a return on equity ("ROE") of 9.75%. The Settling Parties further agree that this ROE will be applied to the common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt. Notwithstanding the terms of this paragraph, to the extent that the North Carolina Utilities Commission enters a final order in this docket approving an ROE of 9.6% to be applied to a common equity component of the ratemaking capital structure consisting of 52% equity and 48% long-term debt, the Settling Parties agree that the provisions of this Paragraph 4 shall have been fulfilled.

Except as expressly modified herein, the June 1, 2020 Agreement between the Settling Parties shall remain in full force and effect and is hereby ratified and affirmed.

IN WITNESS WHEREOF, the Parties have signed and executed as of the date set forth above.

**DUKE ENERGY CAROLINAS, LLC**

By: ______________________________
Lawrence B. Somers, Deputy General Counsel

**THE COMMERCIAL GROUP**

By: ______________________________
Alan R. Jenkins, Attorney for The Commercial Group

Constant Growth Discounted Cash Flow Model
30 Day Average Stock Price

| Company | Ticker | [1] Annualized Dividend | [2] Average Stock Price | [3] Dividend Yield | [4] Expected Dividend Yield | [5] Zacks Earnings Growth | [6] First Call Earnings Growth | [7] Value Line Earnings Growth | [8] Average Earnings Growth | [9] Low ROE | [10] Mean ROE | [11] High ROE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | $2.35 | $83.46 | 2.82% | 2.90% | 7.20% | 6.00% | 5.00% | 6.07% | 7.89% | 8.97% | 10.12% |
| Alliant Energy Corporation | LNT | $1.42 | $48.76 | 2.91% | 2.99% | 5.50% | 4.80% | 6.50% | 5.60% | 7.78% | 8.59% | 9.51% |
| Ameren Corporation | AEE | $1.90 | $75.44 | 2.52% | 2.59% | 6.20% | 4.90% | 6.50% | 5.87% | 7.48% | 8.46% | 9.10% |
| American Electric Power Company, Inc. | AEP | $2.68 | $88.52 | 3.03% | 3.11% | 5.60% | 5.93% | 4.00% | 5.18% | 7.09% | 8.28% | 9.05% |
| Avangrid, Inc. | AGR | $1.76 | $50.88 | 3.46% | 3.60% | 7.60% | 6.80% | 10.00% | 8.13% | 10.38% | 11.73% | 13.63% |
| CMS Energy Corporation | CMS | $1.53 | $57.53 | 2.66% | 2.75% | 6.40% | 7.08% | 7.00% | 6.83% | 9.14% | 9.58% | 9.83% |
| DTE Energy Company | DTE | $3.78 | $128.30 | 2.95% | 3.02% | 6.00% | 4.05% | 5.50% | 5.18% | 7.06% | 8.21% | 9.03% |
| Evergy, Inc | EVRG | $1.90 | $59.74 | 3.18% | 3.28% | 6.60% | 6.15% | NMF | 6.38% | 9.43% | 9.66% | 9.89% |
| Hawaiian Electric Industries, Inc. | HE | $1.28 | $42.67 | 3.00% | 3.08% | 5.60% | 6.10% | 4.50% | 5.40% | 7.57% | 8.48% | 9.19% |
| NextEra Energy, Inc. | NEE | $5.00 | $203.25 | 2.46% | 2.57% | 8.00% | 8.23% | 10.00% | 8.74% | 10.56% | 11.31% | 12.58% |
| NorthWestern Corporation | NWE | $2.30 | $72.34 | 3.18% | 3.23% | 3.00% | 3.51% | 3.00% | 3.17% | 6.23% | 6.40% | 6.75% |
| OGE Energy Corp. | OGE | $1.46 | $42.80 | 3.41% | 3.50% | 4.60% | 3.80% | 6.50% | 4.97% | 7.28% | 8.46% | 10.02% |
| Otter Tail Corporation | OTTR | $1.40 | $51.45 | 2.72% | 2.82% | 7.00% | 9.00% | 5.00% | 7.00% | 7.79% | 9.82% | 11.84% |
| Pinnacle West Capital Corporation | PNW | $2.95 | $96.28 | 3.06% | 3.14% | 5.00% | 5.01% | 5.00% | 5.00% | 8.14% | 8.14% | 8.15% |
| PNM Resources, Inc. | PNM | $1.16 | $49.34 | 2.35% | 2.43% | 5.20% | 6.15% | 8.50% | 6.62% | 7.61% | 9.05% | 10.95% |
| Portland General Electric Company | POR | $1.54 | $54.19 | 2.84% | 2.91% | 4.90% | 5.20% | 4.50% | 4.87% | 7.41% | 7.78% | 8.12% |
| Southern Company | SO | $2.48 | $54.74 | 4.53% | 4.61% | 4.50% | 2.17% | 3.50% | 3.39% | 6.75% | 8.00% | 9.13% |
| WEC Energy Group, Inc. | WEC | $2.36 | $82.81 | 2.85% | 2.93% | 5.90% | 5.82% | 6.00% | 5.91% | 8.75% | 8.84% | 8.94% |
| Xcel Energy Inc. | XEL | $1.62 | $59.22 | 2.74% | 2.81% | 5.60% | 6.24% | 5.50% | 5.78% | 8.31% | 8.59% | 9.06% |
| PROXY GROUP MEAN | | | | 2.98% | 3.07% | 5.81% | 5.63% | 5.92% | 5.79% | 8.03% | 8.86% | 9.73% |
| PROXY GROUP MEDIAN | | | | 2.91% | 2.99% | 5.60% | 5.93% | 5.50% | 5.78% | 7.78% | 8.59% | 9.19% |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-trading day average as of June 28, 2019
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
90 Day Average Stock Price

| Company | Ticker | [1] Annualized Dividend | [2] Average Stock Price | [3] Dividend Yield | [4] Expected Dividend Yield | [5] Zacks Earnings Growth | [6] First Call Earnings Growth | [7] Value Line Earnings Growth | [8] Average Earnings Growth | [9] Low ROE | [10] Mean ROE | [11] High ROE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | $2.35 | $82.32 | 2.85% | 2.94% | 7.20% | 6.00% | 5.00% | 6.07% | 7.93% | 9.01% | 10.16% |
| Alliant Energy Corporation | LNT | $1.42 | $47.34 | 3.00% | 3.08% | 5.50% | 4.80% | 6.50% | 5.60% | 7.87% | 8.68% | 9.60% |
| Ameren Corporation | AEE | $1.90 | $73.30 | 2.59% | 2.67% | 6.20% | 4.90% | 6.50% | 5.87% | 7.56% | 8.53% | 9.18% |
| American Electric Power Company, Inc. | AEP | $2.68 | $85.14 | 3.15% | 3.23% | 5.60% | 5.93% | 4.00% | 5.18% | 7.21% | 8.41% | 9.17% |
| Avangrid, Inc. | AGR | $1.76 | $50.31 | 3.50% | 3.64% | 7.60% | 6.80% | 10.00% | 8.13% | 10.42% | 11.77% | 13.67% |
| CMS Energy Corporation | CMS | $1.53 | $55.72 | 2.75% | 2.84% | 6.40% | 7.08% | 7.00% | 6.83% | 9.23% | 9.67% | 9.92% |
| DTE Energy Company | DTE | $3.78 | $125.36 | 3.02% | 3.09% | 6.00% | 4.05% | 5.50% | 5.18% | 7.13% | 8.28% | 9.11% |
| Evergy, Inc | EVRG | $1.90 | $57.95 | 3.28% | 3.38% | 6.60% | 6.15% | NMF | 6.38% | 9.53% | 9.76% | 9.99% |
| Hawaiian Electric Industries, Inc. | HE | $1.28 | $41.23 | 3.10% | 3.19% | 5.60% | 6.10% | 4.50% | 5.40% | 7.67% | 8.59% | 9.30% |
| NextEra Energy, Inc. | NEE | $5.00 | $194.77 | 2.57% | 2.68% | 8.00% | 8.23% | 10.00% | 8.74% | 10.67% | 11.42% | 12.70% |
| NorthWestern Corporation | NWE | $2.30 | $70.60 | 3.26% | 3.31% | 3.00% | 3.51% | 3.00% | 3.17% | 6.31% | 6.48% | 6.83% |
| OGE Energy Corp. | OGE | $1.46 | $42.43 | 3.44% | 3.53% | 4.60% | 3.80% | 6.50% | 4.97% | 7.31% | 8.49% | 10.05% |
| Otter Tail Corporation | OTTR | $1.40 | $50.66 | 2.76% | 2.86% | 7.00% | 9.00% | 5.00% | 7.00% | 7.83% | 9.86% | 11.89% |
| Pinnacle West Capital Corporation | PNW | $2.95 | $95.03 | 3.10% | 3.18% | 5.00% | 5.01% | 5.00% | 5.00% | 8.18% | 8.19% | 8.19% |
| PNM Resources, Inc. | PNM | $1.16 | $47.17 | 2.46% | 2.54% | 5.20% | 6.15% | 8.50% | 6.62% | 7.72% | 9.16% | 11.06% |
| Portland General Electric Company | POR | $1.54 | $52.41 | 2.94% | 3.01% | 4.90% | 5.20% | 4.50% | 4.87% | 7.50% | 7.88% | 8.22% |
| Southern Company | SO | $2.48 | $52.76 | 4.70% | 4.78% | 4.50% | 2.17% | 3.50% | 3.39% | 6.92% | 8.17% | 9.31% |
| WEC Energy Group, Inc. | WEC | $2.36 | $79.37 | 2.97% | 3.06% | 5.90% | 5.82% | 6.00% | 5.91% | 8.88% | 8.97% | 9.06% |
| Xcel Energy Inc. | XEL | $1.62 | $56.98 | 2.84% | 2.93% | 5.60% | 6.24% | 5.50% | 5.78% | 8.42% | 8.71% | 9.17% |
| PROXY GROUP MEAN | | | | 3.07% | 3.15% | 5.81% | 5.63% | 5.92% | 5.79% | 8.12% | 8.95% | 9.82% |
| PROXY GROUP MEDIAN | | | | 3.00% | 3.08% | 5.60% | 5.93% | 5.50% | 5.78% | 7.83% | 8.68% | 9.31% |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 90-trading day average as of June 28, 2019
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
180 Day Average Stock Price

| Company | Ticker | [1] Annualized Dividend | [2] Average Stock Price | [3] Dividend Yield | [4] Expected Dividend Yield | [5] Zacks Earnings Growth | [6] First Call Earnings Growth | [7] Value Line Earnings Growth | [8] Average Earnings Growth | [9] Low ROE | [10] Mean ROE | [11] High ROE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | $2.35 | $79.64 | 2.95% | 3.04% | 7.20% | 6.00% | 5.00% | 6.07% | 8.02% | 9.11% | 10.26% |
| Alliant Energy Corporation | LNT | $1.42 | $45.56 | 3.12% | 3.20% | 5.50% | 4.80% | 6.50% | 5.60% | 7.99% | 8.80% | 9.72% |
| Ameren Corporation | AEE | $1.90 | $70.25 | 2.70% | 2.78% | 6.20% | 4.90% | 6.50% | 5.87% | 7.67% | 8.65% | 9.29% |
| American Electric Power Company, Inc. | AEP | $2.68 | $80.60 | 3.33% | 3.41% | 5.60% | 5.93% | 4.00% | 5.18% | 7.39% | 8.59% | 9.35% |
| Avangrid, Inc. | AGR | $1.76 | $49.85 | 3.53% | 3.67% | 7.60% | 6.80% | 10.00% | 8.13% | 10.45% | 11.81% | 13.71% |
| CMS Energy Corporation | CMS | $1.53 | $53.26 | 2.87% | 2.97% | 6.40% | 7.08% | 7.00% | 6.83% | 9.36% | 9.80% | 10.05% |
| DTE Energy Company | DTE | $3.78 | $120.21 | 3.14% | 3.23% | 6.00% | 4.05% | 5.50% | 5.18% | 7.26% | 8.41% | 9.24% |
| Evergy, Inc | EVRG | $1.90 | $57.81 | 3.29% | 3.39% | 6.60% | 6.15% | NMF | 6.38% | 9.54% | 9.77% | 10.00% |
| Hawaiian Electric Industries, Inc. | HE | $1.28 | $39.14 | 3.27% | 3.36% | 5.60% | 6.10% | 4.50% | 5.40% | 7.84% | 8.76% | 9.47% |
| NextEra Energy, Inc. | NEE | $5.00 | $185.45 | 2.70% | 2.81% | 8.00% | 8.23% | 10.00% | 8.74% | 10.80% | 11.56% | 12.83% |
| NorthWestern Corporation | NWE | $2.30 | $66.24 | 3.47% | 3.53% | 3.00% | 3.51% | 3.00% | 3.17% | 6.52% | 6.70% | 7.04% |
| OGE Energy Corp. | OGE | $1.46 | $40.85 | 3.57% | 3.66% | 4.60% | 3.80% | 6.50% | 4.97% | 7.44% | 8.63% | 10.19% |
| Otter Tail Corporation | OTTR | $1.40 | $49.32 | 2.84% | 2.94% | 7.00% | 9.00% | 5.00% | 7.00% | 7.91% | 9.94% | 11.97% |
| Pinnacle West Capital Corporation | PNW | $2.95 | $90.95 | 3.24% | 3.32% | 5.00% | 5.01% | 5.00% | 5.00% | 8.32% | 8.33% | 8.33% |
| PNM Resources, Inc. | PNM | $1.16 | $44.33 | 2.62% | 2.70% | 5.20% | 6.15% | 8.50% | 6.62% | 7.88% | 9.32% | 11.23% |
| Portland General Electric Company | POR | $1.54 | $49.67 | 3.10% | 3.18% | 4.90% | 5.20% | 4.50% | 4.87% | 7.67% | 8.04% | 8.38% |
| Southern Company | SO | $2.48 | $49.57 | 5.00% | 5.09% | 4.50% | 2.17% | 3.50% | 3.39% | 7.23% | 8.48% | 9.62% |
| WEC Energy Group, Inc. | WEC | $2.36 | $75.15 | 3.14% | 3.23% | 5.90% | 5.82% | 6.00% | 5.91% | 9.05% | 9.14% | 9.23% |
| Xcel Energy Inc. | XEL | $1.62 | $53.84 | 3.01% | 3.10% | 5.60% | 6.24% | 5.50% | 5.78% | 8.59% | 8.88% | 9.34% |
| PROXY GROUP MEAN | | | | 3.21% | 3.30% | 5.81% | 5.63% | 5.92% | 5.79% | 8.26% | 9.09% | 9.96% |
| PROXY GROUP MEDIAN | | | | 3.14% | 3.23% | 5.60% | 5.93% | 5.50% | 5.78% | 7.91% | 8.80% | 9.62% |

Notes:

[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 180-trading day average as of June 28, 2019
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
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[8] Equals Average([5], [6], [7])
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[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

| [1] | [2] | [3] |
|---|---|---|
| S&P 500 Est. Required Market Return | Current 30-Year Treasury (30-day average) | Implied Market Risk Premium |
| 14.88% | 2.63% | 12.25% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Agilent Technologies Inc | A | 23,595.22 | 0.09% | 0.88% | 11.00% | 11.93% | 0.0109% |
| American Airlines Group Inc | AAL | 14,506.07 | 0.06% | 1.48% | 14.51% | 16.09% | 0.0090% |
| Advance Auto Parts Inc | AAP | 11,057.52 | 0.04% | 0.16% | 15.68% | 15.85% | 0.0068% |
| Apple Inc | AAPL | 910,644.76 | 3.53% | 1.51% | 9.35% | 10.93% | 0.3855% |
| AbbVie Inc | ABBV | 107,506.72 | 0.42% | 5.84% | 5.12% | 11.11% | 0.0463% |
| AmerisourceBergen Corp | ABC | 17,919.69 | 0.07% | 1.88% | 4.99% | 6.92% | 0.0048% |
| ABIOMED Inc | ABMD | 11,795.82 | 0.05% | 0.00% | 29.00% | 29.00% | 0.0133% |
| Abbott Laboratories | ABT | 148,367.64 | 0.57% | 1.46% | 9.70% | 11.23% | 0.0645% |
| Accenture PLC | ACN | 124,342.68 | 0.48% | 1.60% | 10.43% | 12.12% | 0.0584% |
| Adobe Inc | ADBE | 143,034.53 | 0.55% | 0.00% | 17.16% | 17.16% | 0.0951% |
| Analog Devices Inc | ADI | 41,734.95 | 0.16% | 1.84% | 12.10% | 14.06% | 0.0227% |
| Archer-Daniels-Midland Co | ADM | 22,854.74 | 0.09% | 3.47% | 0.60% | 4.08% | 0.0036% |
| Automatic Data Processing Inc | ADP | 71,956.28 | 0.28% | 1.74% | 13.50% | 15.36% | 0.0428% |
| Alliance Data Systems Corp | ADS | 7,340.50 | 0.03% | 1.76% | 12.47% | 14.34% | 0.0041% |
| Autodesk Inc | ADSK | 35,776.03 | 0.14% | 0.00% | 64.51% | 64.51% | 0.0894% |
| Ameren Corp | AEE | 18,433.42 | 0.07% | 2.59% | 5.81% | 8.48% | 0.0061% |
| American Electric Power Co Inc | AEP | 43,427.26 | 0.17% | 3.08% | 5.98% | 9.15% | 0.0154% |
| AES Corp/VA | AES | 11,124.07 | 0.04% | 3.29% | 8.33% | 11.76% | 0.0051% |
| Aflac Inc | AFL | 40,859.16 | 0.16% | 1.99% | 3.43% | 5.45% | 0.0086% |
| Allergan PLC | AGN | 54,883.87 | 0.21% | 1.77% | 5.37% | 7.18% | 0.0153% |
| American International Group Inc | AIG | 46,340.47 | 0.18% | 2.44% | 11.00% | 13.57% | 0.0244% |
| Apartment Investment & Management | AIV | 7,459.28 | 0.03% | 4.15% | 8.76% | 13.09% | 0.0038% |
| Assurant Inc | AIZ | 6,539.68 | N/A | 2.33% | N/A | N/A | N/A |
| Arthur J Gallagher & Co | AJG | 16,226.22 | 0.06% | 1.96% | 9.63% | 11.68% | 0.0073% |
| Akamai Technologies Inc | AKAM | 13,150.73 | 0.05% | 0.00% | 13.70% | 13.70% | 0.0070% |
| Albemarle Corp | ALB | 7,460.41 | 0.03% | 2.01% | 13.41% | 15.56% | 0.0045% |
| Align Technology Inc | ALGN | 21,897.34 | 0.08% | 0.00% | 22.22% | 22.22% | 0.0188% |
| Alaska Air Group Inc | ALK | 7,886.49 | 0.03% | 2.15% | 13.20% | 15.49% | 0.0047% |
| Allstate Corp/The | ALL | 33,873.63 | 0.13% | 1.90% | 9.00% | 10.99% | 0.0144% |
| Allegion PLC | ALLE | 10,385.70 | 0.04% | 0.96% | 10.49% | 11.50% | 0.0046% |
| Alexion Pharmaceuticals Inc | ALXN | 29,370.59 | 0.11% | 0.00% | 17.50% | 17.50% | 0.0199% |
| Applied Materials Inc | AMAT | 42,040.47 | 0.16% | 1.85% | 9.37% | 11.30% | 0.0184% |
| Amcor PLC | AMCR | 18,654.36 | 0.07% | 4.05% | 5.38% | 9.54% | 0.0069% |
| Advanced Micro Devices Inc | AMD | 32,848.21 | 0.13% | 0.00% | 18.30% | 18.30% | 0.0233% |
| AMETEK Inc | AME | 20,697.07 | 0.08% | 0.63% | 9.13% | 9.79% | 0.0078% |
| Affiliated Managers Group Inc | AMG | 4,717.51 | 0.02% | 1.39% | 9.10% | 10.55% | 0.0019% |
| Amgen Inc | AMGN | 112,398.95 | 0.44% | 3.10% | 5.70% | 8.89% | 0.0387% |
| Ameriprise Financial Inc | AMP | 19,437.55 | 0.08% | 2.62% | 3.20% | 5.86% | 0.0044% |
| American Tower Corp | AMT | 90,371.69 | 0.35% | 1.83% | 20.09% | 22.11% | 0.0774% |
| Amazon.com Inc | AMZN | 932,294.22 | 3.61% | 0.00% | 44.95% | 44.95% | 1.6232% |
| Arista Networks Inc | ANET | 19,892.74 | 0.08% | 0.00% | 21.79% | 21.79% | 0.0168% |
| ANSYS Inc | ANSS | 17,190.22 | 0.07% | 0.00% | 10.60% | 10.60% | 0.0071% |
| Anthem Inc | ANTM | 72,583.20 | 0.28% | 1.14% | 14.85% | 16.07% | 0.0452% |
| Aon PLC | AON | 46,415.87 | 0.18% | 0.89% | 10.00% | 10.94% | 0.0197% |
| AO Smith Corp | AOS | 7,884.99 | 0.03% | 1.93% | 8.00% | 10.01% | 0.0031% |
| Apache Corp | APA | 10,890.42 | 0.04% | 3.45% | -17.05% | -13.89% | -0.0059% |
| Anadarko Petroleum Corp | APC | 35,429.50 | 0.14% | 1.51% | 16.91% | 18.54% | 0.0254% |
| Air Products & Chemicals Inc | APD | 49,831.41 | 0.19% | 2.02% | 12.48% | 14.63% | 0.0282% |
| Amphenol Corp | APH | 28,660.37 | 0.11% | 0.93% | 9.98% | 10.96% | 0.0122% |
| Aptiv PLC | APTV | 20,840.83 | 0.08% | 1.12% | 8.89% | 10.06% | 0.0081% |
| Alexandria Real Estate Equities Inc | ARE | 16,644.25 | 0.06% | 2.79% | 4.76% | 7.61% | 0.0049% |
| Arconic Inc | ARNC | 11,583.60 | 0.04% | 0.41% | 9.90% | 10.33% | 0.0046% |
| Atmos Energy Corp | ATO | 12,349.28 | 0.05% | 1.99% | 7.00% | 9.06% | 0.0043% |
| Activision Blizzard Inc | ATVI | 36,155.52 | 0.14% | 0.78% | 10.45% | 11.27% | 0.0158% |
| AvalonBay Communities Inc | AVB | 28,323.96 | 0.11% | 2.98% | 5.42% | 8.47% | 0.0093% |
| Broadcom Inc | AVGO | 114,589.46 | 0.44% | 3.68% | 13.31% | 17.23% | 0.0765% |
| Avery Dennison Corp | AVY | 9,765.23 | 0.04% | 1.81% | 5.55% | 7.41% | 0.0028% |
| American Water Works Co Inc | AWK | 20,940.18 | 0.08% | 1.70% | 9.00% | 10.77% | 0.0087% |
| American Express Co | AXP | 103,082.34 | 0.40% | 1.31% | 12.40% | 13.78% | 0.0550% |
| AutoZone Inc | AZO | 26,968.58 | 0.10% | 0.00% | 12.58% | 12.58% | 0.0131% |
| Boeing Co/The | BA | 204,803.10 | 0.79% | 2.22% | 12.26% | 14.61% | 0.1159% |
| Bank of America Corp | BAC | 275,737.89 | 1.07% | 2.35% | 10.10% | 12.57% | 0.1343% |
| Baxter International Inc | BAX | 41,860.51 | 0.16% | 0.97% | 11.90% | 12.93% | 0.0210% |
| BB&T Corp | BBT | 37,632.72 | 0.15% | 3.45% | 8.48% | 12.08% | 0.0176% |
| Best Buy Co Inc | BBY | 18,620.92 | 0.07% | 2.87% | 6.89% | 9.85% | 0.0071% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Becton Dickinson and Co | BDX | 67,975.14 | 0.26% | 1.28% | 11.35% | 12.71% | 0.0335% |
| Franklin Resources Inc | BEN | 17,663.08 | 0.07% | 2.98% | 10.00% | 13.13% | 0.0090% |
| Brown-Forman Corp | BF/B | 26,396.71 | 0.10% | 1.25% | 8.41% | 9.71% | 0.0099% |
| Baker Hughes a GE Co | BHGE | 25,543.81 | 0.10% | 2.67% | 41.88% | 45.10% | 0.0446% |
| Biogen Inc | BIIB | 45,345.85 | 0.18% | 0.00% | 5.87% | 5.87% | 0.0103% |
| Bank of New York Mellon Corp/The | BK | 42,274.39 | 0.16% | 2.70% | 6.77% | 9.56% | 0.0156% |
| Booking Holdings Inc | BKNG | 81,158.72 | 0.31% | 0.00% | 16.99% | 16.99% | 0.0534% |
| BlackRock Inc | BLK | 72,970.71 | 0.28% | 2.84% | 9.00% | 11.96% | 0.0338% |
| Ball Corp | BLL | 23,428.83 | 0.09% | 0.71% | 6.77% | 7.51% | 0.0068% |
| Bristol-Myers Squibb Co | BMY | 74,180.11 | 0.29% | 3.63% | 8.63% | 12.42% | 0.0357% |
| Broadridge Financial Solutions Inc | BR | 14,828.62 | N/A | 1.51% | N/A | N/A | N/A |
| Berkshire Hathaway Inc | BRK/B | 521,871.81 | 2.02% | 0.00% | 60.60% | 60.60% | 1.2250% |
| Boston Scientific Corp | BSX | 59,770.24 | 0.23% | 0.00% | 8.88% | 8.88% | 0.0206% |
| BorgWarner Inc | BWA | 8,701.05 | 0.03% | 1.62% | 4.37% | 6.02% | 0.0020% |
| Boston Properties Inc | BXP | 19,933.06 | 0.08% | 3.00% | 4.91% | 7.97% | 0.0062% |
| Citigroup Inc | C | 161,942.11 | 0.63% | 2.80% | 12.72% | 15.69% | 0.0984% |
| Conagra Brands Inc | CAG | 12,886.46 | 0.05% | 3.21% | 7.17% | 10.49% | 0.0052% |
| Cardinal Health Inc | CAH | 14,038.62 | 0.05% | 4.16% | 14.02% | 18.47% | 0.0100% |
| Caterpillar Inc | CAT | 77,940.92 | 0.30% | 2.65% | 13.23% | 16.05% | 0.0485% |
| Chubb Ltd | CB | 67,439.78 | 0.26% | 2.06% | 10.60% | 12.77% | 0.0333% |
| Cboe Global Markets Inc | CBOE | 11,568.53 | 0.04% | 1.26% | 5.35% | 6.64% | 0.0030% |
| CBRE Group Inc | CBRE | 17,251.04 | 0.07% | 0.00% | 7.30% | 7.30% | 0.0049% |
| CBS Corp | CBS | 18,706.34 | 0.07% | 1.53% | 20.13% | 21.81% | 0.0158% |
| Crown Castle International Corp | CCI | 54,191.87 | 0.21% | 3.52% | 16.33% | 20.14% | 0.0423% |
| Carnival Corp | CCL | 31,749.45 | 0.12% | 4.34% | 8.47% | 12.99% | 0.0160% |
| Cadence Design Systems Inc | CDNS | 19,899.73 | 0.08% | 0.00% | 10.03% | 10.03% | 0.0077% |
| Celanese Corp | CE | 13,648.83 | 0.05% | 2.24% | 7.95% | 10.28% | 0.0054% |
| Celgene Corp | CELG | 65,194.19 | 0.25% | 0.00% | 18.42% | 18.42% | 0.0465% |
| Cerner Corp | CERN | 23,853.33 | 0.09% | 0.33% | 13.65% | 14.00% | 0.0129% |
| CF Industries Holdings Inc | CF | 10,326.54 | 0.04% | 2.58% | 20.27% | 23.11% | 0.0092% |
| Citizens Financial Group Inc | CFG | 16,207.45 | 0.06% | 3.77% | 8.04% | 11.96% | 0.0075% |
| Church & Dwight Co Inc | CHD | 17,988.77 | 0.07% | 1.26% | 7.96% | 9.27% | 0.0065% |
| CH Robinson Worldwide Inc | CHRW | 11,519.05 | 0.04% | 2.40% | 8.93% | 11.44% | 0.0051% |
| Charter Communications Inc | CHTR | 98,485.91 | 0.38% | 0.00% | 44.24% | 44.24% | 0.1688% |
| Cigna Corp | CI | 59,817.37 | 0.23% | 0.06% | 12.74% | 12.81% | 0.0297% |
| Cincinnati Financial Corp | CINF | 16,922.04 | N/A | 2.31% | N/A | N/A | N/A |
| Colgate-Palmolive Co | CL | 61,529.76 | 0.24% | 2.40% | 4.08% | 6.53% | 0.0156% |
| Clorox Co/The | CLX | 19,501.29 | 0.08% | 2.52% | 4.43% | 7.00% | 0.0053% |
| Comerica Inc | CMA | 11,198.24 | 0.04% | 3.79% | 12.60% | 16.62% | 0.0072% |
| Comcast Corp | CMCSA | 191,900.08 | 0.74% | 1.97% | 11.42% | 13.50% | 0.1003% |
| CME Group Inc | CME | 69,486.54 | 0.27% | 2.74% | 7.90% | 10.75% | 0.0289% |
| Chipotle Mexican Grill Inc | CMG | 20,310.71 | 0.08% | 0.00% | 20.24% | 20.24% | 0.0159% |
| Cummins Inc | CMI | 26,984.73 | 0.10% | 2.72% | 7.15% | 9.96% | 0.0104% |
| CMS Energy Corp | CMS | 16,432.19 | 0.06% | 2.64% | 7.32% | 10.06% | 0.0064% |
| Centene Corp | CNC | 21,676.96 | 0.08% | 0.00% | 13.90% | 13.90% | 0.0117% |
| CenterPoint Energy Inc | CNP | 14,356.24 | 0.06% | 4.07% | 5.92% | 10.11% | 0.0056% |
| Capital One Financial Corp | COF | 42,611.19 | 0.17% | 1.79% | 5.20% | 7.04% | 0.0116% |
| Cabot Oil & Gas Corp | COG | 9,718.65 | 0.04% | 1.46% | 35.02% | 36.74% | 0.0138% |
| Cooper Cos Inc/The | COO | 16,671.93 | 0.06% | 0.02% | 6.18% | 6.20% | 0.0040% |
| ConocoPhillips | COP | 68,940.73 | 0.27% | 2.04% | 5.00% | 7.09% | 0.0189% |
| Costco Wholesale Corp | COST | 116,218.69 | 0.45% | 0.91% | 10.51% | 11.47% | 0.0516% |
| Coty Inc | COTY | 10,068.73 | 0.04% | 3.69% | 8.05% | 11.89% | 0.0046% |
| Campbell Soup Co | CPB | 12,067.08 | 0.05% | 3.51% | 2.74% | 6.31% | 0.0029% |
| Capri Holdings Ltd | CPRI | 5,234.57 | 0.02% | 0.00% | 7.32% | 7.32% | 0.0015% |
| Copart Inc | CPRT | 17,123.90 | 0.07% | 0.00% | 20.00% | 20.00% | 0.0133% |
| salesforce.com Inc | CRM | 117,557.86 | 0.46% | 0.00% | 23.01% | 23.01% | 0.1048% |
| Cisco Systems Inc | CSCO | 234,284.52 | 0.91% | 2.49% | 6.96% | 9.54% | 0.0866% |
| CSX Corp | CSX | 62,604.99 | 0.24% | 1.21% | 11.15% | 12.42% | 0.0301% |
| Cintas Corp | CTAS | 24,813.62 | 0.10% | 0.86% | 12.02% | 12.94% | 0.0124% |
| CenturyLink Inc | CTL | 12,822.09 | 0.05% | 8.50% | 1.78% | 10.36% | 0.0051% |
| Cognizant Technology Solutions Corp | CTSH | 36,086.85 | 0.14% | 1.27% | 11.05% | 12.39% | 0.0173% |
| Corteva Inc | CTVA | 22,142.46 | N/A | 1.65% | N/A | N/A | N/A |
| Citrix Systems Inc | CTXS | 12,920.31 | 0.05% | 1.43% | 37.42% | 39.11% | 0.0196% |
| CVS Health Corp | CVS | 70,787.53 | 0.27% | 3.65% | 6.04% | 9.81% | 0.0269% |
| Chevron Corp | CVX | 237,025.56 | 0.92% | 3.81% | 1.32% | 5.15% | 0.0473% |
| Concho Resources Inc | CXO | 20,697.29 | 0.08% | 0.40% | 11.70% | 12.13% | 0.0097% |
| Dominion Energy Inc | D | 62,038.81 | 0.24% | 4.73% | 4.89% | 9.74% | 0.0234% |
| Delta Air Lines Inc | DAL | 37,151.18 | 0.14% | 2.60% | 12.72% | 15.48% | 0.0223% |
| DuPont de Nemours Inc | DD | 56,212.11 | 0.22% | 1.36% | 65.59% | 67.39% | 0.1467% |
| Deere & Co | DE | 52,529.33 | 0.20% | 1.83% | 9.45% | 11.37% | 0.0231% |
| Discover Financial Services | DFS | 25,118.12 | 0.10% | 2.12% | 7.79% | 10.00% | 0.0097% |
| Dollar General Corp | DG | 34,914.91 | 0.14% | 0.95% | 10.60% | 11.59% | 0.0157% |
| Quest Diagnostics Inc | DGX | 13,680.73 | 0.05% | 2.06% | 7.13% | 9.27% | 0.0049% |
| DR Horton Inc | DHI | 16,095.12 | 0.06% | 1.39% | 12.47% | 13.95% | 0.0087% |
| Danaher Corp | DHR | 102,321.24 | 0.40% | 0.47% | 8.44% | 8.93% | 0.0354% |
| Walt Disney Co/The | DIS | 251,309.96 | 0.97% | 1.27% | 2.08% | 3.36% | 0.0327% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Discovery Inc | DISCA | 21,138.39 | 0.08% | 0.00% | 13.35% | 13.35% | 0.0109% |
| DISH Network Corp | DISH | 18,020.72 | 0.07% | 0.00% | -21.96% | -21.96% | -0.0153% |
| Digital Realty Trust Inc | DLR | 25,649.53 | 0.10% | 3.66% | 7.30% | 11.09% | 0.0110% |
| Dollar Tree Inc | DLTR | 25,513.61 | 0.10% | 0.00% | 8.52% | 8.52% | 0.0084% |
| Dover Corp | DOV | 14,562.01 | 0.06% | 1.99% | 11.50% | 13.60% | 0.0077% |
| Dow Inc | DOW | 36,924.52 | 0.14% | 5.68% | 7.15% | 13.03% | 0.0186% |
| Duke Realty Corp | DRE | 11,361.52 | 0.04% | 2.76% | 4.62% | 7.45% | 0.0033% |
| Darden Restaurants Inc | DRI | 14,969.84 | 0.06% | 2.90% | 10.75% | 13.80% | 0.0080% |
| DTE Energy Co | DTE | 23,429.21 | 0.09% | 2.98% | 7.43% | 10.52% | 0.0095% |
| Duke Energy Corp | DUK | 64,238.72 | 0.25% | 4.29% | 5.03% | 9.43% | 0.0235% |
| DaVita Inc | DVA | 9,361.66 | 0.04% | 0.00% | 18.83% | 18.83% | 0.0068% |
| Devon Energy Corp | DVN | 11,841.50 | 0.05% | 1.19% | 5.34% | 6.56% | 0.0030% |
| DXC Technology Co | DXC | 14,813.14 | 0.06% | 1.48% | 5.28% | 6.80% | 0.0039% |
| Electronic Arts Inc | EA | 30,009.29 | 0.12% | 0.00% | 13.20% | 13.20% | 0.0153% |
| eBay Inc | EBAY | 34,425.33 | 0.13% | 1.42% | 10.66% | 12.15% | 0.0162% |
| Ecolab Inc | ECL | 56,910.53 | 0.22% | 0.94% | 13.13% | 14.13% | 0.0312% |
| Consolidated Edison Inc | ED | 29,188.83 | 0.11% | 3.37% | 4.18% | 7.62% | 0.0086% |
| Equifax Inc | EFX | 16,340.24 | 0.06% | 1.16% | 11.63% | 12.86% | 0.0081% |
| Edison International | EIX | 21,962.93 | 0.09% | 3.64% | 5.52% | 9.26% | 0.0079% |
| Estee Lauder Cos Inc/The | EL | 66,262.49 | 0.26% | 0.90% | 11.84% | 12.80% | 0.0328% |
| Eastman Chemical Co | EMN | 10,801.71 | 0.04% | 3.15% | 6.50% | 9.75% | 0.0041% |
| Emerson Electric Co | EMR | 41,034.57 | 0.16% | 2.94% | 8.84% | 11.91% | 0.0189% |
| EOG Resources Inc | EOG | 54,063.04 | 0.21% | 1.02% | 7.79% | 8.85% | 0.0185% |
| Equinix Inc | EQIX | 42,395.68 | 0.16% | 1.95% | 18.37% | 20.50% | 0.0337% |
| Equity Residential | EQR | 28,131.07 | 0.11% | 2.98% | 6.73% | 9.80% | 0.0107% |
| Eversource Energy | ES | 24,503.90 | 0.09% | 2.83% | 5.94% | 8.85% | 0.0084% |
| Essex Property Trust Inc | ESS | 19,184.63 | 0.07% | 2.67% | 5.26% | 8.00% | 0.0059% |
| E*TRADE Financial Corp | ETFC | 10,912.31 | 0.04% | 1.10% | 12.73% | 13.90% | 0.0059% |
| Eaton Corp PLC | ETN | 35,235.77 | 0.14% | 3.42% | 8.95% | 12.52% | 0.0171% |
| Entergy Corp | ETR | 19,549.13 | 0.08% | 3.58% | 0.38% | 3.96% | 0.0030% |
| Evergy Inc | EVRG | 14,682.52 | 0.06% | 3.19% | 8.85% | 12.18% | 0.0069% |
| Edwards Lifesciences Corp | EW | 38,518.59 | 0.15% | 0.00% | 14.75% | 14.75% | 0.0220% |
| Exelon Corp | EXC | 46,499.51 | 0.18% | 3.02% | 2.35% | 5.41% | 0.0097% |
| Expeditors International of Washingto | EXPD | 13,047.61 | 0.05% | 1.27% | 9.80% | 11.14% | 0.0056% |
| Expedia Group Inc | EXPE | 19,808.50 | 0.08% | 0.95% | 21.84% | 22.90% | 0.0176% |
| Extra Space Storage Inc | EXR | 13,522.83 | 0.05% | 3.34% | 5.43% | 8.86% | 0.0046% |
| Ford Motor Co | F | 40,813.05 | 0.16% | 5.87% | -4.77% | 0.96% | 0.0015% |
| Diamondback Energy Inc | FANG | 17,944.33 | 0.07% | 0.61% | 14.55% | 15.20% | 0.0106% |
| Fastenal Co | FAST | 18,662.00 | 0.07% | 2.94% | 7.55% | 10.60% | 0.0077% |
| Facebook Inc | FB | 550,957.10 | 2.13% | 0.00% | 19.22% | 19.22% | 0.4101% |
| Fortune Brands Home & Security Inc | FBHS | 7,991.39 | 0.03% | 1.53% | 9.47% | 11.07% | 0.0034% |
| Freeport-McMoRan Inc | FCX | 16,841.87 | 0.07% | 1.72% | -7.91% | -6.26% | -0.0041% |
| FedEx Corp | FDX | 42,783.75 | 0.17% | 1.63% | 14.40% | 16.15% | 0.0268% |
| FirstEnergy Corp | FE | 22,751.05 | 0.09% | 3.56% | 3.80% | 7.42% | 0.0065% |
| F5 Networks Inc | FFIV | 8,693.42 | 0.03% | 0.00% | 9.95% | 9.95% | 0.0034% |
| Fidelity National Information Services | FIS | 39,728.44 | 0.15% | 1.14% | 10.92% | 12.12% | 0.0186% |
| Fiserv Inc | FISV | 35,774.82 | 0.14% | 0.00% | 13.00% | 13.00% | 0.0180% |
| Fifth Third Bancorp | FITB | 20,489.37 | 0.08% | 3.45% | 3.95% | 7.47% | 0.0059% |
| Foot Locker Inc | FL | 4,598.67 | 0.02% | 3.61% | 6.55% | 10.28% | 0.0018% |
| FLIR Systems Inc | FLIR | 7,326.28 | N/A | 1.26% | N/A | N/A | N/A |
| Flowserve Corp | FLS | 6,909.68 | 0.03% | 1.48% | 19.15% | 20.77% | 0.0056% |
| FleetCor Technologies Inc | FLT | 24,207.42 | 0.09% | 0.00% | 19.67% | 19.67% | 0.0184% |
| FMC Corp | FMC | 10,921.01 | 0.04% | 1.82% | 9.33% | 11.23% | 0.0048% |
| Fox Corp | FOXA | 22,706.76 | 0.09% | 0.22% | 1.67% | 1.89% | 0.0017% |
| First Republic Bank/CA | FRC | 16,273.49 | 0.06% | 0.77% | 12.14% | 12.95% | 0.0082% |
| Federal Realty Investment Trust | FRT | 9,644.90 | 0.04% | 3.23% | 5.61% | 8.94% | 0.0033% |
| TechnipFMC PLC | FTI | 11,622.76 | 0.05% | 2.00% | 17.52% | 19.69% | 0.0089% |
| Fortinet Inc | FTNT | 13,119.54 | 0.05% | 0.00% | 24.04% | 24.04% | 0.0122% |
| Fortive Corp | FTV | 27,317.30 | 0.11% | 0.38% | 11.52% | 11.92% | 0.0126% |
| General Dynamics Corp | GD | 52,522.71 | 0.20% | 2.20% | 8.76% | 11.05% | 0.0225% |
| General Electric Co | GE | 91,568.48 | 0.35% | 0.38% | 8.87% | 9.26% | 0.0329% |
| Gilead Sciences Inc | GILD | 85,906.23 | 0.33% | 3.71% | 8.62% | 12.49% | 0.0416% |
| General Mills Inc | GIS | 31,614.92 | 0.12% | 3.79% | 5.53% | 9.42% | 0.0115% |
| Corning Inc | GLW | 26,077.38 | 0.10% | 2.43% | 11.04% | 13.60% | 0.0137% |
| General Motors Co | GM | 54,650.68 | 0.21% | 3.99% | 11.70% | 15.92% | 0.0337% |
| Alphabet Inc | GOOGL | 751,025.00 | 2.91% | 0.00% | 12.45% | 12.45% | 0.3622% |
| Genuine Parts Co | GPC | 15,129.30 | 0.06% | 2.95% | 5.84% | 8.87% | 0.0052% |
| Global Payments Inc | GPN | 25,090.58 | 0.10% | 0.02% | 16.73% | 16.76% | 0.0163% |
| Gap Inc/The | GPS | 6,792.15 | 0.03% | 5.44% | 5.24% | 10.82% | 0.0028% |
| Garmin Ltd | GRMN | 15,149.80 | 0.06% | 2.91% | 7.00% | 10.01% | 0.0059% |
| Goldman Sachs Group Inc/The | GS | 77,838.06 | 0.30% | 1.67% | 1.14% | 2.81% | 0.0085% |
| WW Grainger Inc | GWW | 14,871.63 | 0.06% | 2.09% | 12.47% | 14.68% | 0.0085% |
| Halliburton Co | HAL | 19,874.27 | 0.08% | 3.20% | 8.84% | 12.19% | 0.0094% |
| Hasbro Inc | HAS | 13,300.26 | 0.05% | 2.57% | 9.47% | 12.16% | 0.0063% |
| Huntington Bancshares Inc/OH | HBAN | 14,461.80 | 0.06% | 4.23% | 8.24% | 12.64% | 0.0071% |
| Hanesbrands Inc | HBI | 6,224.53 | 0.02% | 3.62% | 3.25% | 6.93% | 0.0017% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| HCA Healthcare Inc | HCA | 46,269.69 | 0.18% | 0.91% | 11.62% | 12.59% | 0.0226% |
| HCP Inc | HCP | 15,285.90 | 0.06% | 4.63% | 2.68% | 7.37% | 0.0044% |
| Home Depot Inc/The | HD | 228,826.50 | 0.89% | 2.60% | 9.37% | 12.10% | 0.1072% |
| Hess Corp | HES | 19,289.60 | 0.07% | 1.66% | -23.46% | -21.99% | -0.0164% |
| HollyFrontier Corp | HFC | 7,903.02 | 0.03% | 2.89% | 1.05% | 3.96% | 0.0012% |
| Hartford Financial Services Group Inc | HIG | 20,142.73 | 0.08% | 2.23% | 9.50% | 11.83% | 0.0092% |
| Huntington Ingalls Industries Inc | HII | 9,338.45 | 0.04% | 1.53% | 40.00% | 41.84% | 0.0151% |
| Hilton Worldwide Holdings Inc | HLT | 28,448.46 | 0.11% | 0.62% | 13.10% | 13.76% | 0.0152% |
| Harley-Davidson Inc | HOG | 5,699.58 | 0.02% | 4.31% | 8.60% | 13.10% | 0.0029% |
| Hologic Inc | HOLX | 12,871.77 | 0.05% | 0.00% | 8.39% | 8.39% | 0.0042% |
| Honeywell International Inc | HON | 127,056.48 | 0.49% | 1.90% | 8.18% | 10.16% | 0.0500% |
| Helmerich & Payne Inc | HP | 5,538.57 | 0.02% | 5.63% | 25.62% | 31.97% | 0.0069% |
| Hewlett Packard Enterprise Co | HPE | 20,020.27 | 0.08% | 3.06% | 5.79% | 8.94% | 0.0069% |
| HP Inc | HPQ | 31,315.81 | 0.12% | 3.05% | 3.11% | 6.21% | 0.0075% |
| H&R Block Inc | HRB | 5,917.44 | 0.02% | 3.47% | 10.00% | 13.64% | 0.0031% |
| Hormel Foods Corp | HRL | 21,642.06 | 0.08% | 2.07% | 5.70% | 7.83% | 0.0066% |
| Harris Corp | HRS | 22,341.09 | N/A | 1.45% | N/A | N/A | N/A |
| Henry Schein Inc | HSIC | 10,420.31 | 0.04% | 0.00% | 3.25% | 3.25% | 0.0013% |
| Host Hotels & Resorts Inc | HST | 13,499.08 | 0.05% | 4.62% | 15.05% | 20.01% | 0.0105% |
| Hershey Co/The | HSY | 27,985.40 | 0.11% | 2.24% | 7.07% | 9.38% | 0.0102% |
| Humana Inc | HUM | 35,824.79 | 0.14% | 0.79% | 13.47% | 14.31% | 0.0199% |
| International Business Machines Corp | IBM | 122,268.05 | 0.47% | 4.69% | 1.92% | 6.65% | 0.0315% |
| Intercontinental Exchange Inc | ICE | 48,458.56 | 0.19% | 1.27% | 9.35% | 10.68% | 0.0200% |
| IDEXX Laboratories Inc | IDXX | 23,680.12 | 0.09% | 0.00% | 18.30% | 18.30% | 0.0168% |
| International Flavors & Fragrances Inc | IFF | 15,479.82 | 0.06% | 1.97% | 7.80% | 9.85% | 0.0059% |
| Illumina Inc | ILMN | 54,118.05 | 0.21% | 0.00% | 27.09% | 27.09% | 0.0568% |
| Incyte Corp | INCY | 18,218.70 | 0.07% | 0.00% | 43.10% | 43.10% | 0.0304% |
| IHS Markit Ltd | INFO | 25,555.18 | 0.10% | 0.00% | 11.15% | 11.15% | 0.0110% |
| Intel Corp | INTC | 214,313.99 | 0.83% | 2.60% | 8.88% | 11.59% | 0.0962% |
| Intuit Inc | INTU | 67,748.07 | 0.26% | 0.71% | 16.16% | 16.93% | 0.0444% |
| International Paper Co | IP | 17,212.51 | 0.07% | 4.65% | 4.77% | 9.53% | 0.0064% |
| Interpublic Group of Cos Inc/The | IPG | 8,743.21 | 0.03% | 4.16% | 11.75% | 16.15% | 0.0055% |
| IPG Photonics Corp | IPGP | 8,197.44 | 0.03% | 0.00% | 10.49% | 10.49% | 0.0033% |
| IQVIA Holdings Inc | IQV | 31,736.03 | 0.12% | 0.00% | 15.96% | 15.96% | 0.0196% |
| Ingersoll-Rand PLC | IR | 30,547.51 | 0.12% | 1.71% | 9.16% | 10.94% | 0.0130% |
| Iron Mountain Inc | IRM | 8,979.36 | 0.03% | 7.84% | 7.32% | 15.45% | 0.0054% |
| Intuitive Surgical Inc | ISRG | 60,558.59 | 0.23% | 0.00% | 12.30% | 12.30% | 0.0289% |
| Gartner Inc | IT | 14,499.15 | 0.06% | 0.00% | 14.00% | 14.00% | 0.0079% |
| Illinois Tool Works Inc | ITW | 49,130.14 | 0.19% | 2.66% | 7.27% | 10.02% | 0.0191% |
| Invesco Ltd | IVZ | 9,750.71 | 0.04% | 6.06% | 7.12% | 13.40% | 0.0051% |
| JB Hunt Transport Services Inc | JBHT | 9,939.82 | 0.04% | 1.12% | 13.13% | 14.32% | 0.0055% |
| Johnson Controls International plc | JCI | 37,099.22 | 0.14% | 2.59% | 7.80% | 10.49% | 0.0151% |
| Jacobs Engineering Group Inc | JEC | 11,528.42 | 0.04% | 0.69% | 13.10% | 13.84% | 0.0062% |
| Jefferies Financial Group Inc | JEF | 5,589.91 | N/A | 2.60% | N/A | N/A | N/A |
| Jack Henry & Associates Inc | JKHY | 10,339.11 | 0.04% | 1.14% | 9.03% | 10.22% | 0.0041% |
| Johnson & Johnson | JNJ | 369,796.20 | 1.43% | 2.70% | 5.98% | 8.76% | 0.1255% |
| Juniper Networks Inc | JNPR | 9,169.39 | 0.04% | 2.84% | 7.92% | 10.87% | 0.0039% |
| JPMorgan Chase & Co | JPM | 362,676.18 | 1.40% | 3.04% | 6.80% | 9.95% | 0.1398% |
| Nordstrom Inc | JWN | 4,927.21 | 0.02% | 4.78% | 5.97% | 10.89% | 0.0021% |
| Kellogg Co | K | 18,240.42 | 0.07% | 4.25% | 2.29% | 6.58% | 0.0046% |
| KeyCorp | KEY | 17,897.12 | 0.07% | 4.01% | 6.26% | 10.40% | 0.0072% |
| Keysight Technologies Inc | KEYS | 16,899.63 | N/A | 0.00% | N/A | N/A | N/A |
| Kraft Heinz Co/The | KHC | 37,866.90 | 0.15% | 5.15% | 0.45% | 5.62% | 0.0082% |
| Kimco Realty Corp | KIM | 7,799.31 | 0.03% | 6.13% | 3.83% | 10.08% | 0.0030% |
| KLA-Tencor Corp | KLAC | 19,103.51 | 0.07% | 2.52% | 9.44% | 12.07% | 0.0089% |
| Kimberly-Clark Corp | KMB | 45,821.04 | 0.18% | 3.08% | 4.17% | 7.31% | 0.0130% |
| Kinder Morgan Inc/DE | KMI | 47,266.94 | 0.18% | 4.76% | 13.90% | 18.99% | 0.0348% |
| CarMax Inc | KMX | 14,361.26 | 0.06% | 0.00% | 10.61% | 10.61% | 0.0059% |
| Coca-Cola Co/The | KO | 217,230.58 | 0.84% | 3.11% | 6.30% | 9.51% | 0.0800% |
| Kroger Co/The | KR | 17,341.92 | 0.07% | 2.69% | 6.00% | 8.77% | 0.0059% |
| Kohl's Corp | KSS | 7,704.33 | 0.03% | 5.64% | 5.55% | 11.34% | 0.0034% |
| Kansas City Southern | KSU | 12,253.51 | 0.05% | 1.24% | 12.50% | 13.82% | 0.0066% |
| Loews Corp | L | 16,668.23 | N/A | 0.46% | N/A | N/A | N/A |
| L Brands Inc | LB | 7,212.49 | 0.03% | 4.65% | 9.38% | 14.25% | 0.0040% |
| Leggett & Platt Inc | LEG | 5,036.78 | 0.02% | 4.07% | 10.00% | 14.27% | 0.0028% |
| Lennar Corp | LEN | 15,285.48 | 0.06% | 0.33% | 10.09% | 10.43% | 0.0062% |
| Laboratory Corp of America Holdings | LH | 17,061.46 | 0.07% | 0.00% | 7.28% | 7.28% | 0.0048% |
| Linde PLC | LIN | 108,987.46 | 0.42% | 1.75% | 15.05% | 16.93% | 0.0715% |
| LKQ Corp | LKQ | 8,355.38 | 0.03% | 0.00% | 13.30% | 13.30% | 0.0043% |
| L3 Technologies Inc | LLL | 19,479.04 | 0.08% | 1.42% | 5.00% | 6.45% | 0.0049% |
| Eli Lilly & Co | LLY | 107,558.35 | 0.42% | 2.24% | 9.32% | 11.66% | 0.0486% |
| Lockheed Martin Corp | LMT | 102,714.16 | 0.40% | 2.46% | 7.82% | 10.38% | 0.0413% |
| Lincoln National Corp | LNC | 13,041.02 | 0.05% | 2.34% | 9.00% | 11.45% | 0.0058% |
| Alliant Energy Corp | LNT | 11,651.32 | 0.05% | 2.90% | 5.56% | 8.54% | 0.0039% |
| Lowe's Cos Inc | LOW | 79,004.10 | 0.31% | 2.09% | 14.66% | 16.90% | 0.0517% |
| Lam Research Corp | LRCX | 28,162.20 | 0.11% | 2.22% | 9.10% | 11.42% | 0.0125% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Southwest Airlines Co | LUV | 27,576.83 | 0.11% | 1.39% | 5.01% | 6.44% | 0.0069% |
| Lamb Weston Holdings Inc | LW | 9,267.91 | 0.04% | 1.24% | 11.83% | 13.14% | 0.0047% |
| LyondellBasell Industries NV | LYB | 31,896.28 | 0.12% | 4.94% | 6.20% | 11.29% | 0.0139% |
| Macy's Inc | M | 6,628.38 | 0.03% | 7.03% | 1.83% | 8.92% | 0.0023% |
| Mastercard Inc | MA | 270,196.19 | 1.05% | 0.47% | 17.28% | 17.78% | 0.1861% |
| Mid-America Apartment Communities | MAA | 13,424.12 | 0.05% | 3.28% | 7.00% | 10.39% | 0.0054% |
| Macerich Co/The | MAC | 4,730.08 | 0.02% | 8.98% | 0.13% | 9.12% | 0.0017% |
| Marriott International Inc/MD | MAR | 46,715.00 | 0.18% | 1.29% | 8.26% | 9.61% | 0.0174% |
| Masco Corp | MAS | 11,518.86 | 0.04% | 1.21% | 11.10% | 12.37% | 0.0055% |
| McDonald's Corp | MCD | 158,560.12 | 0.61% | 2.26% | 8.69% | 11.05% | 0.0679% |
| Microchip Technology Inc | MCHP | 20,628.23 | 0.08% | 1.69% | 10.87% | 12.65% | 0.0101% |
| McKesson Corp | MCK | 25,047.22 | 0.10% | 1.20% | 4.01% | 5.23% | 0.0051% |
| Moody's Corp | MCO | 37,030.78 | 0.14% | 0.98% | 7.05% | 8.06% | 0.0116% |
| Mondelez International Inc | MDLZ | 77,639.49 | 0.30% | 1.98% | 6.94% | 8.99% | 0.0270% |
| Medtronic PLC | MDT | 130,615.25 | 0.51% | 2.17% | 7.34% | 9.59% | 0.0485% |
| MetLife Inc | MET | 47,204.85 | 0.18% | 3.50% | 8.46% | 12.11% | 0.0221% |
| MGM Resorts International | MGM | 15,347.84 | 0.06% | 1.82% | 12.35% | 14.28% | 0.0085% |
| Mohawk Industries Inc | MHK | 10,679.96 | 0.04% | 0.00% | 6.82% | 6.82% | 0.0028% |
| McCormick & Co Inc/MD | MKC | 20,542.51 | 0.08% | 1.44% | 6.20% | 7.68% | 0.0061% |
| Martin Marietta Materials Inc | MLM | 14,377.15 | 0.06% | 0.86% | 13.90% | 14.81% | 0.0083% |
| Marsh & McLennan Cos Inc | MMC | 51,006.58 | 0.20% | 1.75% | 11.73% | 13.58% | 0.0268% |
| 3M Co | MMM | 99,917.81 | 0.39% | 3.27% | 7.10% | 10.49% | 0.0406% |
| Monster Beverage Corp | MNST | 34,696.47 | 0.13% | 0.00% | 14.45% | 14.45% | 0.0194% |
| Altria Group Inc | MO | 88,588.06 | 0.34% | 6.96% | 6.53% | 13.71% | 0.0471% |
| Mosaic Co/The | MOS | 9,656.28 | 0.04% | 0.76% | 14.00% | 14.82% | 0.0055% |
| Marathon Petroleum Corp | MPC | 37,027.09 | 0.14% | 3.83% | 9.33% | 13.34% | 0.0191% |
| Merck & Co Inc | MRK | 215,883.93 | 0.84% | 2.62% | 11.17% | 13.94% | 0.1166% |
| Marathon Oil Corp | MRO | 11,622.59 | 0.05% | 1.41% | -2.65% | -1.26% | -0.0006% |
| Morgan Stanley | MS | 73,698.70 | 0.29% | 2.97% | 9.49% | 12.60% | 0.0360% |
| MSCI Inc | MSCI | 20,220.42 | 0.08% | 0.97% | 10.00% | 11.02% | 0.0086% |
| Microsoft Corp | MSFT | 1,026,511.09 | 3.98% | 1.35% | 11.85% | 13.28% | 0.5282% |
| Motorola Solutions Inc | MSI | 27,474.82 | 0.11% | 1.38% | 9.00% | 10.44% | 0.0111% |
| M&T Bank Corp | MTB | 23,235.33 | 0.09% | 2.52% | 7.28% | 9.89% | 0.0089% |
| Mettler-Toledo International Inc | MTD | 20,834.76 | 0.08% | 0.00% | 12.97% | 12.97% | 0.0105% |
| Micron Technology Inc | MU | 42,595.77 | 0.16% | 0.00% | -1.90% | -1.90% | -0.0031% |
| Maxim Integrated Products Inc | MXIM | 16,296.47 | 0.06% | 3.08% | 8.97% | 12.18% | 0.0077% |
| Mylan NV | MYL | 9,814.51 | 0.04% | 0.00% | 4.71% | 4.71% | 0.0018% |
| Noble Energy Inc | NBL | 10,712.39 | 0.04% | 2.02% | 6.31% | 8.39% | 0.0035% |
| Norwegian Cruise Line Holdings Ltd | NCLH | 11,551.66 | 0.04% | 0.36% | 10.18% | 10.56% | 0.0047% |
| Nasdaq Inc | NDAQ | 15,935.80 | 0.06% | 1.92% | 7.09% | 9.08% | 0.0056% |
| NextEra Energy Inc | NEE | 98,114.69 | 0.38% | 2.43% | 5.31% | 7.81% | 0.0297% |
| Newmont Goldcorp Corp | NEM | 31,531.30 | 0.12% | 1.46% | 5.10% | 6.60% | 0.0081% |
| Netflix Inc | NFLX | 160,599.63 | 0.62% | 0.00% | 43.23% | 43.23% | 0.2689% |
| NiSource Inc | NI | 10,745.37 | 0.04% | 2.79% | 5.51% | 8.37% | 0.0035% |
| NIKE Inc | NKE | 131,948.38 | 0.51% | 1.10% | 17.48% | 18.67% | 0.0954% |
| Nektar Therapeutics | NKTR | 6,201.84 | 0.02% | 0.00% | -2.40% | -2.40% | -0.0006% |
| Nielsen Holdings PLC | NLSN | 8,034.16 | 0.03% | 6.33% | 12.00% | 18.71% | 0.0058% |
| Northrop Grumman Corp | NOC | 54,863.97 | 0.21% | 1.62% | 5.95% | 7.62% | 0.0162% |
| National Oilwell Varco Inc | NOV | 8,579.01 | 0.03% | 0.90% | 24.00% | 25.01% | 0.0083% |
| NRG Energy Inc | NRG | 9,382.42 | 0.04% | 0.34% | 32.57% | 32.97% | 0.0120% |
| Norfolk Southern Corp | NSC | 53,015.21 | 0.21% | 1.73% | 13.37% | 15.21% | 0.0312% |
| NetApp Inc | NTAP | 14,809.37 | 0.06% | 3.11% | 9.73% | 12.99% | 0.0075% |
| Northern Trust Corp | NTRS | 19,590.89 | 0.08% | 2.74% | 8.75% | 11.62% | 0.0088% |
| Nucor Corp | NUE | 16,793.69 | 0.07% | 2.91% | 0.65% | 3.57% | 0.0023% |
| NVIDIA Corp | NVDA | 100,016.07 | 0.39% | 0.39% | 9.76% | 10.17% | 0.0394% |
| Newell Brands Inc | NWL | 6,524.20 | 0.03% | 5.96% | -4.75% | 1.07% | 0.0003% |
| News Corp | NWSA | 7,987.66 | 0.03% | 1.53% | -10.26% | -8.81% | -0.0027% |
| Realty Income Corp | O | 21,826.72 | 0.08% | 3.95% | 4.69% | 8.73% | 0.0074% |
| ONEOK Inc | OKE | 28,401.76 | 0.11% | 5.16% | 11.96% | 17.42% | 0.0192% |
| Omnicom Group Inc | OMC | 18,042.74 | 0.07% | 3.17% | 4.06% | 7.29% | 0.0051% |
| Oracle Corp | ORCL | 190,041.61 | 0.74% | 1.60% | 7.63% | 9.30% | 0.0684% |
| O'Reilly Automotive Inc | ORLY | 28,909.16 | 0.11% | 0.00% | 15.22% | 15.22% | 0.0170% |
| Occidental Petroleum Corp | OXY | 37,610.46 | 0.15% | 6.21% | 12.23% | 18.82% | 0.0274% |
| Paychex Inc | PAYX | 29,566.80 | 0.11% | 3.01% | 7.15% | 10.27% | 0.0118% |
| People's United Financial Inc | PBCT | 6,684.49 | 0.03% | 4.22% | 2.00% | 6.26% | 0.0016% |
| PACCAR Inc | PCAR | 24,826.13 | 0.10% | 4.67% | 5.00% | 9.79% | 0.0094% |
| Public Service Enterprise Group Inc | PEG | 29,729.42 | 0.12% | 3.20% | 6.14% | 9.43% | 0.0109% |
| PepsiCo Inc | PEP | 183,820.87 | 0.71% | 2.89% | 5.45% | 8.42% | 0.0600% |
| Pfizer Inc | PFE | 240,856.13 | 0.93% | 3.31% | 5.09% | 8.48% | 0.0791% |
| Principal Financial Group Inc | PFG | 16,133.51 | 0.06% | 3.81% | 4.60% | 8.50% | 0.0053% |
| Procter & Gamble Co/The | PG | 275,038.36 | 1.07% | 2.65% | 7.15% | 9.89% | 0.1054% |
| Progressive Corp/The | PGR | 46,687.11 | 0.18% | 3.45% | 6.23% | 9.79% | 0.0177% |
| Parker-Hannifin Corp | PH | 21,809.80 | 0.08% | 1.82% | 9.02% | 10.91% | 0.0092% |
| PulteGroup Inc | PHM | 8,763.08 | 0.03% | 1.39% | 8.15% | 9.59% | 0.0033% |
| Packaging Corp of America | PKG | 9,007.17 | 0.03% | 3.35% | 8.33% | 11.83% | 0.0041% |
| PerkinElmer Inc | PKI | 10,685.89 | 0.04% | 0.29% | 16.09% | 16.41% | 0.0068% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Prologis Inc | PLD | 50,519.09 | 0.20% | 2.64% | 7.04% | 9.77% | 0.0191% |
| Philip Morris International Inc | PM | 122,177.19 | 0.47% | 5.99% | 6.78% | 12.97% | 0.0614% |
| PNC Financial Services Group Inc/Th | PNC | 61,973.40 | 0.24% | 3.00% | 7.48% | 10.59% | 0.0254% |
| Pentair PLC | PNR | 6,394.38 | 0.02% | 1.99% | 7.24% | 9.30% | 0.0023% |
| Pinnacle West Capital Corp | PNW | 10,564.18 | 0.04% | 3.20% | 5.29% | 8.58% | 0.0035% |
| PPG Industries Inc | PPG | 27,550.56 | 0.11% | 1.68% | 8.62% | 10.36% | 0.0111% |
| PPL Corp | PPL | 22,369.71 | N/A | 5.35% | N/A | N/A | N/A |
| Perrigo Co PLC | PRGO | 6,475.91 | 0.03% | 1.59% | -0.80% | 0.78% | 0.0002% |
| Prudential Financial Inc | PRU | 41,006.00 | 0.16% | 3.99% | 9.00% | 13.16% | 0.0209% |
| Public Storage | PSA | 41,565.89 | 0.16% | 3.39% | 5.23% | 8.71% | 0.0140% |
| Phillips 66 | PSX | 42,425.18 | 0.16% | 3.69% | 2.05% | 5.78% | 0.0095% |
| PVH Corp | PVH | 7,089.78 | 0.03% | 0.16% | 8.12% | 8.29% | 0.0023% |
| Quanta Services Inc | PWR | 5,444.66 | 0.02% | 0.42% | 22.00% | 22.47% | 0.0047% |
| Pioneer Natural Resources Co | PXD | 25,913.68 | 0.10% | 0.51% | 24.90% | 25.48% | 0.0256% |
| PayPal Holdings Inc | PYPL | 134,482.83 | 0.52% | 0.00% | 19.06% | 19.06% | 0.0993% |
| QUALCOMM Inc | QCOM | 92,478.22 | 0.36% | 3.32% | 15.42% | 18.99% | 0.0680% |
| Qorvo Inc | QRVO | 7,863.51 | 0.03% | 0.25% | 9.62% | 9.88% | 0.0030% |
| Royal Caribbean Cruises Ltd | RCL | 25,411.42 | 0.10% | 2.35% | 11.71% | 14.19% | 0.0140% |
| Everest Re Group Ltd | RE | 10,068.54 | 0.04% | 2.28% | 10.00% | 12.39% | 0.0048% |
| Regency Centers Corp | REG | 11,191.26 | 0.04% | 3.47% | 4.32% | 7.86% | 0.0034% |
| Regeneron Pharmaceuticals Inc | REGN | 34,316.94 | 0.13% | 0.00% | 11.92% | 11.92% | 0.0158% |
| Regions Financial Corp | RF | 15,137.58 | 0.06% | 4.05% | 9.22% | 13.46% | 0.0079% |
| Robert Half International Inc | RHI | 6,758.97 | 0.03% | 2.19% | 9.05% | 11.34% | 0.0030% |
| Red Hat Inc | RHT | 33,438.74 | 0.13% | 0.00% | 20.30% | 20.30% | 0.0263% |
| Raymond James Financial Inc | RJF | 11,905.09 | 0.05% | 1.57% | 11.10% | 12.75% | 0.0059% |
| Ralph Lauren Corp | RL | 8,778.26 | 0.03% | 2.42% | 7.84% | 10.35% | 0.0035% |
| ResMed Inc | RMD | 17,498.20 | 0.07% | 1.33% | 11.05% | 12.45% | 0.0084% |
| Rockwell Automation Inc | ROK | 19,391.25 | 0.08% | 2.34% | 11.48% | 13.96% | 0.0105% |
| Rollins Inc | ROL | 11,748.49 | 0.05% | 1.55% | 10.00% | 11.63% | 0.0053% |
| Roper Technologies Inc | ROP | 38,032.81 | 0.15% | 0.53% | 12.93% | 13.49% | 0.0199% |
| Ross Stores Inc | ROST | 36,148.63 | 0.14% | 1.03% | 9.40% | 10.48% | 0.0147% |
| Republic Services Inc | RSG | 27,862.22 | 0.11% | 1.76% | 13.26% | 15.13% | 0.0163% |
| Raytheon Co | RTN | 48,432.73 | 0.19% | 2.16% | 9.31% | 11.56% | 0.0217% |
| SBA Communications Corp | SBAC | 25,463.38 | 0.10% | 0.00% | 42.50% | 42.50% | 0.0419% |
| Starbucks Corp | SBUX | 101,534.90 | 0.39% | 1.78% | 12.72% | 14.60% | 0.0574% |
| Charles Schwab Corp/The | SCHW | 53,654.03 | 0.21% | 1.69% | 11.14% | 12.93% | 0.0269% |
| Sealed Air Corp | SEE | 6,661.00 | 0.03% | 1.54% | 5.73% | 7.32% | 0.0019% |
| Sherwin-Williams Co/The | SHW | 42,307.59 | 0.16% | 0.94% | 9.46% | 10.44% | 0.0171% |
| SVB Financial Group | SIVB | 11,684.79 | 0.05% | 0.00% | 11.00% | 11.00% | 0.0050% |
| JM Smucker Co/The | SJM | 13,136.20 | 0.05% | 3.06% | 4.03% | 7.15% | 0.0036% |
| Schlumberger Ltd | SLB | 55,044.76 | 0.21% | 5.03% | 31.36% | 37.18% | 0.0793% |
| SL Green Realty Corp | SLG | 6,859.57 | 0.03% | 4.25% | -0.84% | 3.39% | 0.0009% |
| Snap-on Inc | SNA | 9,177.19 | 0.04% | 2.30% | 7.35% | 9.73% | 0.0035% |
| Synopsys Inc | SNPS | 19,290.52 | 0.07% | 0.00% | 13.60% | 13.60% | 0.0102% |
| Southern Co/The | SO | 57,537.25 | 0.22% | 4.46% | 3.75% | 8.29% | 0.0185% |
| Simon Property Group Inc | SPG | 49,364.82 | 0.19% | 5.17% | 4.87% | 10.17% | 0.0194% |
| S&P Global Inc | SPGI | 56,081.90 | 0.22% | 0.99% | 9.20% | 10.24% | 0.0222% |
| Sempra Energy | SRE | 37,715.37 | 0.15% | 2.82% | 8.74% | 11.69% | 0.0171% |
| SunTrust Banks Inc | STI | 27,895.49 | 0.11% | 3.36% | 6.22% | 9.68% | 0.0105% |
| State Street Corp | STT | 20,919.57 | 0.08% | 3.55% | 7.27% | 10.94% | 0.0089% |
| Seagate Technology PLC | STX | 13,044.83 | 0.05% | 5.34% | 4.60% | 10.07% | 0.0051% |
| Constellation Brands Inc | STZ | 37,804.60 | 0.15% | 1.51% | 8.09% | 9.66% | 0.0142% |
| Stanley Black & Decker Inc | SWK | 21,913.10 | 0.08% | 1.86% | 9.10% | 11.05% | 0.0094% |
| Skyworks Solutions Inc | SWKS | 13,344.03 | 0.05% | 2.00% | 10.57% | 12.67% | 0.0065% |
| Synchrony Financial | SYF | 23,898.60 | 0.09% | 2.61% | 4.03% | 6.69% | 0.0062% |
| Stryker Corp | SYK | 76,847.88 | 0.30% | 1.11% | 8.10% | 9.26% | 0.0276% |
| Symantec Corp | SYMC | 13,451.90 | 0.05% | 1.44% | 7.26% | 8.76% | 0.0046% |
| Sysco Corp | SYY | 36,348.34 | 0.14% | 2.17% | 12.13% | 14.44% | 0.0203% |
| AT&T Inc | T | 244,555.98 | 0.95% | 6.11% | 5.54% | 11.82% | 0.1119% |
| Molson Coors Brewing Co | TAP | 12,128.28 | 0.05% | 3.69% | -0.23% | 3.45% | 0.0016% |
| TransDigm Group Inc | TDG | 25,728.44 | 0.10% | 0.00% | 13.09% | 13.09% | 0.0130% |
| TE Connectivity Ltd | TEL | 32,265.04 | 0.12% | 1.86% | 9.93% | 11.89% | 0.0149% |
| Teleflex Inc | TFX | 15,283.93 | 0.06% | 0.41% | 12.97% | 13.40% | 0.0079% |
| Target Corp | TGT | 44,373.29 | 0.17% | 3.04% | 6.75% | 9.89% | 0.0170% |
| Tiffany & Co | TIF | 11,368.59 | 0.04% | 2.48% | 9.25% | 11.84% | 0.0052% |
| TJX Cos Inc/The | TJX | 64,125.86 | 0.25% | 1.72% | 10.05% | 11.86% | 0.0295% |
| Torchmark Corp | TMK | 9,835.28 | 0.04% | 0.75% | 7.91% | 8.69% | 0.0033% |
| Thermo Fisher Scientific Inc | TMO | 117,466.46 | 0.46% | 0.25% | 10.83% | 11.09% | 0.0505% |
| Tapestry Inc | TPR | 9,206.01 | 0.04% | 4.25% | 10.20% | 14.67% | 0.0052% |
| TripAdvisor Inc | TRIP | 6,435.65 | 0.02% | 0.00% | 9.34% | 9.34% | 0.0023% |
| T Rowe Price Group Inc | TROW | 25,943.72 | 0.10% | 2.72% | 7.10% | 9.92% | 0.0100% |
| Travelers Cos Inc/The | TRV | 39,160.52 | 0.15% | 2.16% | 13.06% | 15.36% | 0.0233% |
| Tractor Supply Co | TSCO | 13,125.83 | 0.05% | 1.23% | 11.00% | 12.29% | 0.0062% |
| Tyson Foods Inc | TSN | 29,455.12 | 0.11% | 1.86% | 3.10% | 4.98% | 0.0057% |
| Total System Services Inc | TSS | 22,699.58 | 0.09% | 0.42% | 12.14% | 12.58% | 0.0111% |
| Take-Two Interactive Software Inc | TTWO | 12,776.84 | 0.05% | 0.00% | 8.80% | 8.80% | 0.0044% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Twitter Inc | TWTR | 26,825.23 | 0.10% | 0.00% | 31.76% | 31.76% | 0.0330% |
| Texas Instruments Inc | TXN | 107,668.54 | 0.42% | 2.73% | 9.87% | 12.73% | 0.0531% |
| Textron Inc | TXT | 12,345.71 | 0.05% | 0.15% | 12.06% | 12.21% | 0.0058% |
| Under Armour Inc | UAA | 10,658.97 | 0.04% | 0.00% | 31.19% | 31.19% | 0.0129% |
| United Continental Holdings Inc | UAL | 23,136.94 | 0.09% | 0.00% | 13.81% | 13.81% | 0.0124% |
| UDR Inc | UDR | 12,649.77 | 0.05% | 3.05% | 5.49% | 8.62% | 0.0042% |
| Universal Health Services Inc | UHS | 11,753.36 | 0.05% | 0.31% | 9.38% | 9.71% | 0.0044% |
| Ulta Beauty Inc | ULTA | 20,278.41 | 0.08% | 0.00% | 21.00% | 21.00% | 0.0165% |
| UnitedHealth Group Inc | UNH | 231,893.22 | 0.90% | 1.59% | 13.74% | 15.44% | 0.1387% |
| Unum Group | UNM | 7,108.60 | 0.03% | 3.18% | 9.00% | 12.33% | 0.0034% |
| Union Pacific Corp | UNP | 119,702.51 | 0.46% | 2.12% | 13.02% | 15.28% | 0.0708% |
| United Parcel Service Inc | UPS | 88,890.23 | 0.34% | 3.70% | 8.79% | 12.65% | 0.0436% |
| United Rentals Inc | URI | 10,427.91 | 0.04% | 0.00% | 12.00% | 12.00% | 0.0048% |
| US Bancorp | USB | 83,424.07 | 0.32% | 3.02% | 6.70% | 9.82% | 0.0317% |
| United Technologies Corp | UTX | 112,350.33 | 0.44% | 2.28% | 8.87% | 11.25% | 0.0489% |
| Visa Inc | V | 346,417.34 | 1.34% | 0.58% | 15.54% | 16.17% | 0.2169% |
| Varian Medical Systems Inc | VAR | 12,380.44 | 0.05% | 0.00% | 8.55% | 8.55% | 0.0041% |
| VF Corp | VFC | 34,691.72 | 0.13% | 2.22% | -19.07% | -17.05% | -0.0229% |
| Viacom Inc | VIAB | 12,248.94 | 0.05% | 2.70% | 3.51% | 6.25% | 0.0030% |
| Valero Energy Corp | VLO | 35,720.04 | 0.14% | 4.20% | 13.02% | 17.49% | 0.0242% |
| Vulcan Materials Co | VMC | 18,137.57 | 0.07% | 0.88% | 16.30% | 17.25% | 0.0121% |
| Vornado Realty Trust | VNO | 12,231.09 | 0.05% | 4.32% | 4.23% | 8.63% | 0.0041% |
| Verisk Analytics Inc | VRSK | 23,970.47 | 0.09% | 0.51% | 9.46% | 9.99% | 0.0093% |
| VeriSign Inc | VRSN | 24,928.39 | 0.10% | 0.00% | 8.80% | 8.80% | 0.0085% |
| Vertex Pharmaceuticals Inc | VRTX | 46,967.53 | 0.18% | 0.00% | 51.00% | 51.00% | 0.0928% |
| Ventas Inc | VTR | 25,249.30 | 0.10% | 4.65% | 4.34% | 9.09% | 0.0089% |
| Verizon Communications Inc | VZ | 236,272.92 | 0.92% | 4.25% | 2.34% | 6.64% | 0.0608% |
| Wabtec Corp | WAB | 13,499.32 | 0.05% | 0.00% | 15.00% | 15.00% | 0.0078% |
| Waters Corp | WAT | 14,953.85 | 0.06% | 0.00% | 9.90% | 9.90% | 0.0057% |
| Walgreens Boots Alliance Inc | WBA | 49,374.85 | 0.19% | 3.31% | 5.36% | 8.75% | 0.0167% |
| WellCare Health Plans Inc | WCG | 14,342.40 | 0.06% | 0.00% | 17.22% | 17.22% | 0.0096% |
| Western Digital Corp | WDC | 13,932.04 | 0.05% | 4.21% | -5.24% | -1.14% | -0.0006% |
| WEC Energy Group Inc | WEC | 26,298.10 | 0.10% | 2.83% | 6.13% | 9.05% | 0.0092% |
| Welltower Inc | WELL | 33,014.81 | 0.13% | 4.27% | 6.11% | 10.51% | 0.0134% |
| Wells Fargo & Co | WFC | 212,672.31 | 0.82% | 3.91% | 10.36% | 14.47% | 0.1192% |
| Whirlpool Corp | WHR | 9,016.98 | 0.03% | 3.33% | 4.97% | 8.38% | 0.0029% |
| Willis Towers Watson PLC | WLTW | 24,753.90 | 0.10% | 1.32% | 13.97% | 15.38% | 0.0147% |
| Waste Management Inc | WM | 49,004.50 | 0.19% | 1.76% | 7.51% | 9.34% | 0.0177% |
| Williams Cos Inc/The | WMB | 33,978.04 | 0.13% | 5.40% | 3.90% | 9.40% | 0.0124% |
| Walmart Inc | WMT | 315,418.25 | 1.22% | 1.92% | 3.56% | 5.52% | 0.0674% |
| Westrock Co | WRK | 9,374.35 | 0.04% | 4.97% | 3.17% | 8.21% | 0.0030% |
| Western Union Co/The | WU | 8,566.79 | 0.03% | 3.91% | 3.36% | 7.34% | 0.0024% |
| Weyerhaeuser Co | WY | 19,617.67 | 0.08% | 5.17% | 5.20% | 10.51% | 0.0080% |
| Wynn Resorts Ltd | WYNN | 13,348.98 | 0.05% | 2.98% | 23.23% | 26.56% | 0.0137% |
| Cimarex Energy Co | XEC | 6,018.03 | 0.02% | 1.21% | 29.26% | 30.64% | 0.0071% |
| Xcel Energy Inc | XEL | 30,617.91 | 0.12% | 2.71% | 5.42% | 8.20% | 0.0097% |
| Xilinx Inc | XLNX | 29,599.38 | 0.11% | 1.26% | 9.60% | 10.92% | 0.0125% |
| Exxon Mobil Corp | XOM | 324,228.73 | 1.26% | 4.45% | 15.93% | 20.73% | 0.2604% |
| DENTSPLY SIRONA Inc | XRAY | 13,654.93 | 0.05% | 0.59% | 12.57% | 13.20% | 0.0070% |
| Xerox Corp | XRX | 7,954.03 | 0.03% | 2.86% | 6.50% | 9.45% | 0.0029% |
| Xylem Inc/NY | XYL | 15,049.60 | 0.06% | 1.15% | 13.97% | 15.20% | 0.0089% |
| Yum! Brands Inc | YUM | 33,862.27 | 0.13% | 1.52% | 12.43% | 14.05% | 0.0184% |
| Zimmer Biomet Holdings Inc | ZBH | 24,112.95 | 0.09% | 0.84% | 5.66% | 6.52% | 0.0061% |
| Zions Bancorp NA | ZION | 8,394.35 | 0.03% | 2.83% | 7.60% | 10.54% | 0.0034% |
| Zoetis Inc | ZTS | 54,322.69 | 0.21% | 0.55% | 10.81% | 11.39% | 0.0240% |
| | Total Market Capitalization: | 25,816,650.84 | | | | | 14.88% |

Notes:
[1] Equals sum of Col. [9]
[2] Source: Bloomberg Professional
[3] Equals [1] − [2]
[4] Source: Bloomberg Professional
[5] Equals weight in S&P 500 based on market capitalization
[6] Source: Bloomberg Professional
[7] Source: Bloomberg Professional
[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]
[9] Equals Col. [5] x Col. [8]

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

| [1] S&P 500 Est. Required Market Return | [2] Current 30-Year Treasury (30-day average) | [3] Implied Market Risk Premium |
|---|---|---|
| 14.78% | 2.63% | 12.15% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Agilent Technologies Inc | A | 23,262.68 | 0.10% | 0.90% | 9.50% | 10.44% | 0.0101% |
| American Airlines Group Inc | AAL | 14,281.54 | 0.06% | 1.24% | 6.50% | 7.78% | 0.0046% |
| Advance Auto Parts Inc | AAP | 10,995.13 | 0.05% | 0.16% | 14.00% | 14.17% | 0.0065% |
| Apple Inc | AAPL | 918,968.80 | 3.81% | 1.57% | 12.50% | 14.17% | 0.5396% |
| AbbVie Inc | ABBV | 123,639.20 | 0.51% | 5.46% | 12.50% | 18.30% | 0.0938% |
| AmerisourceBergen Corp | ABC | 17,981.89 | 0.07% | 1.92% | 8.00% | 10.00% | 0.0074% |
| ABIOMED Inc | ABMD | 11,746.87 | 0.05% | 0.00% | 24.50% | 24.50% | 0.0119% |
| Abbott Laboratories | ABT | 149,849.50 | 0.62% | 1.51% | 10.00% | 11.59% | 0.0719% |
| Accenture PLC | ACN | 119,105.00 | 0.49% | 1.64% | 9.00% | 10.71% | 0.0529% |
| Adobe Inc | ADBE | 147,581.90 | 0.61% | 0.00% | 19.50% | 19.50% | 0.1193% |
| Analog Devices Inc | ADI | 41,620.30 | 0.17% | 1.92% | 10.00% | 12.02% | 0.0207% |
| Archer-Daniels-Midland Co | ADM | 23,128.00 | 0.10% | 3.39% | 9.50% | 13.05% | 0.0125% |
| Automatic Data Processing Inc | ADP | 73,865.15 | 0.31% | 2.04% | 13.50% | 15.68% | 0.0480% |
| Alliance Data Systems Corp | ADS | 7,227.34 | 0.03% | 1.82% | 12.00% | 13.93% | 0.0042% |
| Autodesk Inc | ADSK | 37,214.61 | N/A | 0.00% | N/A | N/A | N/A |
| Ameren Corp | AEE | 18,999.62 | 0.08% | 2.57% | 6.50% | 9.15% | 0.0072% |
| American Electric Power Co Inc | AEP | 44,837.80 | 0.19% | 3.08% | 4.00% | 7.14% | 0.0133% |
| AES Corp/VA | AES | 11,236.36 | N/A | 3.25% | N/A | N/A | N/A |
| Aflac Inc | AFL | 41,310.59 | 0.17% | 1.97% | 7.50% | 9.54% | 0.0163% |
| Allergan PLC | AGN | 42,882.80 | 0.18% | 2.26% | 4.00% | 6.31% | 0.0112% |
| American International Group Inc | AIG | 47,183.23 | N/A | 2.36% | N/A | N/A | N/A |
| Apartment Investment & Management C | AIV | 7,887.84 | 0.03% | 3.02% | -3.00% | -0.03% | 0.0000% |
| Assurant Inc | AIZ | 6,643.45 | 0.03% | 2.23% | 6.50% | 8.80% | 0.0024% |
| Arthur J Gallagher & Co | AJG | 16,213.75 | 0.07% | 1.97% | 15.50% | 17.62% | 0.0118% |
| Akamai Technologies Inc | AKAM | 13,060.62 | 0.05% | 0.00% | 18.00% | 18.00% | 0.0097% |
| Albemarle Corp | ALB | 7,362.47 | 0.03% | 2.12% | 5.50% | 7.68% | 0.0023% |
| Align Technology Inc | ALGN | 23,653.60 | 0.10% | 0.00% | 27.00% | 27.00% | 0.0265% |
| Alaska Air Group Inc | ALK | 7,499.16 | 0.03% | 2.31% | 5.50% | 7.87% | 0.0024% |
| Allstate Corp/The | ALL | 34,482.15 | 0.14% | 1.93% | 10.50% | 12.53% | 0.0179% |
| Allegion PLC | ALLE | 10,186.40 | 0.04% | 1.00% | 8.50% | 9.54% | 0.0040% |
| Alexion Pharmaceuticals Inc | ALXN | 28,883.68 | 0.12% | 0.00% | 21.00% | 21.00% | 0.0251% |
| Applied Materials Inc | AMAT | 40,444.56 | 0.17% | 1.97% | 8.50% | 10.55% | 0.0177% |
| Amcor PLC | AMCR | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Advanced Micro Devices Inc | AMD | 32,470.82 | 0.13% | 0.00% | 27.50% | 27.50% | 0.0370% |
| AMETEK Inc | AME | 20,182.16 | 0.08% | 0.63% | 10.50% | 11.16% | 0.0093% |
| Affiliated Managers Group Inc | AMG | 5,183.10 | 0.02% | 1.48% | 10.00% | 11.55% | 0.0025% |
| Amgen Inc | AMGN | 113,098.70 | 0.47% | 3.21% | 7.00% | 10.32% | 0.0484% |
| Ameriprise Financial Inc | AMP | 20,032.33 | 0.08% | 2.60% | 13.00% | 15.77% | 0.0131% |
| American Tower Corp | AMT | 96,136.88 | 0.40% | 1.88% | 9.50% | 11.47% | 0.0457% |
| Amazon.com Inc | AMZN | 943,749.40 | 3.91% | 0.00% | 39.00% | 39.00% | 1.5253% |
| Arista Networks Inc | ANET | 19,016.16 | 0.08% | 0.00% | 11.00% | 11.00% | 0.0087% |
| ANSYS Inc | ANSS | 17,085.95 | 0.07% | 0.00% | 11.00% | 11.00% | 0.0078% |
| Anthem Inc | ANTM | 74,949.20 | 0.31% | 1.10% | 19.00% | 20.20% | 0.0628% |
| Aon PLC | AON | 46,618.96 | 0.19% | 0.91% | 10.00% | 10.96% | 0.0212% |
| AO Smith Corp | AOS | 7,660.92 | 0.03% | 1.92% | 9.50% | 11.51% | 0.0037% |
| Apache Corp | APA | 11,093.10 | 0.05% | 3.39% | 50.00% | 54.24% | 0.0249% |
| Anadarko Petroleum Corp | APC | 34,556.34 | N/A | 1.70% | N/A | N/A | N/A |
| Air Products & Chemicals Inc | APD | 48,880.53 | 0.20% | 2.09% | 9.00% | 11.18% | 0.0227% |
| Amphenol Corp | APH | 28,572.24 | 0.12% | 0.96% | 9.50% | 10.51% | 0.0124% |
| Aptiv PLC | APTV | 20,232.71 | 0.08% | 1.12% | 11.00% | 12.18% | 0.0102% |
| Alexandria Real Estate Equities Inc | ARE | 16,644.03 | N/A | 2.67% | N/A | N/A | N/A |
| Arconic Inc | ARNC | 10,834.39 | N/A | 0.33% | N/A | N/A | N/A |
| Atmos Energy Corp | ATO | 12,388.50 | 0.05% | 2.09% | 7.50% | 9.67% | 0.0050% |
| Activision Blizzard Inc | ATVI | 34,979.75 | 0.14% | 0.81% | 9.50% | 10.35% | 0.0150% |
| AvalonBay Communities Inc | AVB | 29,151.78 | 0.12% | 2.93% | 4.00% | 6.99% | 0.0084% |
| Broadcom Inc | AVGO | 111,340.90 | 0.46% | 3.80% | 33.50% | 37.94% | 0.1750% |
| Avery Dennison Corp | AVY | 9,523.58 | 0.04% | 2.11% | 11.00% | 13.23% | 0.0052% |
| American Water Works Co Inc | AWK | 21,334.83 | 0.09% | 1.69% | 9.50% | 11.27% | 0.0100% |
| American Express Co | AXP | 104,558.00 | 0.43% | 1.37% | 10.00% | 11.44% | 0.0496% |
| AutoZone Inc | AZO | 27,766.13 | 0.12% | 0.00% | 13.50% | 13.50% | 0.0155% |
| Boeing Co/The | BA | 211,211.50 | 0.88% | 2.33% | 15.50% | 18.01% | 0.1576% |
| Bank of America Corp | BAC | 270,498.40 | 1.12% | 2.34% | 10.50% | 12.96% | 0.1453% |
| Baxter International Inc | BAX | 41,844.34 | 0.17% | 1.07% | 10.50% | 11.63% | 0.0202% |
| BB&T Corp | BBT | 37,307.96 | 0.15% | 3.61% | 8.00% | 11.75% | 0.0182% |
| Best Buy Co Inc | BBY | 18,260.13 | 0.08% | 2.92% | 10.50% | 13.57% | 0.0103% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Becton Dickinson and Co | BDX | 66,116.70 | 0.27% | 1.27% | 10.00% | 11.33% | 0.0311% |
| Franklin Resources Inc | BEN | 17,536.44 | 0.07% | 3.19% | 7.50% | 10.81% | 0.0079% |
| Brown-Forman Corp | BF/B | 26,444.87 | 0.11% | 1.21% | 13.50% | 14.79% | 0.0162% |
| Baker Hughes a GE Co | BHGE | 12,545.40 | N/A | 2.96% | N/A | N/A | N/A |
| Biogen Inc | BIIB | 45,559.04 | 0.19% | 0.00% | 5.50% | 5.50% | 0.0104% |
| Bank of New York Mellon Corp/The | BK | 41,288.14 | 0.17% | 2.60% | 8.50% | 11.21% | 0.0192% |
| Booking Holdings Inc | BKNG | 82,243.84 | 0.34% | 0.00% | 11.50% | 11.50% | 0.0392% |
| BlackRock Inc | BLK | 71,932.11 | 0.30% | 2.84% | 9.50% | 12.47% | 0.0372% |
| Ball Corp | BLL | 22,493.04 | 0.09% | 0.89% | 23.00% | 23.99% | 0.0224% |
| Bristol-Myers Squibb Co | BMY | 79,969.66 | 0.33% | 3.35% | 11.50% | 15.04% | 0.0499% |
| Broadridge Financial Solutions Inc | BR | 15,117.69 | 0.06% | 1.65% | 11.00% | 12.74% | 0.0080% |
| Berkshire Hathaway Inc | BRK/B | - | N/A | 0.00% | N/A | N/A | N/A |
| Boston Scientific Corp | BSX | 58,209.80 | 0.24% | 0.00% | 16.00% | 16.00% | 0.0386% |
| BorgWarner Inc | BWA | 8,750.77 | 0.04% | 1.61% | 7.00% | 8.67% | 0.0031% |
| Boston Properties Inc | BXP | 21,434.14 | 0.09% | 2.77% | 4.50% | 7.33% | 0.0065% |
| Citigroup Inc | C | 157,479.10 | 0.65% | 2.91% | 10.00% | 13.06% | 0.0852% |
| Conagra Brands Inc | CAG | 14,188.72 | 0.06% | 3.01% | 5.50% | 8.59% | 0.0051% |
| Cardinal Health Inc | CAH | 13,341.46 | 0.06% | 4.29% | 17.00% | 21.65% | 0.0120% |
| Caterpillar Inc | CAT | 76,396.54 | 0.32% | 3.08% | 13.00% | 16.28% | 0.0515% |
| Chubb Ltd | CB | 68,433.61 | 0.28% | 2.01% | 10.00% | 12.11% | 0.0343% |
| Cboe Global Markets Inc | CBOE | 11,953.45 | 0.05% | 1.16% | 14.50% | 15.74% | 0.0078% |
| CBRE Group Inc | CBRE | 16,998.25 | 0.07% | 0.00% | 10.50% | 10.50% | 0.0074% |
| CBS Corp | CBS | 18,987.98 | 0.08% | 1.42% | 9.50% | 10.99% | 0.0086% |
| Crown Castle International Corp | CCI | 56,958.73 | 0.24% | 3.51% | 10.50% | 14.19% | 0.0335% |
| Carnival Corp | CCL | 25,717.60 | 0.11% | 4.10% | 10.00% | 14.31% | 0.0152% |
| Cadence Design Systems Inc | CDNS | 20,422.45 | 0.08% | 0.00% | 12.50% | 12.50% | 0.0106% |
| Celanese Corp | CE | 13,308.19 | 0.06% | 2.36% | 11.00% | 13.49% | 0.0074% |
| Celgene Corp | CELG | 69,162.02 | 0.29% | 0.00% | 13.50% | 13.50% | 0.0387% |
| Cerner Corp | CERN | 23,319.76 | 0.10% | 1.00% | 9.00% | 10.05% | 0.0097% |
| CF Industries Holdings Inc | CF | 10,380.62 | N/A | 2.60% | N/A | N/A | N/A |
| Citizens Financial Group Inc | CFG | 16,120.65 | 0.07% | 3.72% | 12.00% | 15.94% | 0.0107% |
| Church & Dwight Co Inc | CHD | 18,789.60 | 0.08% | 1.19% | 9.00% | 10.24% | 0.0080% |
| CH Robinson Worldwide Inc | CHRW | 11,498.68 | 0.05% | 2.38% | 9.00% | 11.49% | 0.0055% |
| Charter Communications Inc | CHTR | 89,088.41 | 0.37% | 0.00% | 16.00% | 16.00% | 0.0591% |
| Cigna Corp | CI | 60,618.26 | 0.25% | 0.03% | 14.50% | 14.53% | 0.0365% |
| Cincinnati Financial Corp | CINF | 17,289.41 | 0.07% | 2.11% | 8.50% | 10.70% | 0.0077% |
| Colgate-Palmolive Co | CL | 63,186.71 | 0.26% | 2.34% | 6.00% | 8.41% | 0.0220% |
| Clorox Co/The | CLX | 19,768.93 | 0.08% | 2.74% | 6.50% | 9.33% | 0.0076% |
| Comerica Inc | CMA | 10,882.37 | 0.05% | 3.83% | 12.00% | 16.06% | 0.0072% |
| Comcast Corp | CMCSA | 198,242.30 | 0.82% | 1.92% | 13.50% | 15.55% | 0.1277% |
| CME Group Inc | CME | 70,981.92 | 0.29% | 1.51% | 3.00% | 4.53% | 0.0133% |
| Chipotle Mexican Grill Inc | CMG | 20,481.02 | 0.08% | 0.00% | 26.00% | 26.00% | 0.0221% |
| Cummins Inc | CMI | 27,027.00 | 0.11% | 2.66% | 8.00% | 10.77% | 0.0121% |
| CMS Energy Corp | CMS | 16,766.67 | 0.07% | 2.69% | 7.00% | 9.78% | 0.0068% |
| Centene Corp | CNC | 22,888.83 | 0.09% | 0.00% | 15.50% | 15.50% | 0.0147% |
| CenterPoint Energy Inc | CNP | 15,085.13 | 0.06% | 3.90% | 12.50% | 16.64% | 0.0104% |
| Capital One Financial Corp | COF | 43,029.18 | 0.18% | 1.75% | 6.00% | 7.80% | 0.0139% |
| Cabot Oil & Gas Corp | COG | 9,987.23 | 0.04% | 1.53% | 50.00% | 51.91% | 0.0215% |
| Cooper Cos Inc/The | COO | 16,208.28 | 0.07% | 0.02% | 14.50% | 14.52% | 0.0098% |
| ConocoPhillips | COP | 68,601.68 | 0.28% | 2.01% | 37.00% | 39.38% | 0.1120% |
| Costco Wholesale Corp | COST | 117,583.50 | 0.49% | 0.97% | 8.50% | 9.51% | 0.0463% |
| Coty Inc | COTY | 10,136.39 | 0.04% | 3.71% | 9.00% | 12.88% | 0.0054% |
| Campbell Soup Co | CPB | 12,350.03 | 0.05% | 3.41% | 1.00% | 4.43% | 0.0023% |
| Capri Holdings Ltd | CPRI | 5,275.07 | 0.02% | 0.00% | 7.50% | 7.50% | 0.0016% |
| Copart Inc | CPRT | 17,103.85 | 0.07% | 0.00% | 12.50% | 12.50% | 0.0089% |
| salesforce.com Inc | CRM | 121,987.20 | 0.51% | 0.00% | 57.00% | 57.00% | 0.2881% |
| Cisco Systems Inc | CSCO | 247,609.30 | 1.03% | 2.44% | 8.00% | 10.54% | 0.1081% |
| CSX Corp | CSX | 69,196.73 | 0.29% | 1.21% | 14.50% | 15.80% | 0.0453% |
| Cintas Corp | CTAS | 24,410.33 | 0.10% | 0.97% | 16.00% | 17.05% | 0.0172% |
| CenturyLink Inc | CTL | 12,376.55 | 0.05% | 8.81% | 1.00% | 9.85% | 0.0051% |
| Cognizant Technology Solutions Corp | CTSH | 36,512.73 | 0.15% | 1.25% | 5.00% | 6.28% | 0.0095% |
| Corteva Inc | CTVA | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Citrix Systems Inc | CTXS | 13,108.22 | 0.05% | 1.41% | 7.00% | 8.46% | 0.0046% |
| CVS Health Corp | CVS | 69,923.27 | 0.29% | 3.71% | 6.50% | 10.33% | 0.0299% |
| Chevron Corp | CVX | 236,719.30 | 0.98% | 3.83% | 16.50% | 20.65% | 0.2025% |
| Concho Resources Inc | CXO | 21,056.98 | 0.09% | 0.48% | 21.00% | 21.53% | 0.0188% |
| Dominion Energy Inc | D | 62,082.82 | 0.26% | 4.81% | 6.50% | 11.47% | 0.0295% |
| Delta Air Lines Inc | DAL | 36,660.13 | 0.15% | 2.75% | 9.50% | 12.38% | 0.0188% |
| DuPont de Nemours Inc | DD | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Deere & Co | DE | 51,594.27 | 0.21% | 1.87% | 14.00% | 16.00% | 0.0342% |
| Discover Financial Services | DFS | 25,507.01 | 0.11% | 2.04% | 7.50% | 9.62% | 0.0102% |
| Dollar General Corp | DG | 35,857.82 | 0.15% | 0.92% | 12.50% | 13.48% | 0.0200% |
| Quest Diagnostics Inc | DGX | 13,445.56 | 0.06% | 2.11% | 8.50% | 10.70% | 0.0060% |
| DR Horton Inc | DHI | 17,048.45 | 0.07% | 1.34% | 6.50% | 7.88% | 0.0056% |
| Danaher Corp | DHR | 102,824.70 | 0.43% | 0.47% | 12.50% | 13.00% | 0.0554% |
| Walt Disney Co/The | DIS | 252,653.60 | 1.05% | 1.24% | 6.50% | 7.78% | 0.0815% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Discovery Inc | DISCA | 16,235.62 | 0.07% | 0.00% | 15.00% | 15.00% | 0.0101% |
| DISH Network Corp | DISH | 18,297.13 | 0.08% | 0.00% | -2.00% | -2.00% | -0.0015% |
| Digital Realty Trust Inc | DLR | 25,778.48 | 0.11% | 3.46% | 5.00% | 8.55% | 0.0091% |
| Dollar Tree Inc | DLTR | 26,323.70 | 0.11% | 0.00% | 15.50% | 15.50% | 0.0169% |
| Dover Corp | DOV | 14,249.51 | 0.06% | 1.96% | 11.00% | 13.07% | 0.0077% |
| Dow Inc | DOW | 36,639.96 | N/A | 5.83% | N/A | N/A | N/A |
| Duke Realty Corp | DRE | 11,637.54 | 0.05% | 2.74% | 7.00% | 9.84% | 0.0047% |
| Darden Restaurants Inc | DRI | 14,593.56 | 0.06% | 2.97% | 12.00% | 15.15% | 0.0092% |
| DTE Energy Co | DTE | 24,033.75 | 0.10% | 3.02% | 5.50% | 8.60% | 0.0086% |
| Duke Energy Corp | DUK | 64,486.24 | 0.27% | 4.28% | 6.00% | 10.41% | 0.0278% |
| DaVita Inc | DVA | 8,720.82 | 0.04% | 0.00% | 11.00% | 11.00% | 0.0040% |
| Devon Energy Corp | DVN | 11,663.08 | 0.05% | 1.28% | 26.50% | 27.95% | 0.0135% |
| DXC Technology Co | DXC | 14,684.01 | 0.06% | 1.54% | 14.50% | 16.15% | 0.0098% |
| Electronic Arts Inc | EA | 27,780.59 | 0.12% | 0.00% | 10.00% | 10.00% | 0.0115% |
| eBay Inc | EBAY | 34,969.92 | 0.14% | 1.43% | 10.00% | 11.50% | 0.0167% |
| Ecolab Inc | ECL | 55,438.15 | 0.23% | 0.96% | 10.00% | 11.01% | 0.0253% |
| Consolidated Edison Inc | ED | 29,063.76 | 0.12% | 3.39% | 3.00% | 6.44% | 0.0078% |
| Equifax Inc | EFX | 16,305.58 | 0.07% | 1.16% | 8.00% | 9.21% | 0.0062% |
| Edison International | EIX | 20,780.22 | 0.09% | 3.84% | 15.00% | 19.13% | 0.0165% |
| Estee Lauder Cos Inc/The | EL | 66,189.98 | 0.27% | 0.95% | 12.50% | 13.51% | 0.0371% |
| Eastman Chemical Co | EMN | 10,483.80 | 0.04% | 3.28% | 8.00% | 11.41% | 0.0050% |
| Emerson Electric Co | EMR | 41,218.89 | 0.17% | 3.01% | 12.00% | 15.19% | 0.0259% |
| EOG Resources Inc | EOG | 53,069.80 | 0.22% | 1.26% | 34.50% | 35.98% | 0.0791% |
| Equinix Inc | EQIX | 42,738.66 | 0.18% | 1.97% | 25.00% | 27.22% | 0.0482% |
| Equity Residential | EQR | 29,120.20 | 0.12% | 2.91% | -12.00% | -9.26% | -0.0112% |
| Eversource Energy | ES | 24,603.91 | 0.10% | 2.80% | 5.50% | 8.38% | 0.0085% |
| Essex Property Trust Inc | ESS | 19,958.74 | 0.08% | 2.61% | 2.00% | 4.64% | 0.0038% |
| E*TRADE Financial Corp | ETFC | 11,119.21 | 0.05% | 1.23% | 17.50% | 18.84% | 0.0087% |
| Eaton Corp PLC | ETN | 34,964.98 | 0.14% | 3.44% | 9.00% | 12.59% | 0.0182% |
| Entergy Corp | ETR | 19,644.91 | 0.08% | 3.58% | 0.50% | 4.09% | 0.0033% |
| Evergy Inc | EVRG | 15,011.08 | N/A | 3.28% | N/A | N/A | N/A |
| Edwards Lifesciences Corp | EW | 40,194.11 | 0.17% | 0.00% | 15.00% | 15.00% | 0.0250% |
| Exelon Corp | EXC | 48,783.04 | 0.20% | 2.93% | 10.50% | 13.58% | 0.0275% |
| Expeditors International of Washington I | EXPD | 13,101.89 | 0.05% | 1.31% | 7.50% | 8.86% | 0.0048% |
| Expedia Group Inc | EXPE | 19,276.45 | 0.08% | 0.99% | 24.00% | 25.11% | 0.0201% |
| Extra Space Storage Inc | EXR | 13,864.50 | 0.06% | 3.35% | 6.00% | 9.45% | 0.0054% |
| Ford Motor Co | F | 39,343.69 | 0.16% | 5.98% | 3.50% | 9.58% | 0.0156% |
| Diamondback Energy Inc | FANG | 17,709.28 | 0.07% | 0.70% | 17.00% | 17.76% | 0.0130% |
| Fastenal Co | FAST | 19,030.96 | 0.08% | 2.59% | 8.50% | 11.20% | 0.0088% |
| Facebook Inc | FB | 541,011.10 | 2.24% | 0.00% | 16.50% | 16.50% | 0.3699% |
| Fortune Brands Home & Security Inc | FBHS | 7,788.52 | 0.03% | 1.58% | 10.50% | 12.16% | 0.0039% |
| Freeport-McMoRan Inc | FCX | 16,512.38 | 0.07% | 1.76% | 22.50% | 24.46% | 0.0167% |
| FedEx Corp | FDX | 43,906.89 | 0.18% | 1.69% | 7.50% | 9.25% | 0.0168% |
| FirstEnergy Corp | FE | 23,208.07 | 0.10% | 3.57% | 8.00% | 11.71% | 0.0113% |
| F5 Networks Inc | FFIV | 8,494.00 | 0.04% | 0.00% | 12.00% | 12.00% | 0.0042% |
| Fidelity National Information Services I | FIS | 40,013.24 | 0.17% | 1.13% | 18.00% | 19.23% | 0.0319% |
| Fiserv Inc | FISV | 35,969.99 | 0.15% | 0.00% | 10.50% | 10.50% | 0.0157% |
| Fifth Third Bancorp | FITB | 20,185.78 | 0.08% | 3.52% | 7.00% | 10.64% | 0.0089% |
| Foot Locker Inc | FL | 4,694.41 | 0.02% | 3.64% | 12.00% | 15.86% | 0.0031% |
| FLIR Systems Inc | FLIR | 7,305.11 | 0.03% | 1.30% | 12.00% | 13.38% | 0.0040% |
| Flowserve Corp | FLS | 6,685.11 | 0.03% | 1.49% | 13.50% | 15.09% | 0.0042% |
| FleetCor Technologies Inc | FLT | 23,940.72 | 0.10% | 0.00% | 12.50% | 12.50% | 0.0124% |
| FMC Corp | FMC | 10,803.86 | 0.04% | 2.01% | 15.00% | 17.16% | 0.0077% |
| Fox Corp | FOXA | N/A | N/A | 0.00% | N/A | N/A | N/A |
| First Republic Bank/CA | FRC | 16,063.03 | 0.07% | 0.79% | 10.50% | 11.33% | 0.0075% |
| Federal Realty Investment Trust | FRT | 9,976.97 | 0.04% | 3.07% | 4.00% | 7.13% | 0.0029% |
| TechnipFMC PLC | FTI | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Fortinet Inc | FTNT | 13,133.66 | 0.05% | 0.00% | 25.00% | 25.00% | 0.0136% |
| Fortive Corp | FTV | 27,074.70 | N/A | 0.35% | N/A | N/A | N/A |
| General Dynamics Corp | GD | 51,407.66 | 0.21% | 2.29% | 6.00% | 8.36% | 0.0178% |
| General Electric Co | GE | 92,702.18 | 0.38% | 0.38% | 3.50% | 3.89% | 0.0149% |
| Gilead Sciences Inc | GILD | 87,358.19 | 0.36% | 3.68% | -5.50% | -1.92% | -0.0070% |
| General Mills Inc | GIS | 32,336.37 | 0.13% | 3.67% | 4.00% | 7.74% | 0.0104% |
| Corning Inc | GLW | 25,899.84 | 0.11% | 2.42% | 15.00% | 17.60% | 0.0189% |
| General Motors Co | GM | 52,423.80 | 0.22% | 4.22% | 2.50% | 6.77% | 0.0147% |
| Alphabet Inc | GOOGL | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Genuine Parts Co | GPC | 15,159.98 | 0.06% | 2.94% | 8.50% | 11.56% | 0.0073% |
| Global Payments Inc | GPN | 25,417.35 | 0.11% | 0.03% | 17.50% | 17.53% | 0.0185% |
| Gap Inc/The | GPS | 6,841.80 | 0.03% | 5.36% | 6.00% | 11.52% | 0.0033% |
| Garmin Ltd | GRMN | 15,518.09 | 0.06% | 2.79% | 10.00% | 12.93% | 0.0083% |
| Goldman Sachs Group Inc/The | GS | 71,777.09 | 0.30% | 1.74% | 8.50% | 10.31% | 0.0307% |
| WW Grainger Inc | GWW | 15,346.90 | 0.06% | 2.08% | 8.50% | 10.67% | 0.0068% |
| Halliburton Co | HAL | 19,951.36 | 0.08% | 3.15% | 24.50% | 28.04% | 0.0232% |
| Hasbro Inc | HAS | 13,580.72 | 0.06% | 2.52% | 7.50% | 10.11% | 0.0057% |
| Huntington Bancshares Inc/OH | HBAN | 13,875.79 | 0.06% | 4.53% | 11.50% | 16.29% | 0.0094% |
| Hanesbrands Inc | HBI | 6,343.82 | 0.03% | 3.42% | 4.00% | 7.49% | 0.0020% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| HCA Healthcare Inc | HCA | 43,935.41 | 0.18% | 1.25% | 12.50% | 13.83% | 0.0252% |
| HCP Inc | HCP | 15,895.84 | 0.07% | 4.45% | 32.50% | 37.67% | 0.0248% |
| Home Depot Inc/The | HD | 232,586.30 | 0.96% | 2.58% | 9.00% | 11.70% | 0.1127% |
| Hess Corp | HES | 18,658.51 | N/A | 1.63% | N/A | N/A | N/A |
| HollyFrontier Corp | HFC | 7,453.89 | 0.03% | 3.14% | 18.50% | 21.93% | 0.0068% |
| Hartford Financial Services Group Inc/Tl | HIG | 20,074.92 | 0.08% | 2.16% | 11.00% | 13.28% | 0.0110% |
| Huntington Ingalls Industries Inc | HII | 9,350.02 | 0.04% | 1.53% | 7.00% | 8.58% | 0.0033% |
| Hilton Worldwide Holdings Inc | HLT | 28,258.91 | 0.12% | 0.62% | 17.00% | 17.67% | 0.0207% |
| Harley-Davidson Inc | HOG | 5,728.22 | 0.02% | 4.17% | 8.50% | 12.85% | 0.0030% |
| Hologic Inc | HOLX | 13,190.10 | 0.05% | 0.00% | 18.50% | 18.50% | 0.0101% |
| Honeywell International Inc | HON | 128,293.60 | 0.53% | 1.86% | 8.00% | 9.93% | 0.0528% |
| Helmerich & Payne Inc | HP | 5,587.67 | N/A | 5.56% | N/A | N/A | N/A |
| Hewlett Packard Enterprise Co | HPE | 20,193.48 | 0.08% | 3.27% | 6.50% | 9.88% | 0.0083% |
| HP Inc | HPQ | 31,415.16 | 0.13% | 3.21% | 8.50% | 11.85% | 0.0154% |
| H&R Block Inc | HRB | 5,749.35 | 0.02% | 3.71% | 7.00% | 10.84% | 0.0026% |
| Hormel Foods Corp | HRL | 22,280.02 | 0.09% | 2.07% | 9.00% | 11.16% | 0.0103% |
| Harris Corp | HRS | 23,543.56 | 0.10% | 1.39% | 12.00% | 13.47% | 0.0131% |
| Henry Schein Inc | HSIC | 10,569.78 | 0.04% | 0.00% | 7.00% | 7.00% | 0.0031% |
| Host Hotels & Resorts Inc | HST | 13,808.46 | 0.06% | 4.29% | 4.00% | 8.38% | 0.0048% |
| Hershey Co/The | HSY | 28,715.29 | 0.12% | 2.10% | 6.00% | 8.16% | 0.0097% |
| Humana Inc | HUM | 34,951.11 | 0.14% | 0.85% | 11.50% | 12.40% | 0.0180% |
| International Business Machines Corp | IBM | 123,110.40 | 0.51% | 4.69% | 2.00% | 6.74% | 0.0344% |
| Intercontinental Exchange Inc | ICE | 48,832.95 | 0.20% | 1.27% | 10.50% | 11.84% | 0.0240% |
| IDEXX Laboratories Inc | IDXX | 23,482.69 | 0.10% | 0.00% | 13.00% | 13.00% | 0.0127% |
| International Flavors & Fragrances Inc | IFF | 16,073.84 | 0.07% | 2.04% | 8.50% | 10.63% | 0.0071% |
| Illumina Inc | ILMN | 52,709.79 | 0.22% | 0.00% | 14.00% | 14.00% | 0.0306% |
| Incyte Corp | INCY | 18,553.77 | N/A | 0.00% | N/A | N/A | N/A |
| IHS Markit Ltd | INFO | 23,938.03 | 0.10% | 0.00% | 17.00% | 17.00% | 0.0169% |
| Intel Corp | INTC | 211,269.60 | 0.88% | 2.67% | 10.50% | 13.31% | 0.1165% |
| Intuit Inc | INTU | 69,154.00 | 0.29% | 0.71% | 13.00% | 13.76% | 0.0394% |
| International Paper Co | IP | 17,384.43 | 0.07% | 4.59% | 11.50% | 16.35% | 0.0118% |
| Interpublic Group of Cos Inc/The | IPG | 8,700.64 | 0.04% | 4.32% | 11.00% | 15.56% | 0.0056% |
| IPG Photonics Corp | IPGP | 7,679.95 | 0.03% | 0.00% | 10.50% | 10.50% | 0.0033% |
| IQVIA Holdings Inc | IQV | 30,471.34 | 0.13% | 0.00% | 12.50% | 12.50% | 0.0158% |
| Ingersoll-Rand PLC | IR | 30,412.44 | 0.13% | 1.68% | 12.00% | 13.78% | 0.0174% |
| Iron Mountain Inc | IRM | 9,336.32 | 0.04% | 7.50% | 8.50% | 16.32% | 0.0063% |
| Intuitive Surgical Inc | ISRG | 61,513.98 | 0.25% | 0.00% | 14.00% | 14.00% | 0.0357% |
| Gartner Inc | IT | 14,451.12 | 0.06% | 0.00% | 14.00% | 14.00% | 0.0084% |
| Illinois Tool Works Inc | ITW | 49,580.24 | 0.21% | 2.63% | 9.00% | 11.75% | 0.0241% |
| Invesco Ltd | IVZ | 8,313.80 | 0.03% | 5.98% | 7.00% | 13.19% | 0.0045% |
| JB Hunt Transport Services Inc | JBHT | 9,881.11 | 0.04% | 1.17% | 10.00% | 11.23% | 0.0046% |
| Johnson Controls International plc | JCI | 35,653.34 | 0.15% | 2.62% | 2.00% | 4.65% | 0.0069% |
| Jacobs Engineering Group Inc | JEC | 11,173.78 | 0.05% | 0.83% | 12.50% | 13.38% | 0.0062% |
| Jefferies Financial Group Inc | JEF | 5,491.94 | 0.02% | 2.72% | 18.50% | 21.47% | 0.0049% |
| Jack Henry & Associates Inc | JKHY | 10,676.65 | 0.04% | 1.15% | 10.50% | 11.71% | 0.0052% |
| Johnson & Johnson | JNJ | 377,658.00 | 1.57% | 2.71% | 12.00% | 14.87% | 0.2328% |
| Juniper Networks Inc | JNPR | 9,482.88 | 0.04% | 2.82% | 6.00% | 8.90% | 0.0035% |
| JPMorgan Chase & Co | JPM | 357,453.40 | 1.48% | 2.96% | 8.50% | 11.59% | 0.1716% |
| Nordstrom Inc | JWN | 5,134.27 | 0.02% | 4.46% | 6.50% | 11.10% | 0.0024% |
| Kellogg Co | K | 18,764.60 | 0.08% | 4.13% | 4.50% | 8.72% | 0.0068% |
| KeyCorp | KEY | 17,102.58 | 0.07% | 4.33% | 10.50% | 15.06% | 0.0107% |
| Keysight Technologies Inc | KEYS | 16,583.84 | 0.07% | 0.00% | 16.00% | 16.00% | 0.0110% |
| Kraft Heinz Co/The | KHC | 37,947.47 | 0.16% | 5.20% | 3.50% | 8.79% | 0.0138% |
| Kimco Realty Corp | KIM | 8,061.17 | 0.03% | 5.96% | 5.00% | 11.11% | 0.0037% |
| KLA-Tencor Corp | KLAC | 18,390.74 | 0.08% | 2.64% | 11.50% | 14.29% | 0.0109% |
| Kimberly-Clark Corp | KMB | 46,862.70 | 0.19% | 3.02% | 7.00% | 10.13% | 0.0197% |
| Kinder Morgan Inc/DE | KMI | 47,737.14 | 0.20% | 4.74% | 35.50% | 41.08% | 0.0813% |
| CarMax Inc | KMX | 14,258.16 | 0.06% | 0.00% | 11.50% | 11.50% | 0.0068% |
| Coca-Cola Co/The | KO | 220,484.90 | 0.91% | 3.10% | 6.50% | 9.70% | 0.0886% |
| Kroger Co/The | KR | 18,457.74 | 0.08% | 2.68% | 4.50% | 7.24% | 0.0055% |
| Kohl's Corp | KSS | 7,594.56 | 0.03% | 5.72% | 11.00% | 17.03% | 0.0054% |
| Kansas City Southern | KSU | 11,872.58 | 0.05% | 1.22% | 12.00% | 13.29% | 0.0065% |
| Loews Corp | L | 16,515.60 | 0.07% | 0.46% | 12.00% | 12.49% | 0.0085% |
| L Brands Inc | LB | 6,601.92 | 0.03% | 5.02% | -4.00% | 0.92% | 0.0003% |
| Leggett & Platt Inc | LEG | 5,031.54 | 0.02% | 4.17% | 9.00% | 13.36% | 0.0028% |
| Lennar Corp | LEN | 17,040.97 | 0.07% | 0.30% | 8.50% | 8.81% | 0.0062% |
| Laboratory Corp of America Holdings | LH | 16,580.61 | 0.07% | 0.00% | 8.00% | 8.00% | 0.0055% |
| Linde PLC | LIN | 110,009.40 | N/A | 1.85% | N/A | N/A | N/A |
| LKQ Corp | LKQ | 8,373.69 | 0.03% | 0.00% | 10.00% | 10.00% | 0.0035% |
| L3 Technologies Inc | LLL | 20,547.94 | 0.09% | 1.31% | 7.00% | 8.36% | 0.0071% |
| Eli Lilly & Co | LLY | 112,189.20 | 0.46% | 2.23% | 11.50% | 13.86% | 0.0644% |
| Lockheed Martin Corp | LMT | 102,505.10 | 0.42% | 2.54% | 11.50% | 14.19% | 0.0603% |
| Lincoln National Corp | LNC | 12,976.96 | 0.05% | 2.38% | 9.00% | 11.49% | 0.0062% |
| Alliant Energy Corp | LNT | 11,864.95 | 0.05% | 2.84% | 6.50% | 9.43% | 0.0046% |
| Lowe's Cos Inc | LOW | 80,644.80 | 0.33% | 2.17% | 11.50% | 13.79% | 0.0461% |
| Lam Research Corp | LRCX | 27,573.03 | 0.11% | 2.39% | 11.00% | 13.52% | 0.0155% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Southwest Airlines Co | LUV | 27,978.71 | 0.12% | 1.40% | 11.00% | 12.48% | 0.0145% |
| Lamb Weston Holdings Inc | LW | 8,979.13 | N/A | 1.30% | N/A | N/A | N/A |
| LyondellBasell Industries NV | LYB | 32,066.53 | 0.13% | 4.85% | 5.50% | 10.48% | 0.0139% |
| Macy's Inc | M | 6,770.47 | 0.03% | 6.89% | 3.50% | 10.51% | 0.0029% |
| Mastercard Inc | MA | 273,192.90 | 1.13% | 0.50% | 16.00% | 16.54% | 0.1873% |
| Mid-America Apartment Communities In | MAA | 13,659.00 | 0.06% | 3.20% | -3.00% | 0.15% | 0.0001% |
| Macerich Co/The | MAC | 4,815.67 | 0.02% | 8.92% | 3.00% | 12.05% | 0.0024% |
| Marriott International Inc/MD | MAR | 45,682.76 | 0.19% | 1.40% | 12.50% | 13.99% | 0.0265% |
| Masco Corp | MAS | 11,348.61 | 0.05% | 1.29% | 10.50% | 11.86% | 0.0056% |
| McDonald's Corp | MCD | 156,620.60 | 0.65% | 2.34% | 8.50% | 10.94% | 0.0710% |
| Microchip Technology Inc | MCHP | 20,332.95 | 0.08% | 1.76% | 10.50% | 12.35% | 0.0104% |
| McKesson Corp | MCK | 25,814.40 | 0.11% | 1.16% | 9.00% | 10.21% | 0.0109% |
| Moody's Corp | MCO | 38,799.60 | 0.16% | 1.01% | 11.00% | 12.07% | 0.0194% |
| Mondelez International Inc | MDLZ | 80,076.86 | 0.33% | 1.98% | 8.50% | 10.56% | 0.0351% |
| Medtronic PLC | MDT | 133,067.30 | 0.55% | 2.11% | 7.50% | 9.69% | 0.0534% |
| MetLife Inc | MET | 46,900.93 | 0.19% | 3.57% | 7.50% | 11.20% | 0.0218% |
| MGM Resorts International | MGM | 15,045.74 | 0.06% | 1.86% | 22.50% | 24.57% | 0.0153% |
| Mohawk Industries Inc | MHK | 10,751.05 | 0.04% | 0.00% | 3.50% | 3.50% | 0.0016% |
| McCormick & Co Inc/MD | MKC | 20,589.29 | 0.09% | 1.48% | 8.50% | 10.04% | 0.0086% |
| Martin Marietta Materials Inc | MLM | 14,021.68 | 0.06% | 0.88% | 9.00% | 9.92% | 0.0058% |
| Marsh & McLennan Cos Inc | MMC | 49,419.05 | 0.20% | 1.87% | 9.50% | 11.46% | 0.0235% |
| 3M Co | MMM | 100,263.70 | 0.42% | 3.31% | 8.50% | 11.95% | 0.0497% |
| Monster Beverage Corp | MNST | 34,526.11 | 0.14% | 0.00% | 13.50% | 13.50% | 0.0193% |
| Altria Group Inc | MO | 94,074.36 | 0.39% | 6.37% | 8.50% | 15.14% | 0.0590% |
| Mosaic Co/The | MOS | 9,116.17 | 0.04% | 0.89% | 22.00% | 22.99% | 0.0087% |
| Marathon Petroleum Corp | MPC | 34,650.65 | 0.14% | 4.08% | 11.50% | 15.81% | 0.0227% |
| Merck & Co Inc | MRK | 218,527.80 | 0.91% | 2.60% | 8.50% | 11.21% | 0.1015% |
| Marathon Oil Corp | MRO | 11,570.20 | N/A | 1.84% | N/A | N/A | N/A |
| Morgan Stanley | MS | 73,273.38 | 0.30% | 2.76% | 10.00% | 12.90% | 0.0392% |
| MSCI Inc | MSCI | 20,105.23 | 0.08% | 1.06% | 18.50% | 19.66% | 0.0164% |
| Microsoft Corp | MSFT | 1,049,859.00 | 4.35% | 1.34% | 13.50% | 14.93% | 0.6496% |
| Motorola Solutions Inc | MSI | 27,498.53 | 0.11% | 1.37% | 10.50% | 11.94% | 0.0136% |
| M&T Bank Corp | MTB | 22,654.86 | 0.09% | 2.41% | 9.50% | 12.02% | 0.0113% |
| Mettler-Toledo International Inc | MTD | 20,372.94 | 0.08% | 0.00% | 10.00% | 10.00% | 0.0084% |
| Micron Technology Inc | MU | 40,228.70 | 0.17% | 0.00% | 11.50% | 11.50% | 0.0192% |
| Maxim Integrated Products Inc | MXIM | 15,893.27 | 0.07% | 3.15% | 8.00% | 11.28% | 0.0074% |
| Mylan NV | MYL | 9,404.59 | 0.04% | 0.00% | 6.50% | 6.50% | 0.0025% |
| Noble Energy Inc | NBL | 10,505.25 | N/A | 2.21% | N/A | N/A | N/A |
| Norwegian Cruise Line Holdings Ltd | NCLH | 11,320.69 | 0.05% | 0.00% | 16.00% | 16.00% | 0.0075% |
| Nasdaq Inc | NDAQ | 16,195.62 | 0.07% | 1.92% | 8.00% | 10.00% | 0.0067% |
| NextEra Energy Inc | NEE | 98,856.02 | 0.41% | 2.50% | 10.00% | 12.63% | 0.0517% |
| Newmont Goldcorp Corp | NEM | 20,180.46 | 0.08% | 1.49% | 2.50% | 4.01% | 0.0034% |
| Netflix Inc | NFLX | 159,666.90 | 0.66% | 0.00% | 32.00% | 32.00% | 0.2117% |
| NiSource Inc | NI | 10,973.75 | 0.05% | 2.72% | 12.50% | 15.39% | 0.0070% |
| NIKE Inc | NKE | 134,082.50 | 0.56% | 1.03% | 14.50% | 15.60% | 0.0867% |
| Nektar Therapeutics | NKTR | 6,165.93 | N/A | 0.00% | N/A | N/A | N/A |
| Nielsen Holdings PLC | NLSN | 8,336.34 | 0.03% | 5.97% | 45.50% | 52.83% | 0.0183% |
| Northrop Grumman Corp | NOC | 55,008.60 | 0.23% | 1.63% | 9.50% | 11.21% | 0.0255% |
| National Oilwell Varco Inc | NOV | 8,382.44 | N/A | 0.92% | N/A | N/A | N/A |
| NRG Energy Inc | NRG | 9,374.53 | N/A | 0.34% | N/A | N/A | N/A |
| Norfolk Southern Corp | NSC | 52,211.98 | 0.22% | 1.75% | 15.00% | 16.88% | 0.0365% |
| NetApp Inc | NTAP | 15,479.49 | 0.06% | 3.06% | 18.50% | 21.84% | 0.0140% |
| Northern Trust Corp | NTRS | 18,663.63 | 0.08% | 2.80% | 8.50% | 11.42% | 0.0088% |
| Nucor Corp | NUE | 16,400.53 | 0.07% | 2.97% | 13.00% | 16.16% | 0.0110% |
| NVIDIA Corp | NVDA | 93,846.91 | 0.39% | 0.42% | 11.50% | 11.94% | 0.0465% |
| Newell Brands Inc | NWL | 6,376.12 | 0.03% | 6.11% | 4.50% | 10.75% | 0.0028% |
| News Corp | NWSA | 7,933.62 | N/A | 1.48% | N/A | N/A | N/A |
| Realty Income Corp | O | 22,261.25 | 0.09% | 3.75% | 4.50% | 8.33% | 0.0077% |
| ONEOK Inc | OKE | 27,968.14 | 0.12% | 5.42% | 16.00% | 21.85% | 0.0253% |
| Omnicom Group Inc | OMC | 17,774.16 | 0.07% | 3.28% | 6.50% | 9.89% | 0.0073% |
| Oracle Corp | ORCL | 196,216.60 | 0.81% | 1.69% | 10.00% | 11.77% | 0.0957% |
| O'Reilly Automotive Inc | ORLY | 29,416.34 | 0.12% | 0.00% | 12.00% | 12.00% | 0.0146% |
| Occidental Petroleum Corp | OXY | 38,366.14 | 0.16% | 6.14% | 27.50% | 34.48% | 0.0548% |
| Paychex Inc | PAYX | 31,469.06 | 0.13% | 2.83% | 10.50% | 13.48% | 0.0176% |
| People's United Financial Inc | PBCT | 6,525.14 | 0.03% | 4.34% | 9.00% | 13.54% | 0.0037% |
| PACCAR Inc | PCAR | 25,027.69 | 0.10% | 4.57% | 7.50% | 12.24% | 0.0127% |
| Public Service Enterprise Group Inc | PEG | 30,809.52 | 0.13% | 3.11% | 6.00% | 9.20% | 0.0118% |
| PepsiCo Inc | PEP | 188,068.30 | 0.78% | 2.85% | 6.50% | 9.44% | 0.0736% |
| Pfizer Inc | PFE | 242,285.20 | 1.00% | 3.30% | 11.00% | 14.48% | 0.1454% |
| Principal Financial Group Inc | PFG | 16,057.70 | 0.07% | 3.74% | 5.50% | 9.34% | 0.0062% |
| Procter & Gamble Co/The | PG | 280,280.80 | 1.16% | 2.67% | 8.50% | 11.28% | 0.1311% |
| Progressive Corp/The | PGR | 47,812.08 | 0.20% | 0.49% | 15.50% | 16.03% | 0.0318% |
| Parker-Hannifin Corp | PH | 22,075.28 | 0.09% | 2.05% | 11.50% | 13.67% | 0.0125% |
| PulteGroup Inc | PHM | 9,074.59 | 0.04% | 1.38% | 8.00% | 9.44% | 0.0035% |
| Packaging Corp of America | PKG | 8,939.70 | 0.04% | 3.34% | 6.00% | 9.44% | 0.0035% |
| PerkinElmer Inc | PKI | 10,652.19 | 0.04% | 0.29% | 11.00% | 11.31% | 0.0050% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Prologis Inc | PLD | 51,930.72 | 0.22% | 2.62% | 6.50% | 9.21% | 0.0198% |
| Philip Morris International Inc | PM | 120,153.50 | 0.50% | 5.91% | 7.00% | 13.12% | 0.0653% |
| PNC Financial Services Group Inc/The | PNC | 60,070.80 | 0.25% | 2.86% | 8.00% | 10.97% | 0.0273% |
| Pentair PLC | PNR | 6,390.95 | 0.03% | 1.94% | 6.50% | 8.50% | 0.0023% |
| Pinnacle West Capital Corp | PNW | 11,066.02 | 0.05% | 3.08% | 5.00% | 8.16% | 0.0037% |
| PPG Industries Inc | PPG | 27,191.75 | 0.11% | 1.67% | 7.50% | 9.23% | 0.0104% |
| PPL Corp | PPL | 22,752.04 | 0.09% | 5.23% | 1.50% | 6.77% | 0.0064% |
| Perrigo Co PLC | PRGO | 5,913.28 | 0.02% | 1.93% | 2.50% | 4.45% | 0.0011% |
| Prudential Financial Inc | PRU | 40,787.96 | 0.17% | 4.00% | 7.00% | 11.14% | 0.0188% |
| Public Storage | PSA | 42,223.29 | 0.17% | 3.46% | 5.50% | 9.06% | 0.0158% |
| Phillips 66 | PSX | 41,196.04 | 0.17% | 4.07% | 10.00% | 14.27% | 0.0244% |
| PVH Corp | PVH | 6,792.65 | 0.03% | 0.17% | 9.50% | 9.68% | 0.0027% |
| Quanta Services Inc | PWR | 5,578.10 | 0.02% | 0.41% | 15.50% | 15.94% | 0.0037% |
| Pioneer Natural Resources Co | PXD | 25,994.25 | 0.11% | 0.42% | 37.50% | 38.00% | 0.0409% |
| PayPal Holdings Inc | PYPL | 139,221.90 | 0.58% | 0.00% | 19.00% | 19.00% | 0.1096% |
| QUALCOMM Inc | QCOM | 88,306.37 | 0.37% | 3.41% | 10.50% | 14.09% | 0.0516% |
| Qorvo Inc | QRVO | 7,975.38 | N/A | 0.00% | N/A | N/A | N/A |
| Royal Caribbean Cruises Ltd | RCL | 24,881.97 | 0.10% | 2.36% | 12.50% | 15.01% | 0.0155% |
| Everest Re Group Ltd | RE | 10,297.12 | 0.04% | 2.30% | 9.00% | 11.40% | 0.0049% |
| Regency Centers Corp | REG | 11,736.56 | 0.05% | 3.35% | 16.00% | 19.62% | 0.0095% |
| Regeneron Pharmaceuticals Inc | REGN | 34,506.72 | 0.14% | 0.00% | 10.00% | 10.00% | 0.0143% |
| Regions Financial Corp | RF | 14,788.84 | 0.06% | 3.97% | 10.50% | 14.68% | 0.0090% |
| Robert Half International Inc | RHI | 6,782.16 | 0.03% | 2.20% | 9.50% | 11.80% | 0.0033% |
| Red Hat Inc | RHT | 33,282.79 | 0.14% | 0.00% | 15.50% | 15.50% | 0.0214% |
| Raymond James Financial Inc | RJF | 11,332.02 | 0.05% | 1.74% | 10.00% | 11.83% | 0.0056% |
| Ralph Lauren Corp | RL | 8,974.47 | 0.04% | 2.39% | 7.50% | 9.98% | 0.0037% |
| ResMed Inc | RMD | 17,670.26 | 0.07% | 1.20% | 14.50% | 15.79% | 0.0116% |
| Rockwell Automation Inc | ROK | 19,298.92 | 0.08% | 2.40% | 9.50% | 12.01% | 0.0096% |
| Rollins Inc | ROL | 12,436.31 | 0.05% | 1.11% | 13.00% | 14.18% | 0.0073% |
| Roper Technologies Inc | ROP | 38,172.99 | 0.16% | 0.50% | 11.50% | 12.03% | 0.0190% |
| Ross Stores Inc | ROST | 38,195.24 | 0.16% | 1.00% | 11.00% | 12.06% | 0.0191% |
| Republic Services Inc | RSG | 30,799.44 | 0.13% | 1.81% | 11.50% | 13.41% | 0.0171% |
| Raytheon Co | RTN | 50,999.20 | 0.21% | 2.07% | 10.00% | 12.17% | 0.0257% |
| SBA Communications Corp | SBAC | 26,453.74 | 0.11% | 0.00% | 28.50% | 28.50% | 0.0312% |
| Starbucks Corp | SBUX | 102,474.90 | 0.42% | 1.89% | 13.50% | 15.52% | 0.0659% |
| Charles Schwab Corp/The | SCHW | 53,416.07 | 0.22% | 1.70% | 12.00% | 13.80% | 0.0306% |
| Sealed Air Corp | SEE | 6,801.73 | 0.03% | 1.47% | 22.50% | 24.14% | 0.0068% |
| Sherwin-Williams Co/The | SHW | 43,541.76 | 0.18% | 0.96% | 10.50% | 11.51% | 0.0208% |
| SVB Financial Group | SIVB | 11,214.70 | 0.05% | 0.00% | 19.50% | 19.50% | 0.0091% |
| JM Smucker Co/The | SJM | 13,781.18 | 0.06% | 2.86% | 5.50% | 8.44% | 0.0048% |
| Schlumberger Ltd | SLB | 52,980.92 | 0.22% | 5.23% | 24.00% | 29.86% | 0.0656% |
| SL Green Realty Corp | SLG | 7,292.64 | 0.03% | 4.04% | 4.00% | 8.12% | 0.0025% |
| Snap-on Inc | SNA | 9,307.15 | 0.04% | 2.34% | 7.00% | 9.42% | 0.0036% |
| Synopsys Inc | SNPS | 18,552.95 | 0.08% | 0.00% | 10.00% | 10.00% | 0.0077% |
| Southern Co/The | SO | 58,277.38 | 0.24% | 4.46% | 3.50% | 8.04% | 0.0194% |
| Simon Property Group Inc | SPG | 50,940.13 | 0.21% | 5.28% | 5.50% | 10.93% | 0.0231% |
| S&P Global Inc | SPGI | 56,918.01 | 0.24% | 0.99% | 13.00% | 14.05% | 0.0332% |
| Sempra Energy | SRE | 38,447.68 | 0.16% | 2.82% | 11.00% | 13.98% | 0.0223% |
| SunTrust Banks Inc | STI | 27,763.12 | 0.12% | 3.20% | 10.00% | 13.36% | 0.0154% |
| State Street Corp | STT | 20,874.11 | 0.09% | 3.50% | 6.00% | 9.61% | 0.0083% |
| Seagate Technology PLC | STX | 12,794.63 | 0.05% | 5.46% | 6.00% | 11.62% | 0.0062% |
| Constellation Brands Inc | STZ | 35,264.59 | 0.15% | 1.64% | 9.50% | 11.22% | 0.0164% |
| Stanley Black & Decker Inc | SWK | 22,178.22 | 0.09% | 1.85% | 9.50% | 11.44% | 0.0105% |
| Skyworks Solutions Inc | SWKS | 13,097.57 | 0.05% | 2.00% | 7.50% | 9.58% | 0.0052% |
| Synchrony Financial | SYF | 23,585.81 | 0.10% | 2.57% | 10.00% | 12.70% | 0.0124% |
| Stryker Corp | SYK | 75,988.09 | 0.31% | 1.02% | 15.00% | 16.10% | 0.0507% |
| Symantec Corp | SYMC | 13,137.84 | 0.05% | 1.46% | 9.00% | 10.53% | 0.0057% |
| Sysco Corp | SYY | 36,086.83 | 0.15% | 2.20% | 12.00% | 14.33% | 0.0214% |
| AT&T Inc | T | 237,451.70 | 0.98% | 6.33% | 5.50% | 12.00% | 0.1181% |
| Molson Coors Brewing Co | TAP | 11,897.67 | 0.05% | 3.18% | 5.50% | 8.77% | 0.0043% |
| TransDigm Group Inc | TDG | 26,396.66 | 0.11% | 0.00% | 11.00% | 11.00% | 0.0120% |
| TE Connectivity Ltd | TEL | 32,361.33 | 0.13% | 1.92% | 8.50% | 10.50% | 0.0141% |
| Teleflex Inc | TFX | 15,845.63 | 0.07% | 0.41% | 15.00% | 15.44% | 0.0101% |
| Target Corp | TGT | 44,166.42 | 0.18% | 3.06% | 8.00% | 11.18% | 0.0205% |
| Tiffany & Co | TIF | 11,668.97 | 0.05% | 2.50% | 10.50% | 13.13% | 0.0063% |
| TJX Cos Inc/The | TJX | 65,277.92 | 0.27% | 1.71% | 13.50% | 15.33% | 0.0415% |
| Torchmark Corp | TMK | 9,824.09 | 0.04% | 0.77% | 10.00% | 10.81% | 0.0044% |
| Thermo Fisher Scientific Inc | TMO | 117,330.40 | 0.49% | 0.26% | 10.00% | 10.27% | 0.0499% |
| Tapestry Inc | TPR | 8,958.29 | 0.04% | 4.37% | 12.00% | 16.63% | 0.0062% |
| TripAdvisor Inc | TRIP | 6,498.25 | 0.03% | 0.00% | 18.00% | 18.00% | 0.0048% |
| T Rowe Price Group Inc | TROW | 25,910.58 | 0.11% | 2.81% | 10.00% | 12.95% | 0.0139% |
| Travelers Cos Inc/The | TRV | 39,858.56 | 0.17% | 2.16% | 9.00% | 11.26% | 0.0186% |
| Tractor Supply Co | TSCO | 12,884.36 | 0.05% | 1.31% | 11.50% | 12.89% | 0.0069% |
| Tyson Foods Inc | TSN | 28,699.95 | 0.12% | 1.97% | 6.50% | 8.53% | 0.0101% |
| Total System Services Inc | TSS | 22,951.28 | 0.10% | 0.40% | 10.00% | 10.42% | 0.0099% |
| Take-Two Interactive Software Inc | TTWO | 12,512.67 | 0.05% | 0.00% | 28.00% | 28.00% | 0.0145% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Twitter Inc | TWTR | 27,214.84 | N/A | 0.00% | N/A | N/A | N/A |
| Texas Instruments Inc | TXN | 105,812.00 | 0.44% | 2.73% | 6.00% | 8.81% | 0.0386% |
| Textron Inc | TXT | 12,213.02 | 0.05% | 0.15% | 13.00% | 13.16% | 0.0067% |
| Under Armour Inc | UAA | 11,985.43 | 0.05% | 0.00% | 12.00% | 12.00% | 0.0060% |
| United Continental Holdings Inc | UAL | 23,028.57 | 0.10% | 0.00% | 8.50% | 8.50% | 0.0081% |
| UDR Inc | UDR | 12,829.42 | 0.05% | 2.94% | 1.50% | 4.46% | 0.0024% |
| Universal Health Services Inc | UHS | 11,209.81 | 0.05% | 0.32% | 11.00% | 11.34% | 0.0053% |
| Ulta Beauty Inc | ULTA | 20,994.07 | 0.09% | 0.00% | 19.00% | 19.00% | 0.0165% |
| UnitedHealth Group Inc | UNH | 236,115.30 | 0.98% | 1.74% | 13.50% | 15.36% | 0.1503% |
| Unum Group | UNM | 6,960.99 | 0.03% | 3.48% | 9.00% | 12.64% | 0.0036% |
| Union Pacific Corp | UNP | 118,616.80 | 0.49% | 2.10% | 14.50% | 16.75% | 0.0823% |
| United Parcel Service Inc | UPS | 89,027.40 | 0.37% | 3.71% | 8.50% | 12.37% | 0.0456% |
| United Rentals Inc | URI | 10,304.80 | 0.04% | 0.00% | 14.50% | 14.50% | 0.0062% |
| US Bancorp | USB | 83,405.77 | 0.35% | 3.01% | 6.00% | 9.10% | 0.0315% |
| United Technologies Corp | UTX | 112,123.70 | 0.46% | 2.26% | 9.00% | 11.36% | 0.0528% |
| Visa Inc | V | 347,132.50 | 1.44% | 0.62% | 15.00% | 15.67% | 0.2254% |
| Varian Medical Systems Inc | VAR | 12,436.03 | 0.05% | 0.00% | 10.00% | 10.00% | 0.0052% |
| VF Corp | VFC | 35,042.77 | 0.15% | 2.30% | 10.00% | 12.42% | 0.0180% |
| Viacom Inc | VIAB | 12,385.34 | 0.05% | 2.61% | 6.00% | 8.69% | 0.0045% |
| Valero Energy Corp | VLO | 33,273.93 | 0.14% | 4.51% | 11.50% | 16.27% | 0.0224% |
| Vulcan Materials Co | VMC | 17,658.95 | 0.07% | 0.93% | 14.00% | 15.00% | 0.0110% |
| Vornado Realty Trust | VNO | 12,880.18 | 0.05% | 3.91% | -3.50% | 0.34% | 0.0002% |
| Verisk Analytics Inc | VRSK | 23,894.98 | 0.10% | 0.69% | 9.50% | 10.22% | 0.0101% |
| VeriSign Inc | VRSN | 25,193.89 | 0.10% | 0.00% | 10.50% | 10.50% | 0.0110% |
| Vertex Pharmaceuticals Inc | VRTX | 46,699.46 | 0.19% | 0.00% | 50.00% | 50.00% | 0.0968% |
| Ventas Inc | VTR | 25,587.61 | 0.11% | 4.50% | 3.00% | 7.57% | 0.0080% |
| Verizon Communications Inc | VZ | 237,141.40 | 0.98% | 4.27% | 4.00% | 8.36% | 0.0821% |
| Wabtec Corp | WAB | 11,770.11 | 0.05% | 0.66% | 13.50% | 14.20% | 0.0069% |
| Waters Corp | WAT | 14,856.91 | 0.06% | 0.00% | 10.50% | 10.50% | 0.0065% |
| Walgreens Boots Alliance Inc | WBA | 52,439.30 | 0.22% | 3.33% | 9.50% | 12.99% | 0.0282% |
| WellCare Health Plans Inc | WCG | 14,852.17 | 0.06% | 0.00% | 21.50% | 21.50% | 0.0132% |
| Western Digital Corp | WDC | 11,614.52 | 0.05% | 5.05% | 0.50% | 5.56% | 0.0027% |
| WEC Energy Group Inc | WEC | 26,935.25 | 0.11% | 2.85% | 6.00% | 8.94% | 0.0100% |
| Welltower Inc | WELL | 30,687.01 | 0.13% | 4.15% | 8.00% | 12.32% | 0.0157% |
| Wells Fargo & Co | WFC | 206,917.90 | 0.86% | 4.01% | 5.00% | 9.11% | 0.0781% |
| Whirlpool Corp | WHR | 8,898.12 | 0.04% | 3.40% | 6.50% | 10.01% | 0.0037% |
| Willis Towers Watson PLC | WLTW | 24,759.41 | 0.10% | 1.36% | 16.50% | 17.97% | 0.0184% |
| Waste Management Inc | WM | 49,293.82 | 0.20% | 1.77% | 8.00% | 9.84% | 0.0201% |
| Williams Cos Inc/The | WMB | 34,053.18 | 0.14% | 5.56% | 20.00% | 26.12% | 0.0369% |
| Walmart Inc | WMT | 315,735.90 | 1.31% | 1.94% | 7.00% | 9.01% | 0.1179% |
| Westrock Co | WRK | 9,376.85 | 0.04% | 4.99% | 9.50% | 14.73% | 0.0057% |
| Western Union Co/The | WU | 8,610.38 | 0.04% | 4.02% | 6.00% | 10.14% | 0.0036% |
| Weyerhaeuser Co | WY | 19,781.01 | 0.08% | 5.12% | 17.50% | 23.07% | 0.0189% |
| Wynn Resorts Ltd | WYNN | 13,182.97 | 0.05% | 3.27% | 18.00% | 21.56% | 0.0118% |
| Cimarex Energy Co | XEC | 5,770.12 | 0.02% | 1.41% | 18.00% | 19.54% | 0.0047% |
| Xcel Energy Inc | XEL | 31,554.29 | 0.13% | 2.69% | 5.50% | 8.26% | 0.0108% |
| Xilinx Inc | XLNX | 29,053.10 | 0.12% | 1.29% | 11.50% | 12.86% | 0.0155% |
| Exxon Mobil Corp | XOM | 324,144.10 | 1.34% | 4.54% | 14.50% | 19.37% | 0.2602% |
| DENTSPLY SIRONA Inc | XRAY | 12,852.83 | 0.05% | 0.61% | 3.00% | 3.62% | 0.0019% |
| Xerox Corp | XRX | 8,026.27 | 0.03% | 2.82% | 10.50% | 13.47% | 0.0045% |
| Xylem Inc/NY | XYL | 14,985.67 | 0.06% | 1.15% | 14.00% | 15.23% | 0.0095% |
| Yum! Brands Inc | YUM | 33,849.72 | 0.14% | 1.57% | 12.00% | 13.66% | 0.0192% |
| Zimmer Biomet Holdings Inc | ZBH | 24,516.61 | 0.10% | 0.82% | 4.50% | 5.34% | 0.0054% |
| Zions Bancorp NA | ZION | 8,103.58 | 0.03% | 2.84% | 10.00% | 12.98% | 0.0044% |
| Zoetis Inc | ZTS | 54,115.57 | 0.22% | 0.58% | 13.00% | 13.62% | 0.0305% |
| | | 24,130,896.91 | | | | | 14.78% |

Notes:
[1] Equals sum of Col. [9]
[2] Source: Bloomberg Professional
[3] Equals [1] − [2]
[4] Source: Value Line
[5] Equals weight in S&P 500 based on market capitalization
[6] Source: Value Line
[7] Source: Value Line
[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]
[9] Equals Col. [5] x Col. [8]

Bloomberg and Value Line Beta Coefficients

| Company | Ticker | [1] Bloomberg | [2] Value Line |
|---|---|---|---|
| ALLETE, Inc. | ALE | 0.461 | 0.65 |
| Alliant Energy Corporation | LNT | 0.537 | 0.60 |
| Ameren Corporation | AEE | 0.465 | 0.60 |
| American Electric Power Company, Inc. | AEP | 0.511 | 0.55 |
| Avangrid, Inc. | AGR | 0.491 | 0.40 |
| CMS Energy Corporation | CMS | 0.479 | 0.55 |
| DTE Energy Company | DTE | 0.505 | 0.55 |
| Evergy, Inc | EVRG | 0.440 | 0.53 |
| Hawaiian Electric Industries, Inc. | HE | 0.488 | 0.60 |
| NextEra Energy, Inc. | NEE | 0.553 | 0.60 |
| NorthWestern Corporation | NWE | 0.494 | 0.60 |
| OGE Energy Corp. | OGE | 0.568 | 0.80 |
| Otter Tail Corporation | OTTR | 0.558 | 0.70 |
| Pinnacle West Capital Corporation | PNW | 0.447 | 0.55 |
| PNM Resources, Inc. | PNM | 0.521 | 0.65 |
| Portland General Electric Company | POR | 0.481 | 0.60 |
| Southern Company | SO | 0.479 | 0.50 |
| WEC Energy Group, Inc. | WEC | 0.483 | 0.50 |
| Xcel Energy Inc. | XEL | 0.497 | 0.50 |
| Mean | | 0.498 | 0.58 |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Value Line. Value Line does not report a Beta coefficient for Evergy, Inc. Therefore, the Beta coefficient for Evergy has been manually calculated according to Value Line's methodology.

Capital Asset Pricing Model Results
Bloomberg and Value Line Derived Market Risk Premium

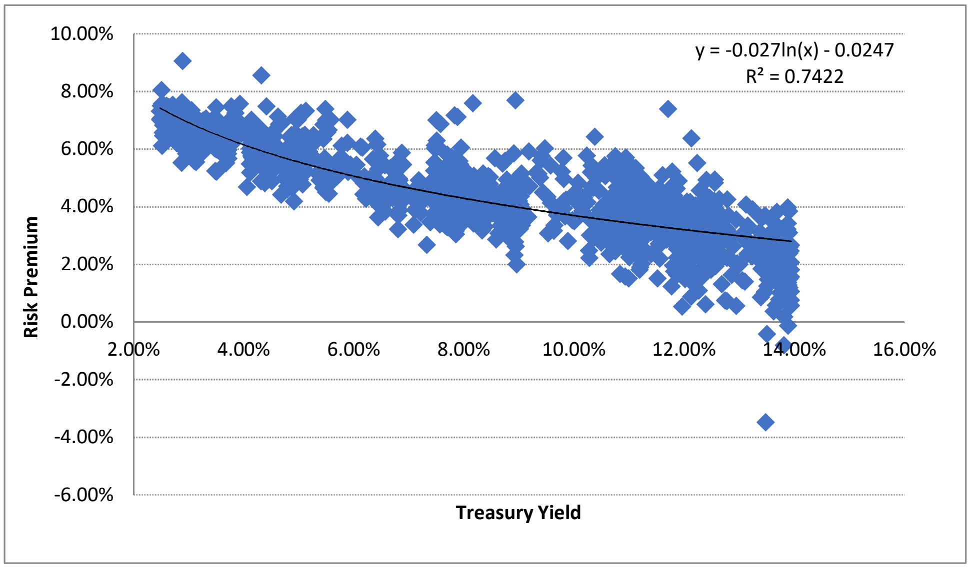
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
|---|---|---|---|---|---|---|---|---|
| | | | Ex-Ante Market Risk Premium | | CAPM Result | | ECAPM | |
| | Risk-Free Rate | Average Beta Coefficient | Bloomberg Market DCF Derived | Value Line Market DCF Derived | Bloomberg Market DCF Derived | Value Line Market DCF Derived | Bloomberg Market DCF Derived | Value Line Market DCF Derived |
| ***PROXY GROUP BLOOMBERG BETA COEFFICIENT*** | | | | | | | | |
| Current 30-Year Treasury (30-day average) [9] | 2.63% | 0.498 | 12.25% | 12.15% | 8.73% | 8.68% | 10.27% | 10.21% |
| Near-Term Projected 30-Year Treasury [10] | 2.70% | 0.498 | 12.25% | 12.15% | 8.80% | 8.75% | 10.34% | 10.28% |
| Mean | | | | | 8.76% | 8.72% | 10.30% | 10.24% |

| | | | Ex-Ante Market Risk Premium | | CAPM Result | | ECAPM | |
|---|---|---|---|---|---|---|---|---|
| | Risk-Free Rate | Average Beta Coefficient | Bloomberg Market DCF Derived | Value Line Market DCF Derived | Bloomberg Market DCF Derived | Value Line Market DCF Derived | Bloomberg Market DCF Derived | Value Line Market DCF Derived |
| ***PROXY GROUP VALUE LINE AVERAGE BETA COEFFICIENT*** | | | | | | | | |
| Current 30-Year Treasury (30-day average) [9] | 2.63% | 0.580 | 12.25% | 12.15% | 9.74% | 9.69% | 11.03% | 10.96% |
| Near-Term Projected 30-Year Treasury [10] | 2.70% | 0.580 | 12.25% | 12.15% | 9.81% | 9.75% | 11.10% | 11.03% |
| Mean | | | | | 9.78% | 9.72% | 11.06% | 10.99% |

Notes:
[1] *See Notes [9] and [10]*
[2] Source: Exhibit RBH-3
[3] Source: Exhibit RBH-2
[4] Source: Exhibit RBH-2
[5] Equals Col. [1] + (Col. [2] x Col. [3])
[6] Equals Col. [1] + (Col. [2] x Col. [4])
[7] Equals Col. [1] + (0.75 x(Col. [2] x Col. [3]) + (0.25 x Col. [3])
[8] Equals Col. [1] + (0.75 x(Col. [2] x Col. [4]) + (0.25 x Col. [4])
[9] Source: Bloomberg Professional
[10] Source: Blue Chip Financial Forecasts, Vol. 38, No. 7, July 1, 2019, at 2.

Bond Yield Plus Risk Premium

| | [1] | [2] | [3] | [4] | [5] |
|---|---|---|---|---|---|
| | Constant | Slope | 30-Year Treasury Yield | Risk Premium | Return on Equity |
| | -2.47% | -2.68% | | | |
| Current 30-Year Treasury | | | 2.63% | 7.27% | 9.90% |
| Near-Term Projected 30-Year Treasury | | | 2.70% | 7.20% | 9.90% |
| Long-Term Projected 30-Year Treasury | | | 3.70% | 6.36% | 10.06% |




Notes:
[1] Constant of regression equation
[2] Slope of regression equation
[3] Source: Current = Bloomberg Professional,
Near Term Projected = Blue Chip Financial Forecasts, Vol. 38, No. 7, July 1, 2019, at 2.
Long Term Projected = Blue Chip Financial Forecasts, Vol. 38, No. 6, June 1, 2019, at 14
[4] Equals [1] + ln([3]) x [2]
[5] Equals [3] + [4]
[6] Source: S&P Global Market Intelligence
[7] Source: S&P Global Market Intelligence
[8] Source: Bloomberg Professional, equals 200-trading day average (i.e. lag period)
[9] Equals [7] - [8]

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 1/1/1980 | 14.50% | 9.36% | 5.14% |
| 1/7/1980 | 14.39% | 9.38% | 5.01% |
| 1/9/1980 | 15.00% | 9.40% | 5.60% |
| 1/14/1980 | 15.17% | 9.42% | 5.75% |
| 1/17/1980 | 13.93% | 9.44% | 4.49% |
| 1/23/1980 | 15.50% | 9.47% | 6.03% |
| 1/30/1980 | 13.86% | 9.52% | 4.34% |
| 1/31/1980 | 12.61% | 9.53% | 3.08% |
| 2/6/1980 | 13.71% | 9.58% | 4.13% |
| 2/13/1980 | 12.80% | 9.63% | 3.17% |
| 2/14/1980 | 13.00% | 9.65% | 3.35% |
| 2/19/1980 | 13.50% | 9.68% | 3.82% |
| 2/27/1980 | 13.75% | 9.78% | 3.97% |
| 2/29/1980 | 13.75% | 9.81% | 3.94% |
| 2/29/1980 | 14.00% | 9.81% | 4.19% |
| 2/29/1980 | 14.77% | 9.81% | 4.96% |
| 3/7/1980 | 12.70% | 9.89% | 2.81% |
| 3/14/1980 | 13.50% | 9.97% | 3.53% |
| 3/26/1980 | 14.16% | 10.10% | 4.06% |
| 3/27/1980 | 14.24% | 10.12% | 4.12% |
| 3/28/1980 | 14.50% | 10.13% | 4.37% |
| 4/11/1980 | 12.75% | 10.27% | 2.48% |
| 4/14/1980 | 13.85% | 10.29% | 3.56% |
| 4/16/1980 | 15.50% | 10.31% | 5.19% |
| 4/22/1980 | 13.25% | 10.35% | 2.90% |
| 4/22/1980 | 13.90% | 10.35% | 3.55% |
| 4/24/1980 | 16.80% | 10.38% | 6.43% |
| 4/29/1980 | 15.50% | 10.41% | 5.09% |
| 5/6/1980 | 13.70% | 10.45% | 3.25% |
| 5/7/1980 | 15.00% | 10.45% | 4.55% |
| 5/8/1980 | 13.75% | 10.46% | 3.29% |
| 5/9/1980 | 14.35% | 10.47% | 3.88% |
| 5/13/1980 | 13.60% | 10.48% | 3.12% |
| 5/15/1980 | 13.25% | 10.49% | 2.76% |
| 5/19/1980 | 13.75% | 10.51% | 3.24% |
| 5/27/1980 | 13.62% | 10.54% | 3.08% |
| 5/27/1980 | 14.60% | 10.54% | 4.06% |
| 5/29/1980 | 16.00% | 10.56% | 5.44% |
| 5/30/1980 | 13.80% | 10.56% | 3.24% |
| 6/2/1980 | 15.63% | 10.57% | 5.06% |
| 6/9/1980 | 15.90% | 10.60% | 5.30% |
| 6/10/1980 | 13.78% | 10.60% | 3.18% |
| 6/12/1980 | 14.25% | 10.61% | 3.64% |
| 6/19/1980 | 13.40% | 10.62% | 2.78% |
| 6/30/1980 | 13.00% | 10.65% | 2.35% |
| 6/30/1980 | 13.40% | 10.65% | 2.75% |
| 7/9/1980 | 14.75% | 10.67% | 4.08% |
| 7/10/1980 | 15.00% | 10.68% | 4.32% |
| 7/15/1980 | 15.80% | 10.70% | 5.10% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 7/18/1980 | 13.80% | 10.71% | 3.09% |
| 7/22/1980 | 14.10% | 10.72% | 3.38% |
| 7/24/1980 | 15.00% | 10.73% | 4.27% |
| 7/25/1980 | 13.48% | 10.73% | 2.75% |
| 7/31/1980 | 14.58% | 10.75% | 3.83% |
| 8/8/1980 | 13.50% | 10.78% | 2.72% |
| 8/8/1980 | 14.00% | 10.78% | 3.22% |
| 8/8/1980 | 15.45% | 10.78% | 4.67% |
| 8/11/1980 | 14.85% | 10.78% | 4.07% |
| 8/14/1980 | 14.00% | 10.79% | 3.21% |
| 8/14/1980 | 16.25% | 10.79% | 5.46% |
| 8/25/1980 | 13.75% | 10.82% | 2.93% |
| 8/27/1980 | 13.80% | 10.83% | 2.97% |
| 8/29/1980 | 12.50% | 10.84% | 1.66% |
| 9/15/1980 | 13.50% | 10.88% | 2.62% |
| 9/15/1980 | 13.93% | 10.88% | 3.05% |
| 9/15/1980 | 15.80% | 10.88% | 4.92% |
| 9/24/1980 | 12.50% | 10.93% | 1.57% |
| 9/24/1980 | 15.00% | 10.93% | 4.07% |
| 9/26/1980 | 13.75% | 10.94% | 2.81% |
| 9/30/1980 | 14.10% | 10.96% | 3.14% |
| 9/30/1980 | 14.20% | 10.96% | 3.24% |
| 10/1/1980 | 13.90% | 10.97% | 2.93% |
| 10/3/1980 | 15.50% | 10.98% | 4.52% |
| 10/7/1980 | 12.50% | 10.99% | 1.51% |
| 10/9/1980 | 13.25% | 11.00% | 2.25% |
| 10/9/1980 | 14.50% | 11.00% | 3.50% |
| 10/9/1980 | 14.50% | 11.00% | 3.50% |
| 10/16/1980 | 16.10% | 11.02% | 5.08% |
| 10/17/1980 | 14.50% | 11.03% | 3.47% |
| 10/31/1980 | 13.75% | 11.11% | 2.64% |
| 10/31/1980 | 14.25% | 11.11% | 3.14% |
| 11/4/1980 | 15.00% | 11.12% | 3.88% |
| 11/5/1980 | 13.75% | 11.12% | 2.63% |
| 11/5/1980 | 14.00% | 11.12% | 2.88% |
| 11/8/1980 | 13.75% | 11.14% | 2.61% |
| 11/10/1980 | 14.85% | 11.15% | 3.70% |
| 11/17/1980 | 14.00% | 11.18% | 2.82% |
| 11/18/1980 | 14.00% | 11.19% | 2.81% |
| 11/19/1980 | 13.00% | 11.19% | 1.81% |
| 11/24/1980 | 14.00% | 11.21% | 2.79% |
| 11/26/1980 | 14.00% | 11.21% | 2.79% |
| 12/8/1980 | 14.15% | 11.22% | 2.93% |
| 12/8/1980 | 15.10% | 11.22% | 3.88% |
| 12/9/1980 | 15.35% | 11.22% | 4.13% |
| 12/12/1980 | 15.45% | 11.23% | 4.22% |
| 12/17/1980 | 13.25% | 11.23% | 2.02% |
| 12/18/1980 | 15.80% | 11.23% | 4.57% |
| 12/19/1980 | 14.50% | 11.23% | 3.27% |
| 12/19/1980 | 14.64% | 11.23% | 3.41% |
| 12/22/1980 | 13.45% | 11.23% | 2.22% |
| 12/22/1980 | 15.00% | 11.23% | 3.77% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/30/1980 | 14.50% | 11.22% | 3.28% |
| 12/30/1980 | 14.95% | 11.22% | 3.73% |
| 12/31/1980 | 13.39% | 11.22% | 2.17% |
| 1/2/1981 | 15.25% | 11.22% | 4.03% |
| 1/7/1981 | 14.30% | 11.21% | 3.09% |
| 1/19/1981 | 15.25% | 11.20% | 4.05% |
| 1/23/1981 | 13.10% | 11.20% | 1.90% |
| 1/23/1981 | 14.40% | 11.20% | 3.20% |
| 1/26/1981 | 15.25% | 11.20% | 4.05% |
| 1/27/1981 | 15.00% | 11.21% | 3.79% |
| 1/31/1981 | 13.47% | 11.22% | 2.25% |
| 2/3/1981 | 15.25% | 11.23% | 4.02% |
| 2/5/1981 | 15.75% | 11.25% | 4.50% |
| 2/11/1981 | 15.60% | 11.28% | 4.32% |
| 2/20/1981 | 15.25% | 11.33% | 3.92% |
| 3/11/1981 | 15.40% | 11.49% | 3.91% |
| 3/12/1981 | 14.51% | 11.50% | 3.01% |
| 3/12/1981 | 16.00% | 11.50% | 4.50% |
| 3/13/1981 | 13.02% | 11.52% | 1.50% |
| 3/18/1981 | 16.19% | 11.55% | 4.64% |
| 3/19/1981 | 13.75% | 11.56% | 2.19% |
| 3/23/1981 | 14.30% | 11.58% | 2.72% |
| 3/25/1981 | 15.30% | 11.60% | 3.70% |
| 4/1/1981 | 14.53% | 11.68% | 2.85% |
| 4/3/1981 | 19.10% | 11.71% | 7.39% |
| 4/9/1981 | 15.00% | 11.78% | 3.22% |
| 4/9/1981 | 15.30% | 11.78% | 3.52% |
| 4/9/1981 | 16.50% | 11.78% | 4.72% |
| 4/9/1981 | 17.00% | 11.78% | 5.22% |
| 4/10/1981 | 13.75% | 11.80% | 1.95% |
| 4/13/1981 | 13.57% | 11.82% | 1.75% |
| 4/15/1981 | 15.30% | 11.85% | 3.45% |
| 4/16/1981 | 13.50% | 11.87% | 1.63% |
| 4/17/1981 | 14.10% | 11.87% | 2.23% |
| 4/21/1981 | 14.00% | 11.90% | 2.10% |
| 4/21/1981 | 16.80% | 11.90% | 4.90% |
| 4/24/1981 | 16.00% | 11.95% | 4.05% |
| 4/27/1981 | 12.50% | 11.97% | 0.53% |
| 4/27/1981 | 13.61% | 11.97% | 1.64% |
| 4/29/1981 | 13.65% | 12.00% | 1.65% |
| 4/30/1981 | 13.50% | 12.02% | 1.48% |
| 5/4/1981 | 16.22% | 12.05% | 4.17% |
| 5/5/1981 | 14.40% | 12.07% | 2.33% |
| 5/7/1981 | 16.25% | 12.11% | 4.14% |
| 5/7/1981 | 16.27% | 12.11% | 4.16% |
| 5/8/1981 | 13.00% | 12.13% | 0.87% |
| 5/8/1981 | 16.00% | 12.13% | 3.87% |
| 5/12/1981 | 13.50% | 12.16% | 1.34% |
| 5/15/1981 | 15.75% | 12.22% | 3.53% |
| 5/18/1981 | 14.88% | 12.23% | 2.65% |
| 5/20/1981 | 16.00% | 12.26% | 3.74% |
| 5/21/1981 | 14.00% | 12.27% | 1.73% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 5/26/1981 | 14.90% | 12.30% | 2.60% |
| 5/27/1981 | 15.00% | 12.31% | 2.69% |
| 5/29/1981 | 15.50% | 12.34% | 3.16% |
| 6/1/1981 | 16.50% | 12.35% | 4.15% |
| 6/3/1981 | 14.67% | 12.37% | 2.30% |
| 6/5/1981 | 13.00% | 12.39% | 0.61% |
| 6/10/1981 | 16.75% | 12.42% | 4.33% |
| 6/17/1981 | 14.40% | 12.46% | 1.94% |
| 6/18/1981 | 16.33% | 12.47% | 3.86% |
| 6/25/1981 | 14.75% | 12.51% | 2.24% |
| 6/26/1981 | 16.00% | 12.52% | 3.48% |
| 6/30/1981 | 15.25% | 12.54% | 2.71% |
| 7/1/1981 | 15.50% | 12.56% | 2.94% |
| 7/1/1981 | 17.50% | 12.56% | 4.94% |
| 7/10/1981 | 16.00% | 12.62% | 3.38% |
| 7/14/1981 | 16.90% | 12.64% | 4.26% |
| 7/15/1981 | 16.00% | 12.65% | 3.35% |
| 7/17/1981 | 15.00% | 12.67% | 2.33% |
| 7/20/1981 | 15.00% | 12.68% | 2.32% |
| 7/21/1981 | 14.00% | 12.69% | 1.31% |
| 7/28/1981 | 13.48% | 12.74% | 0.74% |
| 7/31/1981 | 13.50% | 12.78% | 0.72% |
| 7/31/1981 | 15.00% | 12.78% | 2.22% |
| 7/31/1981 | 16.00% | 12.78% | 3.22% |
| 8/5/1981 | 15.71% | 12.83% | 2.88% |
| 8/10/1981 | 14.50% | 12.87% | 1.63% |
| 8/11/1981 | 15.00% | 12.88% | 2.12% |
| 8/20/1981 | 13.50% | 12.95% | 0.55% |
| 8/20/1981 | 16.50% | 12.95% | 3.55% |
| 8/24/1981 | 15.00% | 12.97% | 2.03% |
| 8/28/1981 | 15.00% | 13.01% | 1.99% |
| 9/3/1981 | 14.50% | 13.05% | 1.45% |
| 9/10/1981 | 14.50% | 13.11% | 1.39% |
| 9/11/1981 | 16.00% | 13.12% | 2.88% |
| 9/16/1981 | 16.00% | 13.15% | 2.85% |
| 9/17/1981 | 16.50% | 13.16% | 3.34% |
| 9/23/1981 | 15.85% | 13.20% | 2.65% |
| 9/28/1981 | 15.50% | 13.23% | 2.27% |
| 10/9/1981 | 15.75% | 13.33% | 2.42% |
| 10/15/1981 | 16.25% | 13.37% | 2.88% |
| 10/16/1981 | 15.50% | 13.38% | 2.12% |
| 10/16/1981 | 16.50% | 13.38% | 3.12% |
| 10/19/1981 | 14.25% | 13.39% | 0.86% |
| 10/20/1981 | 15.25% | 13.41% | 1.84% |
| 10/20/1981 | 17.00% | 13.41% | 3.59% |
| 10/23/1981 | 16.00% | 13.45% | 2.55% |
| 10/27/1981 | 10.00% | 13.48% | -3.48% |
| 10/29/1981 | 14.75% | 13.51% | 1.24% |
| 10/29/1981 | 16.50% | 13.51% | 2.99% |
| 11/3/1981 | 15.17% | 13.53% | 1.64% |
| 11/5/1981 | 16.60% | 13.55% | 3.05% |
| 11/6/1981 | 15.17% | 13.56% | 1.61% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 11/24/1981 | 15.50% | 13.61% | 1.89% |
| 11/25/1981 | 15.25% | 13.61% | 1.64% |
| 11/25/1981 | 15.35% | 13.61% | 1.74% |
| 11/25/1981 | 16.10% | 13.61% | 2.49% |
| 11/25/1981 | 16.10% | 13.61% | 2.49% |
| 12/1/1981 | 15.70% | 13.61% | 2.09% |
| 12/1/1981 | 16.00% | 13.61% | 2.39% |
| 12/1/1981 | 16.49% | 13.61% | 2.88% |
| 12/1/1981 | 16.50% | 13.61% | 2.89% |
| 12/4/1981 | 16.00% | 13.61% | 2.39% |
| 12/11/1981 | 16.25% | 13.63% | 2.62% |
| 12/14/1981 | 14.00% | 13.63% | 0.37% |
| 12/15/1981 | 15.81% | 13.63% | 2.18% |
| 12/15/1981 | 16.00% | 13.63% | 2.37% |
| 12/16/1981 | 15.25% | 13.63% | 1.62% |
| 12/17/1981 | 16.50% | 13.63% | 2.87% |
| 12/18/1981 | 15.45% | 13.63% | 1.82% |
| 12/30/1981 | 14.25% | 13.67% | 0.58% |
| 12/30/1981 | 16.00% | 13.67% | 2.33% |
| 12/30/1981 | 16.25% | 13.67% | 2.58% |
| 12/31/1981 | 16.15% | 13.67% | 2.48% |
| 1/4/1982 | 15.50% | 13.67% | 1.83% |
| 1/11/1982 | 14.50% | 13.72% | 0.78% |
| 1/11/1982 | 17.00% | 13.72% | 3.28% |
| 1/13/1982 | 14.75% | 13.74% | 1.01% |
| 1/14/1982 | 15.75% | 13.75% | 2.00% |
| 1/15/1982 | 15.00% | 13.76% | 1.24% |
| 1/15/1982 | 16.50% | 13.76% | 2.74% |
| 1/22/1982 | 16.25% | 13.79% | 2.46% |
| 1/27/1982 | 16.84% | 13.81% | 3.03% |
| 1/28/1982 | 13.00% | 13.81% | -0.81% |
| 1/29/1982 | 15.50% | 13.82% | 1.68% |
| 2/1/1982 | 15.85% | 13.82% | 2.03% |
| 2/3/1982 | 16.44% | 13.84% | 2.60% |
| 2/8/1982 | 15.50% | 13.86% | 1.64% |
| 2/11/1982 | 16.00% | 13.88% | 2.12% |
| 2/11/1982 | 16.20% | 13.88% | 2.32% |
| 2/17/1982 | 15.00% | 13.89% | 1.11% |
| 2/19/1982 | 15.17% | 13.89% | 1.28% |
| 2/26/1982 | 15.25% | 13.89% | 1.36% |
| 3/1/1982 | 15.03% | 13.89% | 1.14% |
| 3/1/1982 | 16.00% | 13.89% | 2.11% |
| 3/3/1982 | 15.00% | 13.88% | 1.12% |
| 3/8/1982 | 17.10% | 13.88% | 3.22% |
| 3/12/1982 | 16.25% | 13.88% | 2.37% |
| 3/17/1982 | 17.30% | 13.88% | 3.42% |
| 3/22/1982 | 15.10% | 13.89% | 1.21% |
| 3/27/1982 | 15.40% | 13.89% | 1.51% |
| 3/30/1982 | 15.50% | 13.90% | 1.60% |
| 3/31/1982 | 17.00% | 13.91% | 3.09% |
| 4/1/1982 | 14.70% | 13.91% | 0.79% |
| 4/1/1982 | 16.50% | 13.91% | 2.59% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 4/2/1982 | 15.50% | 13.91% | 1.59% |
| 4/5/1982 | 15.50% | 13.92% | 1.58% |
| 4/8/1982 | 16.40% | 13.93% | 2.47% |
| 4/13/1982 | 14.50% | 13.94% | 0.56% |
| 4/23/1982 | 15.75% | 13.94% | 1.81% |
| 4/27/1982 | 15.00% | 13.94% | 1.06% |
| 4/28/1982 | 15.75% | 13.94% | 1.81% |
| 4/30/1982 | 14.70% | 13.94% | 0.76% |
| 4/30/1982 | 15.50% | 13.94% | 1.56% |
| 5/3/1982 | 16.60% | 13.94% | 2.66% |
| 5/4/1982 | 16.00% | 13.94% | 2.06% |
| 5/14/1982 | 15.50% | 13.92% | 1.58% |
| 5/18/1982 | 15.42% | 13.92% | 1.50% |
| 5/19/1982 | 14.69% | 13.92% | 0.77% |
| 5/20/1982 | 15.00% | 13.91% | 1.09% |
| 5/20/1982 | 15.10% | 13.91% | 1.19% |
| 5/20/1982 | 15.50% | 13.91% | 1.59% |
| 5/20/1982 | 16.30% | 13.91% | 2.39% |
| 5/21/1982 | 17.75% | 13.91% | 3.84% |
| 5/27/1982 | 15.00% | 13.89% | 1.11% |
| 5/28/1982 | 15.50% | 13.89% | 1.61% |
| 5/28/1982 | 17.00% | 13.89% | 3.11% |
| 6/1/1982 | 13.75% | 13.89% | -0.14% |
| 6/1/1982 | 16.60% | 13.89% | 2.71% |
| 6/9/1982 | 17.86% | 13.88% | 3.98% |
| 6/14/1982 | 15.75% | 13.88% | 1.87% |
| 6/15/1982 | 14.85% | 13.88% | 0.97% |
| 6/18/1982 | 15.50% | 13.87% | 1.63% |
| 6/21/1982 | 14.90% | 13.87% | 1.03% |
| 6/23/1982 | 16.00% | 13.86% | 2.14% |
| 6/23/1982 | 16.17% | 13.86% | 2.31% |
| 6/24/1982 | 14.85% | 13.86% | 0.99% |
| 6/25/1982 | 14.70% | 13.86% | 0.84% |
| 7/1/1982 | 16.00% | 13.84% | 2.16% |
| 7/2/1982 | 15.62% | 13.84% | 1.78% |
| 7/2/1982 | 17.00% | 13.84% | 3.16% |
| 7/13/1982 | 14.00% | 13.82% | 0.18% |
| 7/13/1982 | 16.80% | 13.82% | 2.98% |
| 7/14/1982 | 15.76% | 13.82% | 1.94% |
| 7/14/1982 | 16.02% | 13.82% | 2.20% |
| 7/19/1982 | 16.50% | 13.80% | 2.70% |
| 7/22/1982 | 14.50% | 13.77% | 0.73% |
| 7/22/1982 | 17.00% | 13.77% | 3.23% |
| 7/27/1982 | 16.75% | 13.75% | 3.00% |
| 7/29/1982 | 16.50% | 13.74% | 2.76% |
| 8/11/1982 | 17.50% | 13.68% | 3.82% |
| 8/18/1982 | 17.07% | 13.63% | 3.44% |
| 8/20/1982 | 15.73% | 13.60% | 2.13% |
| 8/25/1982 | 16.00% | 13.57% | 2.43% |
| 8/26/1982 | 15.50% | 13.56% | 1.94% |
| 8/30/1982 | 15.00% | 13.55% | 1.45% |
| 9/3/1982 | 16.20% | 13.53% | 2.67% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 9/8/1982 | 15.00% | 13.52% | 1.48% |
| 9/15/1982 | 13.08% | 13.50% | -0.42% |
| 9/15/1982 | 16.25% | 13.50% | 2.75% |
| 9/16/1982 | 16.00% | 13.50% | 2.50% |
| 9/17/1982 | 15.25% | 13.50% | 1.75% |
| 9/23/1982 | 17.17% | 13.47% | 3.70% |
| 9/24/1982 | 14.50% | 13.46% | 1.04% |
| 9/27/1982 | 15.25% | 13.46% | 1.79% |
| 10/1/1982 | 15.50% | 13.42% | 2.08% |
| 10/15/1982 | 15.90% | 13.32% | 2.58% |
| 10/22/1982 | 15.75% | 13.24% | 2.51% |
| 10/22/1982 | 17.15% | 13.24% | 3.91% |
| 10/29/1982 | 15.54% | 13.16% | 2.38% |
| 11/1/1982 | 15.50% | 13.15% | 2.35% |
| 11/3/1982 | 17.20% | 13.13% | 4.07% |
| 11/4/1982 | 16.25% | 13.11% | 3.14% |
| 11/5/1982 | 16.20% | 13.09% | 3.11% |
| 11/9/1982 | 16.00% | 13.05% | 2.95% |
| 11/23/1982 | 15.50% | 12.89% | 2.61% |
| 11/23/1982 | 15.85% | 12.89% | 2.96% |
| 11/30/1982 | 16.50% | 12.81% | 3.69% |
| 12/1/1982 | 17.04% | 12.79% | 4.25% |
| 12/6/1982 | 15.00% | 12.73% | 2.27% |
| 12/6/1982 | 16.35% | 12.73% | 3.62% |
| 12/10/1982 | 15.50% | 12.66% | 2.84% |
| 12/13/1982 | 16.00% | 12.65% | 3.35% |
| 12/14/1982 | 15.30% | 12.63% | 2.67% |
| 12/14/1982 | 16.40% | 12.63% | 3.77% |
| 12/20/1982 | 16.00% | 12.57% | 3.43% |
| 12/21/1982 | 14.75% | 12.56% | 2.19% |
| 12/21/1982 | 15.85% | 12.56% | 3.29% |
| 12/22/1982 | 16.25% | 12.54% | 3.71% |
| 12/22/1982 | 16.58% | 12.54% | 4.04% |
| 12/22/1982 | 16.75% | 12.54% | 4.21% |
| 12/29/1982 | 14.90% | 12.48% | 2.42% |
| 12/29/1982 | 16.25% | 12.48% | 3.77% |
| 12/30/1982 | 16.00% | 12.47% | 3.53% |
| 12/30/1982 | 16.35% | 12.47% | 3.88% |
| 12/30/1982 | 16.77% | 12.47% | 4.30% |
| 1/5/1983 | 17.33% | 12.40% | 4.93% |
| 1/11/1983 | 15.90% | 12.34% | 3.56% |
| 1/12/1983 | 14.63% | 12.33% | 2.30% |
| 1/12/1983 | 15.50% | 12.33% | 3.17% |
| 1/20/1983 | 17.75% | 12.24% | 5.51% |
| 1/21/1983 | 15.00% | 12.22% | 2.78% |
| 1/24/1983 | 14.50% | 12.21% | 2.29% |
| 1/24/1983 | 15.50% | 12.21% | 3.29% |
| 1/25/1983 | 15.85% | 12.19% | 3.66% |
| 1/27/1983 | 16.14% | 12.17% | 3.97% |
| 2/1/1983 | 18.50% | 12.13% | 6.37% |
| 2/4/1983 | 14.00% | 12.10% | 1.90% |
| 2/10/1983 | 15.00% | 12.06% | 2.94% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 2/21/1983 | 15.50% | 11.98% | 3.52% |
| 2/22/1983 | 15.50% | 11.97% | 3.53% |
| 2/23/1983 | 15.10% | 11.96% | 3.14% |
| 2/23/1983 | 16.00% | 11.96% | 4.04% |
| 3/2/1983 | 15.25% | 11.89% | 3.36% |
| 3/9/1983 | 15.20% | 11.82% | 3.38% |
| 3/15/1983 | 13.00% | 11.77% | 1.23% |
| 3/18/1983 | 15.25% | 11.73% | 3.52% |
| 3/23/1983 | 15.40% | 11.69% | 3.71% |
| 3/24/1983 | 15.00% | 11.67% | 3.33% |
| 3/29/1983 | 15.50% | 11.63% | 3.87% |
| 3/30/1983 | 16.71% | 11.61% | 5.10% |
| 3/31/1983 | 15.00% | 11.59% | 3.41% |
| 4/4/1983 | 15.20% | 11.58% | 3.62% |
| 4/8/1983 | 15.50% | 11.51% | 3.99% |
| 4/11/1983 | 14.81% | 11.49% | 3.32% |
| 4/19/1983 | 14.50% | 11.38% | 3.12% |
| 4/20/1983 | 16.00% | 11.36% | 4.64% |
| 4/29/1983 | 16.00% | 11.24% | 4.76% |
| 5/1/1983 | 14.50% | 11.24% | 3.26% |
| 5/9/1983 | 15.50% | 11.15% | 4.35% |
| 5/11/1983 | 16.46% | 11.12% | 5.34% |
| 5/12/1983 | 14.14% | 11.11% | 3.03% |
| 5/18/1983 | 15.00% | 11.05% | 3.95% |
| 5/23/1983 | 14.90% | 11.01% | 3.89% |
| 5/23/1983 | 15.50% | 11.01% | 4.49% |
| 5/25/1983 | 15.50% | 10.98% | 4.52% |
| 5/27/1983 | 15.00% | 10.96% | 4.04% |
| 5/31/1983 | 14.00% | 10.95% | 3.05% |
| 5/31/1983 | 15.50% | 10.95% | 4.55% |
| 6/2/1983 | 14.50% | 10.93% | 3.57% |
| 6/17/1983 | 15.03% | 10.84% | 4.19% |
| 7/1/1983 | 14.80% | 10.78% | 4.02% |
| 7/1/1983 | 14.90% | 10.78% | 4.12% |
| 7/8/1983 | 16.25% | 10.76% | 5.49% |
| 7/13/1983 | 13.20% | 10.75% | 2.45% |
| 7/19/1983 | 15.00% | 10.74% | 4.26% |
| 7/19/1983 | 15.10% | 10.74% | 4.36% |
| 7/25/1983 | 16.25% | 10.73% | 5.52% |
| 7/28/1983 | 15.90% | 10.74% | 5.16% |
| 8/3/1983 | 16.34% | 10.75% | 5.59% |
| 8/3/1983 | 16.50% | 10.75% | 5.75% |
| 8/19/1983 | 15.00% | 10.80% | 4.20% |
| 8/22/1983 | 15.50% | 10.80% | 4.70% |
| 8/22/1983 | 16.40% | 10.80% | 5.60% |
| 8/31/1983 | 14.75% | 10.84% | 3.91% |
| 9/7/1983 | 15.00% | 10.86% | 4.14% |
| 9/14/1983 | 15.78% | 10.89% | 4.89% |
| 9/16/1983 | 15.00% | 10.90% | 4.10% |
| 9/19/1983 | 14.50% | 10.91% | 3.59% |
| 9/20/1983 | 16.50% | 10.91% | 5.59% |
| 9/28/1983 | 14.50% | 10.94% | 3.56% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 9/29/1983 | 15.50% | 10.95% | 4.55% |
| 9/30/1983 | 15.25% | 10.95% | 4.30% |
| 9/30/1983 | 16.15% | 10.95% | 5.20% |
| 10/4/1983 | 14.80% | 10.96% | 3.84% |
| 10/7/1983 | 16.00% | 10.97% | 5.03% |
| 10/13/1983 | 15.52% | 10.99% | 4.53% |
| 10/17/1983 | 15.50% | 11.00% | 4.50% |
| 10/18/1983 | 14.50% | 11.00% | 3.50% |
| 10/19/1983 | 16.25% | 11.01% | 5.24% |
| 10/19/1983 | 16.50% | 11.01% | 5.49% |
| 10/26/1983 | 15.00% | 11.04% | 3.96% |
| 10/27/1983 | 15.20% | 11.04% | 4.16% |
| 11/1/1983 | 16.00% | 11.06% | 4.94% |
| 11/9/1983 | 14.90% | 11.09% | 3.81% |
| 11/10/1983 | 14.35% | 11.10% | 3.25% |
| 11/23/1983 | 16.00% | 11.13% | 4.87% |
| 11/23/1983 | 16.15% | 11.13% | 5.02% |
| 11/30/1983 | 15.00% | 11.14% | 3.86% |
| 12/5/1983 | 15.25% | 11.15% | 4.10% |
| 12/6/1983 | 15.07% | 11.15% | 3.92% |
| 12/8/1983 | 15.90% | 11.16% | 4.74% |
| 12/9/1983 | 14.75% | 11.17% | 3.58% |
| 12/12/1983 | 14.50% | 11.17% | 3.33% |
| 12/15/1983 | 15.56% | 11.19% | 4.37% |
| 12/19/1983 | 14.80% | 11.21% | 3.59% |
| 12/20/1983 | 14.69% | 11.22% | 3.47% |
| 12/20/1983 | 16.00% | 11.22% | 4.78% |
| 12/20/1983 | 16.25% | 11.22% | 5.03% |
| 12/22/1983 | 14.75% | 11.23% | 3.52% |
| 12/22/1983 | 15.75% | 11.23% | 4.52% |
| 1/3/1984 | 14.75% | 11.27% | 3.48% |
| 1/10/1984 | 15.90% | 11.30% | 4.60% |
| 1/12/1984 | 15.60% | 11.31% | 4.29% |
| 1/18/1984 | 13.75% | 11.33% | 2.42% |
| 1/19/1984 | 15.90% | 11.33% | 4.57% |
| 1/30/1984 | 16.10% | 11.37% | 4.73% |
| 1/31/1984 | 15.25% | 11.37% | 3.88% |
| 2/1/1984 | 14.80% | 11.38% | 3.42% |
| 2/6/1984 | 13.75% | 11.40% | 2.35% |
| 2/6/1984 | 14.75% | 11.40% | 3.35% |
| 2/9/1984 | 15.25% | 11.42% | 3.83% |
| 2/15/1984 | 15.70% | 11.44% | 4.26% |
| 2/20/1984 | 15.00% | 11.46% | 3.54% |
| 2/20/1984 | 15.00% | 11.46% | 3.54% |
| 2/22/1984 | 14.75% | 11.47% | 3.28% |
| 2/28/1984 | 14.50% | 11.51% | 2.99% |
| 3/2/1984 | 14.25% | 11.54% | 2.71% |
| 3/20/1984 | 16.00% | 11.64% | 4.36% |
| 3/23/1984 | 15.50% | 11.67% | 3.83% |
| 3/26/1984 | 14.71% | 11.68% | 3.03% |
| 4/2/1984 | 15.50% | 11.71% | 3.79% |
| 4/6/1984 | 14.74% | 11.75% | 2.99% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 4/11/1984 | 15.72% | 11.78% | 3.94% |
| 4/17/1984 | 15.00% | 11.81% | 3.19% |
| 4/18/1984 | 16.20% | 11.82% | 4.38% |
| 4/25/1984 | 14.64% | 11.85% | 2.79% |
| 4/30/1984 | 14.40% | 11.87% | 2.53% |
| 5/16/1984 | 14.69% | 11.98% | 2.71% |
| 5/16/1984 | 15.00% | 11.98% | 3.02% |
| 5/22/1984 | 14.40% | 12.02% | 2.38% |
| 5/29/1984 | 15.10% | 12.06% | 3.04% |
| 6/13/1984 | 15.25% | 12.15% | 3.10% |
| 6/15/1984 | 15.60% | 12.17% | 3.43% |
| 6/22/1984 | 16.25% | 12.21% | 4.04% |
| 6/29/1984 | 15.25% | 12.26% | 2.99% |
| 7/2/1984 | 13.35% | 12.27% | 1.08% |
| 7/10/1984 | 16.00% | 12.31% | 3.69% |
| 7/12/1984 | 16.50% | 12.32% | 4.18% |
| 7/13/1984 | 16.25% | 12.33% | 3.92% |
| 7/17/1984 | 14.14% | 12.35% | 1.79% |
| 7/18/1984 | 15.30% | 12.36% | 2.94% |
| 7/18/1984 | 15.50% | 12.36% | 3.14% |
| 7/19/1984 | 14.30% | 12.37% | 1.93% |
| 7/24/1984 | 16.79% | 12.39% | 4.40% |
| 7/31/1984 | 16.00% | 12.43% | 3.57% |
| 8/3/1984 | 14.25% | 12.44% | 1.81% |
| 8/17/1984 | 14.30% | 12.49% | 1.81% |
| 8/20/1984 | 15.00% | 12.49% | 2.51% |
| 8/27/1984 | 16.30% | 12.51% | 3.79% |
| 8/31/1984 | 15.55% | 12.52% | 3.03% |
| 9/6/1984 | 16.00% | 12.53% | 3.47% |
| 9/10/1984 | 14.75% | 12.54% | 2.21% |
| 9/13/1984 | 15.00% | 12.55% | 2.45% |
| 9/17/1984 | 17.38% | 12.56% | 4.82% |
| 9/26/1984 | 14.50% | 12.57% | 1.93% |
| 9/28/1984 | 15.00% | 12.57% | 2.43% |
| 9/28/1984 | 16.25% | 12.57% | 3.68% |
| 10/9/1984 | 14.75% | 12.58% | 2.17% |
| 10/12/1984 | 15.60% | 12.59% | 3.01% |
| 10/22/1984 | 15.00% | 12.59% | 2.41% |
| 10/26/1984 | 16.40% | 12.58% | 3.82% |
| 10/31/1984 | 16.25% | 12.58% | 3.67% |
| 11/7/1984 | 15.60% | 12.58% | 3.02% |
| 11/9/1984 | 16.00% | 12.58% | 3.42% |
| 11/14/1984 | 15.75% | 12.58% | 3.17% |
| 11/20/1984 | 15.25% | 12.58% | 2.67% |
| 11/20/1984 | 15.92% | 12.58% | 3.34% |
| 11/23/1984 | 15.00% | 12.58% | 2.42% |
| 11/28/1984 | 16.15% | 12.57% | 3.58% |
| 12/3/1984 | 15.80% | 12.56% | 3.24% |
| 12/4/1984 | 16.50% | 12.56% | 3.94% |
| 12/18/1984 | 16.40% | 12.53% | 3.87% |
| 12/19/1984 | 14.75% | 12.53% | 2.22% |
| 12/19/1984 | 15.00% | 12.53% | 2.47% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/20/1984 | 16.00% | 12.53% | 3.47% |
| 12/28/1984 | 16.00% | 12.50% | 3.50% |
| 1/3/1985 | 14.75% | 12.49% | 2.26% |
| 1/10/1985 | 15.75% | 12.47% | 3.28% |
| 1/11/1985 | 16.30% | 12.46% | 3.84% |
| 1/23/1985 | 15.80% | 12.43% | 3.37% |
| 1/24/1985 | 15.82% | 12.43% | 3.39% |
| 1/25/1985 | 16.75% | 12.42% | 4.33% |
| 1/30/1985 | 14.90% | 12.40% | 2.50% |
| 1/31/1985 | 14.75% | 12.39% | 2.36% |
| 2/8/1985 | 14.47% | 12.35% | 2.12% |
| 3/1/1985 | 13.84% | 12.31% | 1.53% |
| 3/8/1985 | 16.85% | 12.28% | 4.57% |
| 3/14/1985 | 15.50% | 12.25% | 3.25% |
| 3/15/1985 | 15.62% | 12.25% | 3.37% |
| 3/29/1985 | 15.62% | 12.17% | 3.45% |
| 4/3/1985 | 14.60% | 12.14% | 2.46% |
| 4/9/1985 | 15.50% | 12.11% | 3.39% |
| 4/16/1985 | 15.70% | 12.06% | 3.64% |
| 4/22/1985 | 14.00% | 12.02% | 1.98% |
| 4/26/1985 | 15.50% | 11.98% | 3.52% |
| 4/29/1985 | 15.00% | 11.97% | 3.03% |
| 5/2/1985 | 14.68% | 11.94% | 2.74% |
| 5/8/1985 | 15.62% | 11.89% | 3.73% |
| 5/10/1985 | 16.50% | 11.87% | 4.63% |
| 5/29/1985 | 14.61% | 11.73% | 2.88% |
| 5/31/1985 | 16.00% | 11.71% | 4.29% |
| 6/14/1985 | 15.50% | 11.61% | 3.89% |
| 7/9/1985 | 15.00% | 11.45% | 3.55% |
| 7/16/1985 | 14.50% | 11.39% | 3.11% |
| 7/26/1985 | 14.50% | 11.33% | 3.17% |
| 8/2/1985 | 14.80% | 11.29% | 3.51% |
| 8/7/1985 | 15.00% | 11.27% | 3.73% |
| 8/28/1985 | 14.25% | 11.15% | 3.10% |
| 8/28/1985 | 15.50% | 11.15% | 4.35% |
| 8/29/1985 | 14.50% | 11.15% | 3.35% |
| 9/9/1985 | 14.60% | 11.11% | 3.49% |
| 9/9/1985 | 14.90% | 11.11% | 3.79% |
| 9/17/1985 | 14.90% | 11.08% | 3.82% |
| 9/23/1985 | 15.00% | 11.06% | 3.94% |
| 9/27/1985 | 15.50% | 11.05% | 4.45% |
| 9/27/1985 | 15.80% | 11.05% | 4.75% |
| 10/2/1985 | 14.00% | 11.03% | 2.97% |
| 10/2/1985 | 14.75% | 11.03% | 3.72% |
| 10/3/1985 | 15.25% | 11.03% | 4.22% |
| 10/24/1985 | 15.40% | 10.96% | 4.44% |
| 10/24/1985 | 15.82% | 10.96% | 4.86% |
| 10/24/1985 | 15.85% | 10.96% | 4.89% |
| 10/28/1985 | 16.00% | 10.95% | 5.05% |
| 10/29/1985 | 16.65% | 10.94% | 5.71% |
| 10/31/1985 | 15.06% | 10.93% | 4.13% |
| 11/4/1985 | 14.50% | 10.92% | 3.58% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 11/7/1985 | 15.50% | 10.90% | 4.60% |
| 11/8/1985 | 14.30% | 10.89% | 3.41% |
| 12/12/1985 | 14.75% | 10.73% | 4.02% |
| 12/18/1985 | 15.00% | 10.69% | 4.31% |
| 12/20/1985 | 14.50% | 10.67% | 3.83% |
| 12/20/1985 | 14.50% | 10.67% | 3.83% |
| 12/20/1985 | 15.00% | 10.67% | 4.33% |
| 1/24/1986 | 15.40% | 10.41% | 4.99% |
| 1/31/1986 | 15.00% | 10.35% | 4.65% |
| 2/5/1986 | 15.00% | 10.32% | 4.68% |
| 2/5/1986 | 15.75% | 10.32% | 5.43% |
| 2/10/1986 | 13.30% | 10.29% | 3.01% |
| 2/11/1986 | 12.50% | 10.28% | 2.22% |
| 2/14/1986 | 14.40% | 10.24% | 4.16% |
| 2/18/1986 | 16.00% | 10.23% | 5.77% |
| 2/24/1986 | 14.50% | 10.18% | 4.32% |
| 2/26/1986 | 14.00% | 10.15% | 3.85% |
| 3/5/1986 | 14.90% | 10.08% | 4.82% |
| 3/11/1986 | 14.50% | 10.02% | 4.48% |
| 3/12/1986 | 13.50% | 10.00% | 3.50% |
| 3/27/1986 | 14.10% | 9.86% | 4.24% |
| 3/31/1986 | 13.50% | 9.84% | 3.66% |
| 4/1/1986 | 14.00% | 9.83% | 4.17% |
| 4/2/1986 | 15.50% | 9.81% | 5.69% |
| 4/4/1986 | 15.00% | 9.78% | 5.22% |
| 4/14/1986 | 13.40% | 9.69% | 3.71% |
| 4/23/1986 | 15.00% | 9.57% | 5.43% |
| 5/16/1986 | 14.50% | 9.32% | 5.18% |
| 5/16/1986 | 14.50% | 9.32% | 5.18% |
| 5/29/1986 | 13.90% | 9.19% | 4.71% |
| 5/30/1986 | 15.10% | 9.18% | 5.92% |
| 6/2/1986 | 12.81% | 9.17% | 3.64% |
| 6/11/1986 | 14.00% | 9.07% | 4.93% |
| 6/24/1986 | 16.63% | 8.94% | 7.69% |
| 6/26/1986 | 12.00% | 8.91% | 3.09% |
| 6/26/1986 | 14.75% | 8.91% | 5.84% |
| 6/30/1986 | 13.00% | 8.87% | 4.13% |
| 7/10/1986 | 14.34% | 8.75% | 5.59% |
| 7/11/1986 | 12.75% | 8.73% | 4.02% |
| 7/14/1986 | 12.60% | 8.71% | 3.89% |
| 7/17/1986 | 12.40% | 8.66% | 3.74% |
| 7/25/1986 | 14.25% | 8.57% | 5.68% |
| 8/6/1986 | 13.50% | 8.44% | 5.06% |
| 8/14/1986 | 13.50% | 8.35% | 5.15% |
| 9/16/1986 | 12.75% | 8.06% | 4.69% |
| 9/19/1986 | 13.25% | 8.03% | 5.22% |
| 10/1/1986 | 14.00% | 7.95% | 6.05% |
| 10/3/1986 | 13.40% | 7.93% | 5.47% |
| 10/31/1986 | 13.50% | 7.77% | 5.73% |
| 11/5/1986 | 13.00% | 7.75% | 5.25% |
| 12/3/1986 | 12.90% | 7.58% | 5.32% |
| 12/4/1986 | 14.44% | 7.58% | 6.86% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/16/1986 | 13.60% | 7.52% | 6.08% |
| 12/22/1986 | 13.80% | 7.51% | 6.29% |
| 12/30/1986 | 13.00% | 7.49% | 5.51% |
| 1/2/1987 | 13.00% | 7.49% | 5.51% |
| 1/12/1987 | 12.40% | 7.47% | 4.93% |
| 1/27/1987 | 12.71% | 7.46% | 5.25% |
| 3/2/1987 | 12.47% | 7.47% | 5.00% |
| 3/3/1987 | 13.60% | 7.47% | 6.13% |
| 3/4/1987 | 12.38% | 7.47% | 4.91% |
| 3/10/1987 | 13.50% | 7.47% | 6.03% |
| 3/13/1987 | 13.00% | 7.47% | 5.53% |
| 3/31/1987 | 13.00% | 7.46% | 5.54% |
| 4/6/1987 | 13.00% | 7.47% | 5.53% |
| 4/14/1987 | 12.50% | 7.49% | 5.01% |
| 4/16/1987 | 14.50% | 7.50% | 7.00% |
| 4/27/1987 | 12.00% | 7.54% | 4.46% |
| 5/5/1987 | 12.85% | 7.58% | 5.27% |
| 5/12/1987 | 12.65% | 7.62% | 5.03% |
| 5/28/1987 | 13.50% | 7.70% | 5.80% |
| 6/15/1987 | 13.20% | 7.78% | 5.42% |
| 6/29/1987 | 15.00% | 7.83% | 7.17% |
| 6/30/1987 | 12.50% | 7.84% | 4.66% |
| 7/8/1987 | 12.00% | 7.86% | 4.14% |
| 7/10/1987 | 12.90% | 7.86% | 5.04% |
| 7/15/1987 | 13.50% | 7.88% | 5.62% |
| 7/16/1987 | 13.50% | 7.88% | 5.62% |
| 7/16/1987 | 15.00% | 7.88% | 7.12% |
| 7/27/1987 | 13.00% | 7.92% | 5.08% |
| 7/27/1987 | 13.40% | 7.92% | 5.48% |
| 7/27/1987 | 13.50% | 7.92% | 5.58% |
| 7/31/1987 | 12.98% | 7.95% | 5.03% |
| 8/26/1987 | 12.63% | 8.06% | 4.57% |
| 8/26/1987 | 12.75% | 8.06% | 4.69% |
| 8/27/1987 | 13.25% | 8.06% | 5.19% |
| 9/9/1987 | 13.00% | 8.14% | 4.86% |
| 9/30/1987 | 12.75% | 8.31% | 4.44% |
| 9/30/1987 | 13.00% | 8.31% | 4.69% |
| 10/2/1987 | 11.50% | 8.33% | 3.17% |
| 10/15/1987 | 13.00% | 8.43% | 4.57% |
| 11/2/1987 | 13.00% | 8.55% | 4.45% |
| 11/19/1987 | 13.00% | 8.64% | 4.36% |
| 11/30/1987 | 12.00% | 8.68% | 3.32% |
| 12/3/1987 | 14.20% | 8.70% | 5.50% |
| 12/15/1987 | 13.25% | 8.77% | 4.48% |
| 12/16/1987 | 13.50% | 8.78% | 4.72% |
| 12/16/1987 | 13.72% | 8.78% | 4.94% |
| 12/17/1987 | 11.75% | 8.79% | 2.96% |
| 12/18/1987 | 13.50% | 8.80% | 4.70% |
| 12/21/1987 | 12.01% | 8.81% | 3.20% |
| 12/22/1987 | 12.00% | 8.81% | 3.19% |
| 12/22/1987 | 12.00% | 8.81% | 3.19% |
| 12/22/1987 | 12.75% | 8.81% | 3.94% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/22/1987 | 13.00% | 8.81% | 4.19% |
| 1/20/1988 | 13.80% | 8.94% | 4.86% |
| 1/26/1988 | 13.90% | 8.95% | 4.95% |
| 1/29/1988 | 13.20% | 8.96% | 4.24% |
| 2/4/1988 | 12.60% | 8.96% | 3.64% |
| 3/1/1988 | 11.56% | 8.94% | 2.62% |
| 3/23/1988 | 12.87% | 8.92% | 3.95% |
| 3/24/1988 | 11.24% | 8.92% | 2.32% |
| 3/30/1988 | 12.72% | 8.92% | 3.80% |
| 4/1/1988 | 12.50% | 8.92% | 3.58% |
| 4/7/1988 | 13.25% | 8.93% | 4.32% |
| 4/25/1988 | 10.96% | 8.96% | 2.00% |
| 5/3/1988 | 12.91% | 8.97% | 3.94% |
| 5/11/1988 | 13.50% | 8.99% | 4.51% |
| 5/16/1988 | 13.00% | 8.99% | 4.01% |
| 6/30/1988 | 12.75% | 9.00% | 3.75% |
| 7/1/1988 | 12.75% | 8.99% | 3.76% |
| 7/20/1988 | 13.40% | 8.96% | 4.44% |
| 8/5/1988 | 12.75% | 8.92% | 3.83% |
| 8/23/1988 | 11.70% | 8.93% | 2.77% |
| 8/29/1988 | 12.75% | 8.94% | 3.81% |
| 8/30/1988 | 13.50% | 8.94% | 4.56% |
| 9/8/1988 | 12.60% | 8.95% | 3.65% |
| 10/13/1988 | 13.10% | 8.93% | 4.17% |
| 12/19/1988 | 13.00% | 9.02% | 3.98% |
| 12/20/1988 | 12.25% | 9.02% | 3.23% |
| 12/20/1988 | 13.00% | 9.02% | 3.98% |
| 12/21/1988 | 12.90% | 9.02% | 3.88% |
| 12/27/1988 | 13.00% | 9.03% | 3.97% |
| 12/28/1988 | 13.10% | 9.03% | 4.07% |
| 12/30/1988 | 13.40% | 9.04% | 4.36% |
| 1/27/1989 | 13.00% | 9.05% | 3.95% |
| 1/31/1989 | 13.00% | 9.05% | 3.95% |
| 2/17/1989 | 13.00% | 9.05% | 3.95% |
| 2/20/1989 | 12.40% | 9.05% | 3.35% |
| 3/1/1989 | 12.76% | 9.05% | 3.71% |
| 3/8/1989 | 13.00% | 9.05% | 3.95% |
| 3/30/1989 | 14.00% | 9.05% | 4.95% |
| 4/5/1989 | 14.20% | 9.05% | 5.15% |
| 4/18/1989 | 13.00% | 9.05% | 3.95% |
| 5/5/1989 | 12.40% | 9.05% | 3.35% |
| 6/2/1989 | 13.20% | 9.00% | 4.20% |
| 6/8/1989 | 13.50% | 8.98% | 4.52% |
| 6/27/1989 | 13.25% | 8.91% | 4.34% |
| 6/30/1989 | 13.00% | 8.90% | 4.10% |
| 8/14/1989 | 12.50% | 8.77% | 3.73% |
| 9/28/1989 | 12.25% | 8.63% | 3.62% |
| 10/24/1989 | 12.50% | 8.54% | 3.96% |
| 11/9/1989 | 13.00% | 8.49% | 4.51% |
| 12/15/1989 | 13.00% | 8.34% | 4.66% |
| 12/20/1989 | 12.90% | 8.32% | 4.58% |
| 12/21/1989 | 12.90% | 8.31% | 4.59% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/27/1989 | 12.50% | 8.29% | 4.21% |
| 12/27/1989 | 13.00% | 8.29% | 4.71% |
| 1/10/1990 | 12.80% | 8.24% | 4.56% |
| 1/11/1990 | 12.90% | 8.24% | 4.66% |
| 1/17/1990 | 12.80% | 8.22% | 4.58% |
| 1/26/1990 | 12.00% | 8.20% | 3.80% |
| 2/9/1990 | 12.10% | 8.17% | 3.93% |
| 2/24/1990 | 12.86% | 8.15% | 4.71% |
| 3/30/1990 | 12.90% | 8.16% | 4.74% |
| 4/4/1990 | 15.76% | 8.17% | 7.59% |
| 4/12/1990 | 12.52% | 8.18% | 4.34% |
| 4/19/1990 | 12.75% | 8.20% | 4.55% |
| 5/21/1990 | 12.10% | 8.28% | 3.82% |
| 5/29/1990 | 12.40% | 8.30% | 4.10% |
| 5/31/1990 | 12.00% | 8.30% | 3.70% |
| 6/4/1990 | 12.90% | 8.30% | 4.60% |
| 6/6/1990 | 12.25% | 8.31% | 3.94% |
| 6/15/1990 | 13.20% | 8.32% | 4.88% |
| 6/20/1990 | 12.92% | 8.32% | 4.60% |
| 6/27/1990 | 12.90% | 8.33% | 4.57% |
| 6/29/1990 | 12.50% | 8.33% | 4.17% |
| 7/6/1990 | 12.10% | 8.34% | 3.76% |
| 7/6/1990 | 12.35% | 8.34% | 4.01% |
| 8/10/1990 | 12.55% | 8.41% | 4.14% |
| 8/16/1990 | 13.21% | 8.43% | 4.78% |
| 8/22/1990 | 13.10% | 8.45% | 4.65% |
| 8/24/1990 | 13.00% | 8.46% | 4.54% |
| 9/26/1990 | 11.45% | 8.59% | 2.86% |
| 10/2/1990 | 13.00% | 8.61% | 4.39% |
| 10/5/1990 | 12.84% | 8.62% | 4.22% |
| 10/19/1990 | 13.00% | 8.67% | 4.33% |
| 10/25/1990 | 12.30% | 8.68% | 3.62% |
| 11/21/1990 | 12.70% | 8.69% | 4.01% |
| 12/13/1990 | 12.30% | 8.67% | 3.63% |
| 12/17/1990 | 12.87% | 8.67% | 4.20% |
| 12/18/1990 | 13.10% | 8.67% | 4.43% |
| 12/19/1990 | 12.00% | 8.66% | 3.34% |
| 12/20/1990 | 12.75% | 8.66% | 4.09% |
| 12/21/1990 | 12.50% | 8.66% | 3.84% |
| 12/27/1990 | 12.79% | 8.66% | 4.13% |
| 1/2/1991 | 13.10% | 8.65% | 4.45% |
| 1/4/1991 | 12.50% | 8.65% | 3.85% |
| 1/15/1991 | 12.75% | 8.64% | 4.11% |
| 1/25/1991 | 11.70% | 8.63% | 3.07% |
| 2/4/1991 | 12.50% | 8.60% | 3.90% |
| 2/7/1991 | 12.50% | 8.59% | 3.91% |
| 2/12/1991 | 13.00% | 8.58% | 4.43% |
| 2/14/1991 | 12.72% | 8.57% | 4.15% |
| 2/22/1991 | 12.80% | 8.55% | 4.25% |
| 3/6/1991 | 13.10% | 8.53% | 4.57% |
| 3/8/1991 | 12.30% | 8.52% | 3.78% |
| 3/8/1991 | 13.00% | 8.52% | 4.48% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 4/22/1991 | 13.00% | 8.49% | 4.51% |
| 5/7/1991 | 13.50% | 8.47% | 5.03% |
| 5/13/1991 | 13.25% | 8.47% | 4.78% |
| 5/30/1991 | 12.75% | 8.44% | 4.31% |
| 6/12/1991 | 12.00% | 8.41% | 3.59% |
| 6/25/1991 | 11.70% | 8.39% | 3.31% |
| 6/28/1991 | 12.50% | 8.38% | 4.12% |
| 7/1/1991 | 12.00% | 8.38% | 3.62% |
| 7/3/1991 | 12.50% | 8.37% | 4.13% |
| 7/19/1991 | 12.10% | 8.34% | 3.76% |
| 8/1/1991 | 12.90% | 8.32% | 4.58% |
| 8/16/1991 | 13.20% | 8.29% | 4.91% |
| 9/27/1991 | 12.50% | 8.23% | 4.27% |
| 9/30/1991 | 12.25% | 8.23% | 4.02% |
| 10/17/1991 | 13.00% | 8.20% | 4.80% |
| 10/23/1991 | 12.50% | 8.20% | 4.30% |
| 10/23/1991 | 12.55% | 8.20% | 4.35% |
| 10/31/1991 | 11.80% | 8.19% | 3.61% |
| 11/1/1991 | 12.00% | 8.19% | 3.81% |
| 11/5/1991 | 12.25% | 8.19% | 4.06% |
| 11/12/1991 | 12.50% | 8.18% | 4.32% |
| 11/12/1991 | 13.25% | 8.18% | 5.07% |
| 11/25/1991 | 12.40% | 8.18% | 4.22% |
| 11/26/1991 | 11.60% | 8.18% | 3.42% |
| 11/26/1991 | 12.50% | 8.18% | 4.32% |
| 11/27/1991 | 12.10% | 8.18% | 3.92% |
| 12/18/1991 | 12.25% | 8.15% | 4.10% |
| 12/19/1991 | 12.60% | 8.15% | 4.45% |
| 12/19/1991 | 12.80% | 8.15% | 4.65% |
| 12/20/1991 | 12.65% | 8.14% | 4.51% |
| 1/9/1992 | 12.80% | 8.09% | 4.71% |
| 1/16/1992 | 12.75% | 8.07% | 4.68% |
| 1/21/1992 | 12.00% | 8.06% | 3.94% |
| 1/22/1992 | 13.00% | 8.06% | 4.94% |
| 1/27/1992 | 12.65% | 8.05% | 4.60% |
| 1/31/1992 | 12.00% | 8.04% | 3.96% |
| 2/11/1992 | 12.40% | 8.03% | 4.37% |
| 2/25/1992 | 12.50% | 8.01% | 4.49% |
| 3/16/1992 | 11.43% | 7.98% | 3.45% |
| 3/18/1992 | 12.28% | 7.98% | 4.30% |
| 4/2/1992 | 12.10% | 7.95% | 4.15% |
| 4/9/1992 | 11.45% | 7.94% | 3.51% |
| 4/10/1992 | 11.50% | 7.93% | 3.57% |
| 4/14/1992 | 11.50% | 7.93% | 3.57% |
| 5/5/1992 | 11.50% | 7.89% | 3.61% |
| 5/12/1992 | 11.87% | 7.88% | 3.99% |
| 5/12/1992 | 12.46% | 7.88% | 4.58% |
| 6/1/1992 | 12.30% | 7.87% | 4.43% |
| 6/12/1992 | 10.90% | 7.86% | 3.04% |
| 6/26/1992 | 12.35% | 7.85% | 4.50% |
| 6/29/1992 | 11.00% | 7.85% | 3.15% |
| 6/30/1992 | 13.00% | 7.85% | 5.15% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 7/13/1992 | 11.90% | 7.84% | 4.06% |
| 7/13/1992 | 13.50% | 7.84% | 5.66% |
| 7/22/1992 | 11.20% | 7.83% | 3.37% |
| 8/3/1992 | 12.00% | 7.81% | 4.19% |
| 8/6/1992 | 12.50% | 7.80% | 4.70% |
| 9/22/1992 | 12.00% | 7.71% | 4.29% |
| 9/28/1992 | 11.40% | 7.71% | 3.69% |
| 9/30/1992 | 11.75% | 7.70% | 4.05% |
| 10/2/1992 | 13.00% | 7.70% | 5.30% |
| 10/12/1992 | 12.20% | 7.70% | 4.50% |
| 10/16/1992 | 13.16% | 7.70% | 5.46% |
| 10/30/1992 | 11.75% | 7.71% | 4.04% |
| 11/3/1992 | 12.00% | 7.71% | 4.29% |
| 12/3/1992 | 11.85% | 7.68% | 4.17% |
| 12/15/1992 | 11.00% | 7.66% | 3.34% |
| 12/16/1992 | 11.90% | 7.66% | 4.24% |
| 12/16/1992 | 12.40% | 7.66% | 4.74% |
| 12/17/1992 | 12.00% | 7.66% | 4.34% |
| 12/22/1992 | 12.30% | 7.65% | 4.65% |
| 12/22/1992 | 12.40% | 7.65% | 4.75% |
| 12/29/1992 | 12.25% | 7.63% | 4.62% |
| 12/30/1992 | 12.00% | 7.63% | 4.37% |
| 12/31/1992 | 11.90% | 7.63% | 4.27% |
| 1/12/1993 | 12.00% | 7.61% | 4.39% |
| 1/21/1993 | 11.25% | 7.59% | 3.66% |
| 2/2/1993 | 11.40% | 7.56% | 3.84% |
| 2/15/1993 | 12.30% | 7.52% | 4.78% |
| 2/24/1993 | 11.90% | 7.49% | 4.41% |
| 2/26/1993 | 11.80% | 7.48% | 4.32% |
| 2/26/1993 | 12.20% | 7.48% | 4.72% |
| 4/23/1993 | 11.75% | 7.29% | 4.46% |
| 5/11/1993 | 11.75% | 7.25% | 4.50% |
| 5/14/1993 | 11.50% | 7.24% | 4.26% |
| 5/25/1993 | 11.50% | 7.23% | 4.27% |
| 5/28/1993 | 11.00% | 7.22% | 3.78% |
| 6/3/1993 | 12.00% | 7.21% | 4.79% |
| 6/16/1993 | 11.50% | 7.19% | 4.31% |
| 6/18/1993 | 12.10% | 7.18% | 4.92% |
| 6/25/1993 | 11.67% | 7.17% | 4.50% |
| 7/21/1993 | 11.38% | 7.10% | 4.28% |
| 7/23/1993 | 10.46% | 7.09% | 3.37% |
| 8/24/1993 | 11.50% | 6.96% | 4.54% |
| 9/21/1993 | 10.50% | 6.81% | 3.69% |
| 9/29/1993 | 11.47% | 6.77% | 4.70% |
| 9/30/1993 | 11.60% | 6.76% | 4.84% |
| 11/2/1993 | 10.80% | 6.60% | 4.20% |
| 11/12/1993 | 12.00% | 6.57% | 5.43% |
| 11/26/1993 | 11.00% | 6.52% | 4.48% |
| 12/14/1993 | 10.55% | 6.48% | 4.07% |
| 12/16/1993 | 10.60% | 6.48% | 4.12% |
| 12/21/1993 | 11.30% | 6.47% | 4.83% |
| 1/4/1994 | 10.07% | 6.44% | 3.63% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 1/13/1994 | 11.00% | 6.42% | 4.58% |
| 1/21/1994 | 11.00% | 6.40% | 4.60% |
| 1/28/1994 | 11.35% | 6.39% | 4.96% |
| 2/3/1994 | 11.40% | 6.38% | 5.02% |
| 2/17/1994 | 10.60% | 6.36% | 4.24% |
| 2/25/1994 | 11.25% | 6.35% | 4.90% |
| 2/25/1994 | 12.00% | 6.35% | 5.65% |
| 3/1/1994 | 11.00% | 6.35% | 4.65% |
| 3/4/1994 | 11.00% | 6.35% | 4.65% |
| 4/25/1994 | 11.00% | 6.41% | 4.59% |
| 5/10/1994 | 11.75% | 6.45% | 5.30% |
| 5/13/1994 | 10.50% | 6.46% | 4.04% |
| 6/3/1994 | 11.00% | 6.54% | 4.46% |
| 6/27/1994 | 11.40% | 6.65% | 4.75% |
| 8/5/1994 | 12.75% | 6.88% | 5.87% |
| 10/31/1994 | 10.00% | 7.33% | 2.67% |
| 11/9/1994 | 10.85% | 7.39% | 3.46% |
| 11/9/1994 | 10.85% | 7.39% | 3.46% |
| 11/18/1994 | 11.20% | 7.45% | 3.75% |
| 11/22/1994 | 11.60% | 7.47% | 4.13% |
| 11/28/1994 | 11.06% | 7.49% | 3.57% |
| 12/8/1994 | 11.50% | 7.54% | 3.96% |
| 12/8/1994 | 11.70% | 7.54% | 4.16% |
| 12/14/1994 | 10.95% | 7.56% | 3.39% |
| 12/15/1994 | 11.50% | 7.57% | 3.93% |
| 12/19/1994 | 11.50% | 7.58% | 3.92% |
| 12/28/1994 | 12.15% | 7.61% | 4.54% |
| 1/9/1995 | 12.28% | 7.64% | 4.64% |
| 1/31/1995 | 11.00% | 7.69% | 3.31% |
| 2/10/1995 | 12.60% | 7.70% | 4.90% |
| 2/17/1995 | 11.90% | 7.70% | 4.20% |
| 3/9/1995 | 11.50% | 7.71% | 3.79% |
| 3/20/1995 | 12.00% | 7.72% | 4.28% |
| 3/23/1995 | 12.81% | 7.72% | 5.09% |
| 3/29/1995 | 11.60% | 7.72% | 3.88% |
| 4/6/1995 | 11.10% | 7.71% | 3.39% |
| 4/7/1995 | 11.00% | 7.71% | 3.29% |
| 4/19/1995 | 11.00% | 7.70% | 3.30% |
| 5/12/1995 | 11.63% | 7.68% | 3.95% |
| 5/25/1995 | 11.20% | 7.65% | 3.55% |
| 6/9/1995 | 11.25% | 7.60% | 3.65% |
| 6/21/1995 | 12.25% | 7.56% | 4.69% |
| 6/30/1995 | 11.10% | 7.52% | 3.58% |
| 9/11/1995 | 11.30% | 7.20% | 4.10% |
| 9/27/1995 | 11.30% | 7.12% | 4.18% |
| 9/27/1995 | 11.50% | 7.12% | 4.38% |
| 9/27/1995 | 11.75% | 7.12% | 4.63% |
| 9/29/1995 | 11.00% | 7.11% | 3.89% |
| 11/9/1995 | 11.38% | 6.90% | 4.48% |
| 11/9/1995 | 12.36% | 6.90% | 5.46% |
| 11/17/1995 | 11.00% | 6.86% | 4.14% |
| 12/4/1995 | 11.35% | 6.78% | 4.57% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/11/1995 | 11.40% | 6.74% | 4.66% |
| 12/20/1995 | 11.60% | 6.70% | 4.90% |
| 12/27/1995 | 12.00% | 6.66% | 5.34% |
| 2/5/1996 | 12.25% | 6.48% | 5.77% |
| 3/29/1996 | 10.67% | 6.42% | 4.25% |
| 4/8/1996 | 11.00% | 6.42% | 4.58% |
| 4/11/1996 | 12.59% | 6.43% | 6.16% |
| 4/11/1996 | 12.59% | 6.43% | 6.16% |
| 4/24/1996 | 11.25% | 6.43% | 4.82% |
| 4/30/1996 | 11.00% | 6.43% | 4.57% |
| 5/13/1996 | 11.00% | 6.44% | 4.56% |
| 5/23/1996 | 11.25% | 6.43% | 4.82% |
| 6/25/1996 | 11.25% | 6.48% | 4.77% |
| 6/27/1996 | 11.20% | 6.48% | 4.72% |
| 8/12/1996 | 10.40% | 6.57% | 3.83% |
| 9/27/1996 | 11.00% | 6.71% | 4.29% |
| 10/16/1996 | 12.25% | 6.76% | 5.49% |
| 11/5/1996 | 11.00% | 6.81% | 4.19% |
| 11/26/1996 | 11.30% | 6.83% | 4.47% |
| 12/18/1996 | 11.75% | 6.83% | 4.92% |
| 12/31/1996 | 11.50% | 6.83% | 4.67% |
| 1/3/1997 | 10.70% | 6.83% | 3.87% |
| 2/13/1997 | 11.80% | 6.82% | 4.98% |
| 2/20/1997 | 11.80% | 6.82% | 4.98% |
| 3/31/1997 | 10.02% | 6.80% | 3.22% |
| 4/2/1997 | 11.65% | 6.80% | 4.85% |
| 4/28/1997 | 11.50% | 6.81% | 4.69% |
| 4/29/1997 | 11.70% | 6.81% | 4.89% |
| 7/17/1997 | 12.00% | 6.77% | 5.23% |
| 12/12/1997 | 11.00% | 6.60% | 4.40% |
| 12/23/1997 | 11.12% | 6.57% | 4.55% |
| 2/2/1998 | 12.75% | 6.39% | 6.36% |
| 3/2/1998 | 11.25% | 6.29% | 4.96% |
| 3/6/1998 | 10.75% | 6.27% | 4.48% |
| 3/20/1998 | 10.50% | 6.22% | 4.28% |
| 4/30/1998 | 12.20% | 6.12% | 6.08% |
| 7/10/1998 | 11.40% | 5.94% | 5.46% |
| 9/15/1998 | 11.90% | 5.78% | 6.12% |
| 11/30/1998 | 12.60% | 5.58% | 7.02% |
| 12/10/1998 | 12.20% | 5.54% | 6.66% |
| 12/17/1998 | 12.10% | 5.52% | 6.58% |
| 2/5/1999 | 10.30% | 5.38% | 4.92% |
| 3/4/1999 | 10.50% | 5.34% | 5.16% |
| 4/6/1999 | 10.94% | 5.32% | 5.62% |
| 7/29/1999 | 10.75% | 5.52% | 5.23% |
| 9/23/1999 | 10.75% | 5.70% | 5.05% |
| 11/17/1999 | 11.10% | 5.90% | 5.20% |
| 1/7/2000 | 11.50% | 6.05% | 5.45% |
| 1/7/2000 | 11.50% | 6.05% | 5.45% |
| 2/17/2000 | 10.60% | 6.17% | 4.43% |
| 3/28/2000 | 11.25% | 6.20% | 5.05% |
| 5/24/2000 | 11.00% | 6.18% | 4.82% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 7/18/2000 | 12.20% | 6.16% | 6.04% |
| 9/29/2000 | 11.16% | 6.03% | 5.13% |
| 11/28/2000 | 12.90% | 5.89% | 7.01% |
| 11/30/2000 | 12.10% | 5.88% | 6.22% |
| 1/23/2001 | 11.25% | 5.79% | 5.46% |
| 2/8/2001 | 11.50% | 5.77% | 5.73% |
| 5/8/2001 | 10.75% | 5.62% | 5.13% |
| 6/26/2001 | 11.00% | 5.62% | 5.38% |
| 7/25/2001 | 11.02% | 5.60% | 5.42% |
| 7/25/2001 | 11.02% | 5.60% | 5.42% |
| 7/31/2001 | 11.00% | 5.59% | 5.41% |
| 8/31/2001 | 10.50% | 5.56% | 4.94% |
| 9/7/2001 | 10.75% | 5.55% | 5.20% |
| 9/10/2001 | 11.00% | 5.55% | 5.45% |
| 9/20/2001 | 10.00% | 5.55% | 4.45% |
| 10/24/2001 | 10.30% | 5.54% | 4.76% |
| 11/28/2001 | 10.60% | 5.49% | 5.11% |
| 12/3/2001 | 12.88% | 5.49% | 7.39% |
| 12/20/2001 | 12.50% | 5.50% | 7.00% |
| 1/22/2002 | 10.00% | 5.50% | 4.50% |
| 3/27/2002 | 10.10% | 5.45% | 4.65% |
| 4/22/2002 | 11.80% | 5.45% | 6.35% |
| 5/28/2002 | 10.17% | 5.46% | 4.71% |
| 6/10/2002 | 12.00% | 5.47% | 6.53% |
| 6/18/2002 | 11.16% | 5.48% | 5.68% |
| 6/20/2002 | 11.00% | 5.48% | 5.52% |
| 6/20/2002 | 12.30% | 5.48% | 6.82% |
| 7/15/2002 | 11.00% | 5.48% | 5.52% |
| 9/12/2002 | 12.30% | 5.45% | 6.85% |
| 9/26/2002 | 10.45% | 5.41% | 5.04% |
| 12/4/2002 | 11.55% | 5.29% | 6.26% |
| 12/13/2002 | 11.75% | 5.27% | 6.48% |
| 12/20/2002 | 11.40% | 5.25% | 6.15% |
| 1/8/2003 | 11.10% | 5.19% | 5.91% |
| 1/31/2003 | 12.45% | 5.13% | 7.32% |
| 2/28/2003 | 12.30% | 5.05% | 7.25% |
| 3/6/2003 | 10.75% | 5.03% | 5.72% |
| 3/7/2003 | 9.96% | 5.02% | 4.94% |
| 3/20/2003 | 12.00% | 4.98% | 7.02% |
| 4/3/2003 | 12.00% | 4.96% | 7.04% |
| 4/15/2003 | 11.15% | 4.94% | 6.21% |
| 6/25/2003 | 10.75% | 4.79% | 5.96% |
| 6/26/2003 | 10.75% | 4.79% | 5.96% |
| 7/9/2003 | 9.75% | 4.79% | 4.96% |
| 7/16/2003 | 9.75% | 4.79% | 4.96% |
| 7/25/2003 | 9.50% | 4.80% | 4.70% |
| 8/26/2003 | 10.50% | 4.83% | 5.67% |
| 12/17/2003 | 9.85% | 4.94% | 4.91% |
| 12/17/2003 | 10.70% | 4.94% | 5.76% |
| 12/18/2003 | 11.50% | 4.94% | 6.56% |
| 12/19/2003 | 12.00% | 4.94% | 7.06% |
| 12/19/2003 | 12.00% | 4.94% | 7.06% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/23/2003 | 10.50% | 4.94% | 5.56% |
| 1/13/2004 | 12.00% | 4.95% | 7.05% |
| 3/2/2004 | 10.75% | 4.99% | 5.76% |
| 3/26/2004 | 10.25% | 5.02% | 5.23% |
| 4/5/2004 | 11.25% | 5.03% | 6.22% |
| 5/18/2004 | 10.50% | 5.07% | 5.43% |
| 5/25/2004 | 10.25% | 5.08% | 5.17% |
| 5/27/2004 | 10.25% | 5.08% | 5.17% |
| 6/2/2004 | 11.22% | 5.08% | 6.14% |
| 6/30/2004 | 10.50% | 5.10% | 5.40% |
| 6/30/2004 | 10.50% | 5.10% | 5.40% |
| 7/16/2004 | 11.60% | 5.11% | 6.49% |
| 8/25/2004 | 10.25% | 5.10% | 5.15% |
| 9/9/2004 | 10.40% | 5.10% | 5.30% |
| 11/9/2004 | 10.50% | 5.07% | 5.43% |
| 11/23/2004 | 11.00% | 5.06% | 5.94% |
| 12/14/2004 | 10.97% | 5.07% | 5.90% |
| 12/21/2004 | 11.25% | 5.07% | 6.18% |
| 12/21/2004 | 11.50% | 5.07% | 6.43% |
| 12/22/2004 | 10.70% | 5.07% | 5.63% |
| 12/22/2004 | 11.50% | 5.07% | 6.43% |
| 12/29/2004 | 9.85% | 5.07% | 4.78% |
| 1/6/2005 | 10.70% | 5.08% | 5.62% |
| 2/18/2005 | 10.30% | 4.98% | 5.32% |
| 2/25/2005 | 10.50% | 4.96% | 5.54% |
| 3/10/2005 | 11.00% | 4.93% | 6.07% |
| 3/24/2005 | 10.30% | 4.90% | 5.40% |
| 4/4/2005 | 10.00% | 4.88% | 5.12% |
| 4/7/2005 | 10.25% | 4.87% | 5.38% |
| 5/18/2005 | 10.25% | 4.78% | 5.47% |
| 5/25/2005 | 10.75% | 4.76% | 5.99% |
| 5/26/2005 | 9.75% | 4.76% | 4.99% |
| 6/1/2005 | 9.75% | 4.75% | 5.00% |
| 7/19/2005 | 11.50% | 4.64% | 6.86% |
| 8/5/2005 | 11.75% | 4.62% | 7.13% |
| 8/15/2005 | 10.13% | 4.61% | 5.52% |
| 9/28/2005 | 10.00% | 4.54% | 5.46% |
| 10/4/2005 | 10.75% | 4.54% | 6.21% |
| 12/12/2005 | 11.00% | 4.55% | 6.45% |
| 12/13/2005 | 10.75% | 4.55% | 6.20% |
| 12/21/2005 | 10.29% | 4.54% | 5.75% |
| 12/21/2005 | 10.40% | 4.54% | 5.86% |
| 12/22/2005 | 11.00% | 4.54% | 6.46% |
| 12/22/2005 | 11.15% | 4.54% | 6.61% |
| 12/28/2005 | 10.00% | 4.54% | 5.46% |
| 12/28/2005 | 10.00% | 4.54% | 5.46% |
| 1/5/2006 | 11.00% | 4.53% | 6.47% |
| 1/27/2006 | 9.75% | 4.52% | 5.23% |
| 3/3/2006 | 10.39% | 4.53% | 5.86% |
| 4/17/2006 | 10.20% | 4.61% | 5.59% |
| 4/26/2006 | 10.60% | 4.64% | 5.96% |
| 5/17/2006 | 11.60% | 4.69% | 6.91% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 6/6/2006 | 10.00% | 4.74% | 5.26% |
| 6/27/2006 | 10.75% | 4.80% | 5.95% |
| 7/6/2006 | 10.20% | 4.83% | 5.37% |
| 7/24/2006 | 9.60% | 4.86% | 4.74% |
| 7/26/2006 | 10.50% | 4.86% | 5.64% |
| 7/28/2006 | 10.05% | 4.86% | 5.19% |
| 8/23/2006 | 9.55% | 4.89% | 4.66% |
| 9/1/2006 | 10.54% | 4.90% | 5.64% |
| 9/14/2006 | 10.00% | 4.91% | 5.09% |
| 10/6/2006 | 9.67% | 4.92% | 4.75% |
| 11/21/2006 | 10.08% | 4.95% | 5.13% |
| 11/21/2006 | 10.08% | 4.95% | 5.13% |
| 11/21/2006 | 10.12% | 4.95% | 5.17% |
| 12/1/2006 | 10.25% | 4.95% | 5.30% |
| 12/1/2006 | 10.50% | 4.95% | 5.55% |
| 12/7/2006 | 10.75% | 4.95% | 5.80% |
| 12/21/2006 | 10.90% | 4.95% | 5.95% |
| 12/21/2006 | 11.25% | 4.95% | 6.30% |
| 12/22/2006 | 10.25% | 4.95% | 5.30% |
| 1/5/2007 | 10.00% | 4.95% | 5.05% |
| 1/11/2007 | 10.10% | 4.95% | 5.15% |
| 1/11/2007 | 10.10% | 4.95% | 5.15% |
| 1/11/2007 | 10.90% | 4.95% | 5.95% |
| 1/12/2007 | 10.10% | 4.95% | 5.15% |
| 1/13/2007 | 10.40% | 4.95% | 5.45% |
| 1/19/2007 | 10.80% | 4.94% | 5.86% |
| 3/21/2007 | 11.35% | 4.87% | 6.48% |
| 3/22/2007 | 9.75% | 4.86% | 4.89% |
| 5/15/2007 | 10.00% | 4.81% | 5.19% |
| 5/17/2007 | 10.25% | 4.81% | 5.44% |
| 5/17/2007 | 10.25% | 4.81% | 5.44% |
| 5/22/2007 | 10.20% | 4.80% | 5.40% |
| 5/22/2007 | 10.50% | 4.80% | 5.70% |
| 5/23/2007 | 10.70% | 4.80% | 5.90% |
| 5/25/2007 | 9.67% | 4.80% | 4.87% |
| 6/15/2007 | 9.90% | 4.82% | 5.08% |
| 6/21/2007 | 10.20% | 4.83% | 5.37% |
| 6/22/2007 | 10.50% | 4.83% | 5.67% |
| 6/28/2007 | 10.75% | 4.84% | 5.91% |
| 7/12/2007 | 9.67% | 4.86% | 4.81% |
| 7/19/2007 | 10.00% | 4.87% | 5.13% |
| 7/19/2007 | 10.00% | 4.87% | 5.13% |
| 8/15/2007 | 10.40% | 4.88% | 5.52% |
| 10/9/2007 | 10.00% | 4.91% | 5.09% |
| 10/17/2007 | 9.10% | 4.91% | 4.19% |
| 10/31/2007 | 9.96% | 4.90% | 5.06% |
| 11/29/2007 | 10.90% | 4.87% | 6.03% |
| 12/6/2007 | 10.75% | 4.86% | 5.89% |
| 12/13/2007 | 9.96% | 4.86% | 5.10% |
| 12/14/2007 | 10.70% | 4.86% | 5.84% |
| 12/14/2007 | 10.80% | 4.86% | 5.94% |
| 12/19/2007 | 10.20% | 4.86% | 5.34% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/20/2007 | 10.20% | 4.85% | 5.35% |
| 12/20/2007 | 11.00% | 4.85% | 6.15% |
| 12/28/2007 | 10.25% | 4.85% | 5.40% |
| 12/31/2007 | 11.25% | 4.85% | 6.40% |
| 1/8/2008 | 10.75% | 4.83% | 5.92% |
| 1/17/2008 | 10.75% | 4.81% | 5.94% |
| 1/28/2008 | 9.40% | 4.80% | 4.60% |
| 1/30/2008 | 10.00% | 4.79% | 5.21% |
| 1/31/2008 | 10.71% | 4.79% | 5.92% |
| 2/29/2008 | 10.25% | 4.75% | 5.50% |
| 3/12/2008 | 10.25% | 4.73% | 5.52% |
| 3/25/2008 | 9.10% | 4.68% | 4.42% |
| 4/22/2008 | 10.25% | 4.60% | 5.65% |
| 4/24/2008 | 10.10% | 4.60% | 5.50% |
| 5/1/2008 | 10.70% | 4.59% | 6.11% |
| 5/19/2008 | 11.00% | 4.56% | 6.44% |
| 5/27/2008 | 10.00% | 4.55% | 5.45% |
| 6/10/2008 | 10.70% | 4.54% | 6.16% |
| 6/27/2008 | 10.50% | 4.54% | 5.96% |
| 6/27/2008 | 11.04% | 4.54% | 6.50% |
| 7/10/2008 | 10.43% | 4.52% | 5.91% |
| 7/16/2008 | 9.40% | 4.52% | 4.88% |
| 7/30/2008 | 10.80% | 4.51% | 6.29% |
| 7/31/2008 | 10.70% | 4.51% | 6.19% |
| 8/11/2008 | 10.25% | 4.51% | 5.74% |
| 8/26/2008 | 10.18% | 4.50% | 5.68% |
| 9/10/2008 | 10.30% | 4.50% | 5.80% |
| 9/24/2008 | 10.65% | 4.48% | 6.17% |
| 9/24/2008 | 10.65% | 4.48% | 6.17% |
| 9/24/2008 | 10.65% | 4.48% | 6.17% |
| 9/30/2008 | 10.20% | 4.48% | 5.72% |
| 10/8/2008 | 10.15% | 4.46% | 5.69% |
| 11/13/2008 | 10.55% | 4.45% | 6.10% |
| 11/17/2008 | 10.20% | 4.44% | 5.76% |
| 12/1/2008 | 10.25% | 4.40% | 5.85% |
| 12/23/2008 | 11.00% | 4.27% | 6.73% |
| 12/29/2008 | 10.00% | 4.24% | 5.76% |
| 12/29/2008 | 10.20% | 4.24% | 5.96% |
| 12/31/2008 | 10.75% | 4.22% | 6.53% |
| 1/14/2009 | 10.50% | 4.15% | 6.35% |
| 1/21/2009 | 10.50% | 4.12% | 6.38% |
| 1/21/2009 | 10.50% | 4.12% | 6.38% |
| 1/21/2009 | 10.50% | 4.12% | 6.38% |
| 1/27/2009 | 10.76% | 4.09% | 6.67% |
| 1/30/2009 | 10.50% | 4.08% | 6.42% |
| 2/4/2009 | 8.75% | 4.06% | 4.69% |
| 3/4/2009 | 10.50% | 3.96% | 6.54% |
| 3/12/2009 | 11.50% | 3.93% | 7.57% |
| 4/2/2009 | 11.10% | 3.85% | 7.25% |
| 4/21/2009 | 10.61% | 3.80% | 6.81% |
| 4/24/2009 | 10.00% | 3.79% | 6.21% |
| 4/30/2009 | 11.25% | 3.78% | 7.47% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 5/4/2009 | 10.74% | 3.77% | 6.97% |
| 5/20/2009 | 10.25% | 3.74% | 6.51% |
| 5/28/2009 | 10.50% | 3.74% | 6.76% |
| 6/22/2009 | 10.00% | 3.76% | 6.24% |
| 6/24/2009 | 10.80% | 3.77% | 7.03% |
| 7/8/2009 | 10.63% | 3.77% | 6.86% |
| 7/17/2009 | 10.50% | 3.78% | 6.72% |
| 8/31/2009 | 10.25% | 3.82% | 6.43% |
| 10/14/2009 | 10.70% | 4.01% | 6.69% |
| 10/23/2009 | 10.88% | 4.06% | 6.82% |
| 11/2/2009 | 10.70% | 4.09% | 6.61% |
| 11/3/2009 | 10.70% | 4.10% | 6.60% |
| 11/24/2009 | 10.25% | 4.15% | 6.10% |
| 11/25/2009 | 10.75% | 4.16% | 6.59% |
| 11/30/2009 | 10.35% | 4.17% | 6.18% |
| 12/3/2009 | 10.50% | 4.18% | 6.32% |
| 12/7/2009 | 10.70% | 4.18% | 6.52% |
| 12/16/2009 | 10.90% | 4.21% | 6.69% |
| 12/16/2009 | 11.00% | 4.21% | 6.79% |
| 12/18/2009 | 10.40% | 4.22% | 6.18% |
| 12/18/2009 | 10.40% | 4.22% | 6.18% |
| 12/22/2009 | 10.20% | 4.23% | 5.97% |
| 12/22/2009 | 10.40% | 4.23% | 6.17% |
| 12/22/2009 | 10.40% | 4.23% | 6.17% |
| 12/30/2009 | 10.00% | 4.26% | 5.74% |
| 1/4/2010 | 10.80% | 4.28% | 6.52% |
| 1/11/2010 | 11.00% | 4.30% | 6.70% |
| 1/26/2010 | 10.13% | 4.35% | 5.78% |
| 1/27/2010 | 10.40% | 4.35% | 6.05% |
| 1/27/2010 | 10.40% | 4.35% | 6.05% |
| 1/27/2010 | 10.70% | 4.35% | 6.35% |
| 2/9/2010 | 9.80% | 4.38% | 5.42% |
| 2/18/2010 | 10.60% | 4.40% | 6.20% |
| 2/24/2010 | 10.18% | 4.41% | 5.77% |
| 3/2/2010 | 9.63% | 4.41% | 5.22% |
| 3/4/2010 | 10.50% | 4.41% | 6.09% |
| 3/5/2010 | 10.50% | 4.41% | 6.09% |
| 3/11/2010 | 11.90% | 4.42% | 7.48% |
| 3/17/2010 | 10.00% | 4.41% | 5.59% |
| 3/25/2010 | 10.15% | 4.42% | 5.73% |
| 4/2/2010 | 10.10% | 4.43% | 5.67% |
| 4/27/2010 | 10.00% | 4.46% | 5.54% |
| 4/29/2010 | 9.90% | 4.46% | 5.44% |
| 4/29/2010 | 10.06% | 4.46% | 5.60% |
| 4/29/2010 | 10.26% | 4.46% | 5.80% |
| 5/12/2010 | 10.30% | 4.45% | 5.85% |
| 5/12/2010 | 10.30% | 4.45% | 5.85% |
| 5/28/2010 | 10.10% | 4.44% | 5.66% |
| 5/28/2010 | 10.20% | 4.44% | 5.76% |
| 6/7/2010 | 10.30% | 4.44% | 5.86% |
| 6/16/2010 | 10.00% | 4.44% | 5.56% |
| 6/28/2010 | 9.67% | 4.43% | 5.24% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 6/28/2010 | 10.50% | 4.43% | 6.07% |
| 6/30/2010 | 9.40% | 4.43% | 4.97% |
| 7/1/2010 | 10.25% | 4.43% | 5.82% |
| 7/15/2010 | 10.53% | 4.43% | 6.10% |
| 7/15/2010 | 10.70% | 4.43% | 6.27% |
| 7/30/2010 | 10.70% | 4.41% | 6.29% |
| 8/4/2010 | 10.50% | 4.41% | 6.09% |
| 8/6/2010 | 9.83% | 4.41% | 5.42% |
| 8/25/2010 | 9.90% | 4.37% | 5.53% |
| 9/3/2010 | 10.60% | 4.35% | 6.25% |
| 9/14/2010 | 10.70% | 4.33% | 6.37% |
| 9/16/2010 | 10.00% | 4.33% | 5.67% |
| 9/16/2010 | 10.00% | 4.33% | 5.67% |
| 9/30/2010 | 9.75% | 4.29% | 5.46% |
| 10/14/2010 | 10.35% | 4.24% | 6.11% |
| 10/28/2010 | 10.70% | 4.21% | 6.49% |
| 11/2/2010 | 10.38% | 4.20% | 6.18% |
| 11/4/2010 | 10.70% | 4.20% | 6.50% |
| 11/19/2010 | 10.20% | 4.18% | 6.02% |
| 11/22/2010 | 10.00% | 4.18% | 5.82% |
| 12/1/2010 | 10.13% | 4.16% | 5.97% |
| 12/6/2010 | 9.86% | 4.15% | 5.71% |
| 12/9/2010 | 10.25% | 4.15% | 6.10% |
| 12/13/2010 | 10.70% | 4.15% | 6.55% |
| 12/14/2010 | 10.13% | 4.15% | 5.98% |
| 12/15/2010 | 10.44% | 4.15% | 6.29% |
| 12/17/2010 | 10.00% | 4.15% | 5.85% |
| 12/20/2010 | 10.60% | 4.15% | 6.45% |
| 12/21/2010 | 10.30% | 4.14% | 6.16% |
| 12/27/2010 | 9.90% | 4.14% | 5.76% |
| 12/29/2010 | 11.15% | 4.14% | 7.01% |
| 1/5/2011 | 10.15% | 4.13% | 6.02% |
| 1/12/2011 | 10.30% | 4.12% | 6.18% |
| 1/13/2011 | 10.30% | 4.12% | 6.18% |
| 1/18/2011 | 10.00% | 4.12% | 5.88% |
| 1/20/2011 | 9.30% | 4.12% | 5.18% |
| 1/20/2011 | 10.13% | 4.12% | 6.01% |
| 1/31/2011 | 9.60% | 4.12% | 5.48% |
| 2/3/2011 | 10.00% | 4.12% | 5.88% |
| 2/25/2011 | 10.00% | 4.14% | 5.86% |
| 3/25/2011 | 9.80% | 4.18% | 5.62% |
| 3/30/2011 | 10.00% | 4.18% | 5.82% |
| 4/12/2011 | 10.00% | 4.21% | 5.79% |
| 4/25/2011 | 10.74% | 4.23% | 6.51% |
| 4/26/2011 | 9.67% | 4.23% | 5.44% |
| 4/27/2011 | 10.40% | 4.24% | 6.16% |
| 5/4/2011 | 10.00% | 4.24% | 5.76% |
| 5/4/2011 | 10.00% | 4.24% | 5.76% |
| 5/24/2011 | 10.50% | 4.27% | 6.23% |
| 6/8/2011 | 10.75% | 4.30% | 6.45% |
| 6/16/2011 | 9.20% | 4.32% | 4.88% |
| 6/17/2011 | 9.95% | 4.32% | 5.63% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 7/13/2011 | 10.20% | 4.36% | 5.84% |
| 8/1/2011 | 9.20% | 4.39% | 4.81% |
| 8/8/2011 | 10.00% | 4.38% | 5.62% |
| 8/11/2011 | 10.00% | 4.38% | 5.62% |
| 8/12/2011 | 10.35% | 4.37% | 5.98% |
| 8/19/2011 | 10.25% | 4.36% | 5.89% |
| 9/2/2011 | 12.88% | 4.32% | 8.56% |
| 9/22/2011 | 10.00% | 4.24% | 5.76% |
| 10/12/2011 | 10.30% | 4.14% | 6.16% |
| 10/20/2011 | 10.50% | 4.10% | 6.40% |
| 11/30/2011 | 10.90% | 3.87% | 7.03% |
| 11/30/2011 | 10.90% | 3.87% | 7.03% |
| 12/14/2011 | 10.00% | 3.80% | 6.20% |
| 12/14/2011 | 10.30% | 3.80% | 6.50% |
| 12/20/2011 | 10.20% | 3.76% | 6.44% |
| 12/21/2011 | 10.20% | 3.76% | 6.44% |
| 12/22/2011 | 9.90% | 3.75% | 6.15% |
| 12/22/2011 | 10.40% | 3.75% | 6.65% |
| 12/23/2011 | 10.19% | 3.74% | 6.45% |
| 1/25/2012 | 10.50% | 3.57% | 6.93% |
| 1/27/2012 | 10.50% | 3.56% | 6.94% |
| 2/15/2012 | 10.20% | 3.47% | 6.73% |
| 2/23/2012 | 9.90% | 3.44% | 6.46% |
| 2/27/2012 | 10.25% | 3.43% | 6.82% |
| 2/29/2012 | 10.40% | 3.41% | 6.99% |
| 3/29/2012 | 10.37% | 3.32% | 7.05% |
| 4/4/2012 | 10.00% | 3.30% | 6.70% |
| 4/26/2012 | 10.00% | 3.21% | 6.79% |
| 5/2/2012 | 10.00% | 3.18% | 6.82% |
| 5/7/2012 | 9.80% | 3.17% | 6.63% |
| 5/15/2012 | 10.00% | 3.14% | 6.86% |
| 5/29/2012 | 10.05% | 3.11% | 6.94% |
| 6/7/2012 | 10.30% | 3.08% | 7.22% |
| 6/14/2012 | 9.40% | 3.06% | 6.34% |
| 6/15/2012 | 10.40% | 3.06% | 7.34% |
| 6/18/2012 | 9.60% | 3.06% | 6.54% |
| 6/19/2012 | 9.25% | 3.05% | 6.20% |
| 6/26/2012 | 10.10% | 3.04% | 7.06% |
| 6/29/2012 | 10.00% | 3.04% | 6.96% |
| 7/9/2012 | 10.20% | 3.03% | 7.17% |
| 7/16/2012 | 9.80% | 3.02% | 6.78% |
| 7/20/2012 | 9.31% | 3.01% | 6.30% |
| 7/20/2012 | 9.81% | 3.01% | 6.80% |
| 9/13/2012 | 9.80% | 2.94% | 6.86% |
| 9/19/2012 | 9.80% | 2.94% | 6.86% |
| 9/19/2012 | 10.05% | 2.94% | 7.11% |
| 9/26/2012 | 9.50% | 2.94% | 6.56% |
| 10/12/2012 | 9.60% | 2.93% | 6.67% |
| 10/23/2012 | 9.75% | 2.93% | 6.82% |
| 10/24/2012 | 10.30% | 2.93% | 7.37% |
| 11/9/2012 | 10.30% | 2.92% | 7.38% |
| 11/28/2012 | 10.40% | 2.90% | 7.50% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 11/29/2012 | 9.75% | 2.89% | 6.86% |
| 11/29/2012 | 9.88% | 2.89% | 6.99% |
| 12/5/2012 | 9.71% | 2.89% | 6.82% |
| 12/5/2012 | 10.40% | 2.89% | 7.51% |
| 12/12/2012 | 9.80% | 2.88% | 6.92% |
| 12/13/2012 | 9.50% | 2.88% | 6.62% |
| 12/13/2012 | 10.50% | 2.88% | 7.62% |
| 12/14/2012 | 10.40% | 2.88% | 7.52% |
| 12/19/2012 | 9.71% | 2.87% | 6.84% |
| 12/19/2012 | 10.25% | 2.87% | 7.38% |
| 12/20/2012 | 9.50% | 2.87% | 6.63% |
| 12/20/2012 | 9.80% | 2.87% | 6.93% |
| 12/20/2012 | 10.25% | 2.87% | 7.38% |
| 12/20/2012 | 10.25% | 2.87% | 7.38% |
| 12/20/2012 | 10.30% | 2.87% | 7.43% |
| 12/20/2012 | 10.40% | 2.87% | 7.53% |
| 12/20/2012 | 10.45% | 2.87% | 7.58% |
| 12/21/2012 | 10.20% | 2.87% | 7.33% |
| 12/26/2012 | 9.80% | 2.86% | 6.94% |
| 1/9/2013 | 9.70% | 2.85% | 6.85% |
| 1/9/2013 | 9.70% | 2.85% | 6.85% |
| 1/9/2013 | 9.70% | 2.85% | 6.85% |
| 1/16/2013 | 9.60% | 2.84% | 6.76% |
| 1/16/2013 | 9.60% | 2.84% | 6.76% |
| 2/13/2013 | 10.20% | 2.84% | 7.36% |
| 2/22/2013 | 9.75% | 2.85% | 6.90% |
| 2/27/2013 | 10.00% | 2.86% | 7.14% |
| 3/14/2013 | 9.30% | 2.88% | 6.42% |
| 3/27/2013 | 9.80% | 2.90% | 6.90% |
| 5/1/2013 | 9.84% | 2.94% | 6.90% |
| 5/15/2013 | 10.30% | 2.96% | 7.34% |
| 5/30/2013 | 10.20% | 2.98% | 7.22% |
| 5/31/2013 | 9.00% | 2.98% | 6.02% |
| 6/11/2013 | 10.00% | 3.00% | 7.00% |
| 6/21/2013 | 9.75% | 3.02% | 6.73% |
| 6/25/2013 | 9.80% | 3.03% | 6.77% |
| 7/12/2013 | 9.36% | 3.07% | 6.29% |
| 8/8/2013 | 9.83% | 3.14% | 6.69% |
| 8/14/2013 | 9.15% | 3.16% | 5.99% |
| 9/11/2013 | 10.20% | 3.26% | 6.94% |
| 9/11/2013 | 10.25% | 3.26% | 6.99% |
| 9/24/2013 | 10.20% | 3.31% | 6.89% |
| 10/3/2013 | 9.65% | 3.33% | 6.32% |
| 11/6/2013 | 10.20% | 3.41% | 6.79% |
| 11/21/2013 | 10.00% | 3.44% | 6.56% |
| 11/26/2013 | 10.00% | 3.45% | 6.55% |
| 12/3/2013 | 10.25% | 3.47% | 6.78% |
| 12/4/2013 | 9.50% | 3.47% | 6.03% |
| 12/5/2013 | 10.20% | 3.48% | 6.72% |
| 12/9/2013 | 8.72% | 3.48% | 5.24% |
| 12/9/2013 | 9.75% | 3.48% | 6.27% |
| 12/13/2013 | 9.75% | 3.50% | 6.25% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/16/2013 | 9.95% | 3.50% | 6.45% |
| 12/16/2013 | 9.95% | 3.50% | 6.45% |
| 12/16/2013 | 10.12% | 3.50% | 6.62% |
| 12/17/2013 | 9.50% | 3.51% | 5.99% |
| 12/17/2013 | 10.95% | 3.51% | 7.44% |
| 12/18/2013 | 8.72% | 3.51% | 5.21% |
| 12/18/2013 | 9.80% | 3.51% | 6.29% |
| 12/19/2013 | 10.15% | 3.51% | 6.64% |
| 12/30/2013 | 9.50% | 3.54% | 5.96% |
| 2/20/2014 | 9.20% | 3.68% | 5.52% |
| 2/26/2014 | 9.75% | 3.69% | 6.06% |
| 3/17/2014 | 9.55% | 3.72% | 5.83% |
| 3/26/2014 | 9.40% | 3.73% | 5.67% |
| 3/26/2014 | 9.96% | 3.73% | 6.23% |
| 4/2/2014 | 9.70% | 3.73% | 5.97% |
| 5/16/2014 | 9.80% | 3.70% | 6.10% |
| 5/30/2014 | 9.70% | 3.68% | 6.02% |
| 6/6/2014 | 10.40% | 3.67% | 6.73% |
| 6/30/2014 | 9.55% | 3.64% | 5.91% |
| 7/2/2014 | 9.62% | 3.64% | 5.98% |
| 7/10/2014 | 9.95% | 3.63% | 6.32% |
| 7/23/2014 | 9.75% | 3.61% | 6.14% |
| 7/29/2014 | 9.45% | 3.60% | 5.85% |
| 7/31/2014 | 9.90% | 3.60% | 6.30% |
| 8/20/2014 | 9.75% | 3.57% | 6.18% |
| 8/25/2014 | 9.60% | 3.56% | 6.04% |
| 8/29/2014 | 9.80% | 3.54% | 6.26% |
| 9/11/2014 | 9.60% | 3.51% | 6.09% |
| 9/15/2014 | 10.25% | 3.51% | 6.74% |
| 10/9/2014 | 9.80% | 3.45% | 6.35% |
| 11/6/2014 | 9.56% | 3.37% | 6.19% |
| 11/6/2014 | 10.20% | 3.37% | 6.83% |
| 11/14/2014 | 10.20% | 3.35% | 6.85% |
| 11/26/2014 | 9.70% | 3.33% | 6.37% |
| 11/26/2014 | 10.20% | 3.33% | 6.87% |
| 12/4/2014 | 9.68% | 3.31% | 6.37% |
| 12/10/2014 | 9.25% | 3.29% | 5.96% |
| 12/10/2014 | 9.25% | 3.29% | 5.96% |
| 12/11/2014 | 10.07% | 3.29% | 6.78% |
| 12/12/2014 | 10.20% | 3.28% | 6.92% |
| 12/17/2014 | 9.17% | 3.27% | 5.90% |
| 12/18/2014 | 9.83% | 3.26% | 6.57% |
| 1/23/2015 | 9.50% | 3.14% | 6.36% |
| 2/24/2015 | 9.83% | 3.04% | 6.79% |
| 3/18/2015 | 9.75% | 2.98% | 6.77% |
| 3/25/2015 | 9.50% | 2.96% | 6.54% |
| 3/26/2015 | 9.72% | 2.95% | 6.77% |
| 4/23/2015 | 10.20% | 2.87% | 7.33% |
| 4/29/2015 | 9.53% | 2.86% | 6.67% |
| 5/1/2015 | 9.60% | 2.85% | 6.75% |
| 5/26/2015 | 9.75% | 2.83% | 6.92% |
| 6/17/2015 | 9.00% | 2.82% | 6.18% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 6/17/2015 | 9.00% | 2.82% | 6.18% |
| 9/2/2015 | 9.50% | 2.79% | 6.71% |
| 9/10/2015 | 9.30% | 2.79% | 6.51% |
| 10/15/2015 | 9.00% | 2.81% | 6.19% |
| 11/19/2015 | 10.00% | 2.88% | 7.12% |
| 11/19/2015 | 10.30% | 2.88% | 7.42% |
| 12/3/2015 | 10.00% | 2.90% | 7.10% |
| 12/9/2015 | 9.14% | 2.90% | 6.24% |
| 12/9/2015 | 9.14% | 2.90% | 6.24% |
| 12/11/2015 | 10.30% | 2.90% | 7.40% |
| 12/15/2015 | 9.60% | 2.91% | 6.69% |
| 12/17/2015 | 9.70% | 2.91% | 6.79% |
| 12/18/2015 | 9.50% | 2.91% | 6.59% |
| 12/30/2015 | 9.50% | 2.93% | 6.57% |
| 1/6/2016 | 9.50% | 2.94% | 6.56% |
| 2/23/2016 | 9.75% | 2.94% | 6.81% |
| 3/16/2016 | 9.85% | 2.91% | 6.94% |
| 4/29/2016 | 9.80% | 2.83% | 6.97% |
| 6/3/2016 | 9.75% | 2.80% | 6.95% |
| 6/8/2016 | 9.48% | 2.80% | 6.68% |
| 6/15/2016 | 9.00% | 2.78% | 6.22% |
| 6/15/2016 | 9.00% | 2.78% | 6.22% |
| 7/18/2016 | 9.98% | 2.71% | 7.27% |
| 8/9/2016 | 9.85% | 2.66% | 7.19% |
| 8/18/2016 | 9.50% | 2.63% | 6.87% |
| 8/24/2016 | 9.75% | 2.62% | 7.13% |
| 9/1/2016 | 9.50% | 2.59% | 6.91% |
| 9/8/2016 | 10.00% | 2.58% | 7.42% |
| 9/28/2016 | 9.58% | 2.54% | 7.04% |
| 9/30/2016 | 9.90% | 2.53% | 7.37% |
| 11/9/2016 | 9.80% | 2.48% | 7.32% |
| 11/10/2016 | 9.50% | 2.48% | 7.02% |
| 11/15/2016 | 9.55% | 2.49% | 7.06% |
| 11/18/2016 | 10.00% | 2.50% | 7.50% |
| 11/29/2016 | 10.55% | 2.51% | 8.04% |
| 12/1/2016 | 10.00% | 2.51% | 7.49% |
| 12/6/2016 | 8.64% | 2.52% | 6.12% |
| 12/6/2016 | 8.64% | 2.52% | 6.12% |
| 12/7/2016 | 10.10% | 2.52% | 7.58% |
| 12/12/2016 | 9.60% | 2.53% | 7.07% |
| 12/14/2016 | 9.10% | 2.53% | 6.57% |
| 12/19/2016 | 9.00% | 2.54% | 6.46% |
| 12/19/2016 | 9.37% | 2.54% | 6.83% |
| 12/22/2016 | 9.60% | 2.55% | 7.05% |
| 12/22/2016 | 9.90% | 2.55% | 7.35% |
| 12/28/2016 | 9.50% | 2.55% | 6.95% |
| 1/18/2017 | 9.45% | 2.58% | 6.87% |
| 1/24/2017 | 9.00% | 2.59% | 6.41% |
| 1/31/2017 | 10.10% | 2.60% | 7.50% |
| 2/15/2017 | 9.60% | 2.62% | 6.98% |
| 2/22/2017 | 9.60% | 2.64% | 6.96% |
| 2/24/2017 | 9.75% | 2.64% | 7.11% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 2/28/2017 | 10.10% | 2.64% | 7.46% |
| 3/2/2017 | 9.41% | 2.65% | 6.76% |
| 3/20/2017 | 9.50% | 2.68% | 6.82% |
| 4/4/2017 | 10.25% | 2.71% | 7.54% |
| 4/12/2017 | 9.40% | 2.74% | 6.66% |
| 4/20/2017 | 9.50% | 2.76% | 6.74% |
| 5/3/2017 | 9.50% | 2.79% | 6.71% |
| 5/11/2017 | 9.20% | 2.81% | 6.39% |
| 5/18/2017 | 9.50% | 2.83% | 6.67% |
| 5/23/2017 | 9.70% | 2.84% | 6.86% |
| 6/16/2017 | 9.65% | 2.89% | 6.76% |
| 6/22/2017 | 9.70% | 2.90% | 6.80% |
| 6/22/2017 | 9.70% | 2.90% | 6.80% |
| 7/24/2017 | 9.50% | 2.95% | 6.55% |
| 8/15/2017 | 10.00% | 2.97% | 7.03% |
| 9/22/2017 | 9.60% | 2.93% | 6.67% |
| 9/28/2017 | 9.80% | 2.92% | 6.88% |
| 10/20/2017 | 9.50% | 2.91% | 6.59% |
| 10/26/2017 | 10.20% | 2.91% | 7.29% |
| 10/26/2017 | 10.25% | 2.91% | 7.34% |
| 10/26/2017 | 10.30% | 2.91% | 7.39% |
| 11/6/2017 | 10.25% | 2.90% | 7.35% |
| 11/15/2017 | 11.95% | 2.89% | 9.06% |
| 11/30/2017 | 10.00% | 2.88% | 7.12% |
| 11/30/2017 | 10.00% | 2.88% | 7.12% |
| 12/5/2017 | 9.50% | 2.88% | 6.62% |
| 12/6/2017 | 8.40% | 2.87% | 5.53% |
| 12/6/2017 | 8.40% | 2.87% | 5.53% |
| 12/7/2017 | 9.80% | 2.87% | 6.93% |
| 12/14/2017 | 9.60% | 2.86% | 6.74% |
| 12/14/2017 | 9.65% | 2.86% | 6.79% |
| 12/18/2017 | 9.50% | 2.86% | 6.64% |
| 12/20/2017 | 9.58% | 2.86% | 6.72% |
| 12/21/2017 | 9.10% | 2.85% | 6.25% |
| 12/28/2017 | 9.50% | 2.85% | 6.65% |
| 12/29/2017 | 9.51% | 2.85% | 6.66% |
| 1/18/2018 | 9.70% | 2.84% | 6.86% |
| 1/31/2018 | 9.30% | 2.84% | 6.46% |
| 2/2/2018 | 9.98% | 2.84% | 7.14% |
| 2/23/2018 | 9.90% | 2.85% | 7.05% |
| 3/12/2018 | 9.25% | 2.86% | 6.39% |
| 3/15/2018 | 9.00% | 2.87% | 6.13% |
| 3/29/2018 | 10.00% | 2.88% | 7.12% |
| 4/12/2018 | 9.90% | 2.89% | 7.01% |
| 4/13/2018 | 9.73% | 2.89% | 6.84% |
| 4/18/2018 | 9.25% | 2.89% | 6.36% |
| 4/18/2018 | 10.00% | 2.89% | 7.11% |
| 4/26/2018 | 9.50% | 2.90% | 6.60% |
| 5/30/2018 | 9.95% | 2.94% | 7.01% |
| 5/31/2018 | 9.50% | 2.94% | 6.56% |
| 6/14/2018 | 8.80% | 2.96% | 5.84% |
| 6/22/2018 | 9.50% | 2.97% | 6.53% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 6/22/2018 | 9.90% | 2.97% | 6.93% |
| 6/28/2018 | 9.35% | 2.97% | 6.38% |
| 6/29/2018 | 9.50% | 2.97% | 6.53% |
| 8/8/2018 | 9.53% | 2.99% | 6.54% |
| 8/21/2018 | 9.70% | 3.00% | 6.70% |
| 8/24/2018 | 9.28% | 3.01% | 6.27% |
| 9/5/2018 | 9.56% | 3.02% | 6.54% |
| 9/14/2018 | 10.00% | 3.03% | 6.97% |
| 9/20/2018 | 9.80% | 3.04% | 6.76% |
| 9/26/2018 | 9.77% | 3.05% | 6.72% |
| 9/26/2018 | 10.00% | 3.05% | 6.95% |
| 9/27/2018 | 9.30% | 3.05% | 6.25% |
| 10/4/2018 | 9.85% | 3.06% | 6.79% |
| 10/29/2018 | 9.60% | 3.10% | 6.50% |
| 10/31/2018 | 9.99% | 3.11% | 6.88% |
| 11/1/2018 | 8.69% | 3.11% | 5.58% |
| 12/4/2018 | 8.69% | 3.14% | 5.55% |
| 12/13/2018 | 9.30% | 3.14% | 6.16% |
| 12/14/2018 | 9.50% | 3.14% | 6.36% |
| 12/19/2018 | 9.84% | 3.14% | 6.70% |
| 12/20/2018 | 9.65% | 3.14% | 6.51% |
| 12/21/2018 | 9.30% | 3.14% | 6.16% |
| 1/9/2019 | 10.00% | 3.14% | 6.86% |
| 2/27/2019 | 9.75% | 3.12% | 6.63% |
| 3/13/2019 | 9.60% | 3.12% | 6.48% |
| 3/14/2019 | 9.00% | 3.12% | 5.88% |
| 3/14/2019 | 9.40% | 3.12% | 6.28% |
| 3/22/2019 | 9.65% | 3.12% | 6.53% |
| 4/30/2019 | 9.73% | 3.11% | 6.62% |
| 4/30/2019 | 9.73% | 3.11% | 6.62% |
| 5/1/2019 | 9.50% | 3.11% | 6.39% |
| 5/2/2019 | 10.00% | 3.11% | 6.89% |
| 5/8/2019 | 9.50% | 3.10% | 6.40% |
| 5/14/2019 | 8.75% | 3.10% | 5.65% |
| 5/16/2019 | 9.50% | 3.09% | 6.41% |
| 5/23/2019 | 9.90% | 3.09% | 6.81% |

| | |
|---|---|
| Average: | 4.68% |
| No. of Cases: | 1,593 |

Expected Earnings Analysis

| Company | Ticker | [1] Expected ROE 2022-2024 | [2] Shares Outstanding 2019 | [3] Shares Outstanding 2022-2024 | [4] Shares Outstanding % Increase | [5] Adjustment Factor | [6] Adjusted ROE |
|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | 9.0% | 51.75 | 51.75 | 0.00% | 1.000 | 9.00% |
| Alliant Energy Corporation | LNT | 10.0% | 240.00 | 250.00 | 0.82% | 1.004 | 10.04% |
| Ameren Corporation | AEE | 10.5% | 246.50 | 255.00 | 0.68% | 1.003 | 10.54% |
| American Electric Power Company, Inc. | AEP | 10.5% | 494.65 | 518.00 | 0.93% | 1.005 | 10.55% |
| Avangrid, Inc. | AGR | 6.0% | 309.00 | 309.00 | 0.00% | 1.000 | 6.00% |
| CMS Energy Corporation | CMS | 14.0% | 285.00 | 297.00 | 0.83% | 1.004 | 14.06% |
| DTE Energy Company | DTE | 10.5% | 192.00 | 200.00 | 0.82% | 1.004 | 10.54% |
| Evergy, Inc | EVRG | 8.5% | 225.00 | 212.00 | -1.18% | 0.994 | 8.45% |
| Hawaiian Electric Industries, Inc. | HE | 10.0% | 109.00 | 113.00 | 0.72% | 1.004 | 10.04% |
| NextEra Energy, Inc. | NEE | 13.5% | 535.00 | 535.00 | 0.00% | 1.000 | 13.50% |
| NorthWestern Corporation | NWE | 9.0% | 50.50 | 51.10 | 0.24% | 1.001 | 9.01% |
| OGE Energy Corp. | OGE | 11.5% | 200.00 | 200.00 | 0.00% | 1.000 | 11.50% |
| Otter Tail Corporation | OTTR | 10.5% | 39.75 | 41.75 | 0.99% | 1.005 | 10.55% |
| Pinnacle West Capital Corporation | PNW | 10.5% | 112.50 | 114.50 | 0.35% | 1.002 | 10.52% |
| PNM Resources, Inc. | PNM | 9.5% | 79.65 | 84.00 | 1.07% | 1.005 | 9.55% |
| Portland General Electric Company | POR | 9.0% | 89.40 | 90.00 | 0.13% | 1.001 | 9.01% |
| Southern Company | SO | 12.5% | 1045.00 | 1085.00 | 0.75% | 1.004 | 12.55% |
| WEC Energy Group, Inc. | WEC | 12.0% | 315.50 | 315.50 | 0.00% | 1.000 | 12.00% |
| Xcel Energy Inc. | XEL | 11.0% | 515.50 | 521.50 | 0.23% | 1.001 | 11.01% |
| | | | | | | Median | 10.54% |
| | | | | | | Mean | 10.44% |

Notes:

[1] Source: Value Line
[2] Source: Value Line
[3] Source: Value Line
[4] Equals = ([3] / [2])^(1/5)-1
[5] Equals (2 x (1 + [4])) / (2 + [4])
[6] Equals [1] x [5]

Flotation Cost Adjustment

Two most recent open market common stock issuances per company, if available

| | | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] |
|---|---|---|---|---|---|---|---|---|---|---|
| Company | Date | Shares Issued | Offering Price | Underwriting Discount | Offering Expense | Net Proceeds Per Share | Total Flotation Costs | Gross Equity Issue Before Costs | Net Proceeds | Flotation Cost Percentage |
| Duke Energy Corporation | 3/6/2018 | 21,275,000 | $74.07 | $0.0000 | $450,000 | $74.05 | $450,000 | $1,575,881,800 | $1,575,431,800 | 0.029% |
| Duke Energy Corporation | 3/2/2016 | 10,637,500 | $72.00 | $2.1600 | $400,000 | $69.80 | $23,377,000 | $765,900,000 | $742,523,000 | 3.052% |
| ALLETE, Inc. | 2/27/2014 | 3,220,000 | $49.75 | $1.7413 | $450,000 | $47.87 | $6,056,825 | $160,195,000 | $154,138,175 | 3.781% |
| ALLETE, Inc. | 5/25/2001 | 7,475,000 | $23.68 | $0.9472 | $350,000 | $22.69 | $7,430,320 | $177,008,000 | $169,577,680 | 4.198% |
| Alliant Energy Corporation | 7/1/2003 | 17,250,000 | $19.25 | $0.7700 | $370,000 | $18.46 | $13,652,500 | $332,062,500 | $318,410,000 | 4.111% |
| Alliant Energy Corporation | 11/8/2001 | 9,775,000 | $28.00 | $1.0500 | $425,000 | $26.91 | $10,688,750 | $273,700,000 | $263,011,250 | 3.905% |
| Ameren Corp. | 9/9/2009 | 21,850,000 | $25.25 | $0.7575 | $450,000 | $24.47 | $17,001,375 | $551,712,500 | $534,711,125 | 3.082% |
| Ameren Corp. | 6/30/2004 | 10,925,000 | $42.00 | $1.2600 | $400,000 | $40.70 | $14,165,500 | $458,850,000 | $444,684,500 | 3.087% |
| American Electric Power Company, Inc. | 4/1/2009 | 69,000,000 | $24.50 | $0.7350 | $400,000 | $23.76 | $51,115,000 | $1,690,500,000 | $1,639,385,000 | 3.024% |
| American Electric Power Company, Inc. | 2/27/2003 | 57,500,000 | $20.95 | $0.6285 | $550,000 | $20.31 | $36,688,750 | $1,204,625,000 | $1,167,936,250 | 3.046% |
| Avangrid, Inc. | 9/26/2013 | 5,750,000 | $37.25 | $1.3038 | $250,000 | $35.90 | $7,746,563 | $214,187,500 | $206,440,938 | 3.617% |
| Avangrid, Inc. | 9/16/2010 | 20,355,000 | $25.75 | $1.0944 | $325,000 | $24.64 | $22,601,003 | $524,141,250 | $501,540,247 | 4.312% |
| CMS Energy Corporation | 3/30/2005 | 23,000,000 | $12.25 | $0.4288 | $325,000 | $11.81 | $10,187,400 | $281,750,000 | $271,562,600 | 3.616% |
| CMS Energy Corporation | 10/7/2004 | 32,775,000 | $9.10 | $0.3185 | $325,000 | $8.77 | $10,763,838 | $298,252,500 | $287,488,663 | 3.609% |
| DTE Energy Company | 6/19/2002 | 6,325,000 | $43.25 | $1.4056 | $250,000 | $41.80 | $9,140,420 | $273,556,250 | $264,415,830 | 3.341% |
| Hawaiian Electric Industries, Inc | 3/19/2013 | 7,000,000 | $26.75 | $1.0031 | $450,000 | $25.68 | $7,471,840 | $187,250,000 | $179,778,160 | 3.990% |
| Hawaiian Electric Industries, Inc | 12/2/2008 | 5,000,000 | $23.00 | $0.8625 | $300,000 | $22.08 | $4,612,500 | $115,000,000 | $110,387,500 | 4.011% |
| NextEra Energy, Inc. | 11/1/2016 | 13,800,000 | $124.00 | $0.0000 | $750,000 | $123.95 | $750,000 | $1,711,200,000 | $1,710,450,000 | 0.044% |
| NextEra Energy, Inc. | 11/18/2013 | 11,100,000 | $88.03 | $0.0000 | $750,000 | $87.96 | $750,000 | $977,133,000 | $976,383,000 | 0.077% |
| NorthWestern Corporation | 9/29/2015 | 1,100,000 | $51.81 | $1.3300 | $1,000,000 | $49.57 | $2,463,000 | $56,991,000 | $54,528,000 | 4.322% |
| NorthWestern Corporation | 11/5/2014 | 7,766,990 | $51.50 | $1.8025 | $1,000,000 | $49.57 | $14,999,999 | $399,999,985 | $384,999,986 | 3.750% |
| OGE Energy Corp. | 8/21/2003 | 5,324,074 | $21.60 | $0.7900 | $325,000 | $20.75 | $4,531,018 | $114,999,998 | $110,468,980 | 3.940% |
| Otter Tail Corporation | 9/18/2008 | 5,175,000 | $30.00 | $1.0875 | $400,000 | $28.84 | $6,027,813 | $155,250,000 | $149,222,188 | 3.883% |
| Otter Tail Corporation | 12/7/2004 | 3,335,000 | $25.45 | $0.9500 | $300,000 | $24.41 | $3,468,250 | $84,875,750 | $81,407,500 | 4.086% |
| Pinnacle West Capital Corporation | 4/8/2010 | 6,900,000 | $38.00 | $1.3300 | $190,000 | $36.64 | $9,367,000 | $262,200,000 | $252,833,000 | 3.572% |
| Pinnacle West Capital Corporation | 4/27/2005 | 6,095,000 | $42.00 | $1.3650 | $250,000 | $40.59 | $8,569,675 | $255,990,000 | $247,420,325 | 3.348% |
| PNM Resources, Inc. | 12/6/2006 | 5,750,000 | $30.79 | $1.0780 | $250,000 | $29.67 | $6,448,500 | $177,042,500 | $170,594,000 | 3.642% |
| PNM Resources, Inc. | 3/23/2005 | 3,910,000 | $26.76 | $0.8697 | $200,000 | $25.84 | $3,600,527 | $104,631,600 | $101,031,073 | 3.441% |
| Portland General Electric Company | 6/11/2013 | 12,765,000 | $29.50 | $0.9588 | $600,000 | $28.49 | $12,838,444 | $376,567,500 | $363,729,056 | 3.409% |
| Portland General Electric Company | 3/5/2009 | 12,477,500 | $14.10 | $0.4935 | $375,000 | $13.58 | $6,532,646 | $175,932,750 | $169,400,104 | 3.713% |
| Southern Company | 8/16/2016 | 32,500,000 | $49.30 | $1.6600 | $557,000 | $47.62 | $54,507,000 | $1,602,250,000 | $1,547,743,000 | 3.402% |
| Southern Company | 5/5/2016 | 18,300,000 | $48.60 | $2.0200 | $395,000 | $46.56 | $37,361,000 | $889,380,000 | $852,019,000 | 4.201% |
| WEC Energy Group | 11/16/2005 | 5,290,000 | $53.70 | $1.7450 | $0 | $51.96 | $9,231,050 | $284,073,000 | $274,841,950 | 3.250% |
| WEC Energy Group | 11/20/2003 | 4,025,000 | $43.00 | $1.5050 | $0 | $41.50 | $6,057,625 | $173,075,000 | $167,017,375 | 3.500% |
| Xcel Energy Inc. | 8/3/2010 | 21,850,000 | $21.50 | $0.6450 | $600,000 | $20.83 | $14,693,250 | $469,775,000 | $455,081,750 | 3.128% |
| Xcel Energy Inc. | 9/9/2008 | 17,250,000 | $20.25 | $0.1500 | $600,000 | $20.07 | $3,187,500 | $349,312,500 | $346,125,000 | 0.913% |
| Mean | | | | | | | $12,737,052 | $491,812,552 | | |
| | | | | | | | | WEIGHTED AVERAGE FLOTATION COSTS: | | 2.590% [10] |

Constant Growth Discounted Cash Flow Model Adjusted for Flotation Costs - 30 Day Average Stock Price

| | | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Average | | Expected Dividend Yield | | Zacks | First Call | Value Line | Average | | Flotation |
| Company | Ticker | Annualized Dividend | Stock Price | Dividend Yield | Current | Adjusted for Flot. Costs | Earnings Growth | Earnings Growth | Earnings Growth | Earnings Growth | DCF k(e) | Adjusted DCF k(e) |
| ALLETE, Inc. | ALE | $2.35 | $83.46 | 2.82% | 2.90% | 2.98% | 7.20% | 6.00% | 5.00% | 6.07% | 8.97% | 9.04% |
| Alliant Energy Corporation | LNT | $1.42 | $48.76 | 2.91% | 2.99% | 3.07% | 5.50% | 4.80% | 6.50% | 5.60% | 8.59% | 8.67% |
| Ameren Corporation | AEE | $1.90 | $75.44 | 2.52% | 2.59% | 2.66% | 6.20% | 4.90% | 6.50% | 5.87% | 8.46% | 8.53% |
| American Electric Power Company, Inc. | AEP | $2.68 | $88.52 | 3.03% | 3.11% | 3.19% | 5.60% | 5.93% | 4.00% | 5.18% | 8.28% | 8.37% |
| Avangrid, Inc. | AGR | $1.76 | $50.88 | 3.46% | 3.60% | 3.70% | 7.60% | 6.80% | 10.00% | 8.13% | 11.73% | 11.83% |
| CMS Energy Corporation | CMS | $1.53 | $57.53 | 2.66% | 2.75% | 2.82% | 6.40% | 7.08% | 7.00% | 6.83% | 9.58% | 9.65% |
| DTE Energy Company | DTE | $3.78 | $128.30 | 2.95% | 3.02% | 3.10% | 6.00% | 4.05% | 5.50% | 5.18% | 8.21% | 8.29% |
| Evergy, Inc | EVRG | $1.90 | $59.74 | 3.18% | 3.28% | 3.37% | 6.60% | 6.15% | NMF | 6.38% | 9.66% | 9.74% |
| Hawaiian Electric Industries, Inc. | HE | $1.28 | $42.67 | 3.00% | 3.08% | 3.16% | 5.60% | 6.10% | 4.50% | 5.40% | 8.48% | 8.56% |
| NextEra Energy, Inc. | NEE | $5.00 | $203.25 | 2.46% | 2.57% | 2.64% | 8.00% | 8.23% | 10.00% | 8.74% | 11.31% | 11.38% |
| NorthWestern Corporation | NWE | $2.30 | $72.34 | 3.18% | 3.23% | 3.32% | 3.00% | 3.51% | 3.00% | 3.17% | 6.40% | 6.49% |
| OGE Energy Corp. | OGE | $1.46 | $42.80 | 3.41% | 3.50% | 3.59% | 4.60% | 3.80% | 6.50% | 4.97% | 8.46% | 8.56% |
| Otter Tail Corporation | OTTR | $1.40 | $51.45 | 2.72% | 2.82% | 2.89% | 7.00% | 9.00% | 5.00% | 7.00% | 9.82% | 9.89% |
| Pinnacle West Capital Corporation | PNW | $2.95 | $96.28 | 3.06% | 3.14% | 3.22% | 5.00% | 5.01% | 5.00% | 5.00% | 8.14% | 8.23% |
| PNM Resources, Inc. | PNM | $1.16 | $49.34 | 2.35% | 2.43% | 2.49% | 5.20% | 6.15% | 8.50% | 6.62% | 9.05% | 9.11% |
| Portland General Electric Company | POR | $1.54 | $54.19 | 2.84% | 2.91% | 2.99% | 4.90% | 5.20% | 4.50% | 4.87% | 7.78% | 7.86% |
| Southern Company | SO | $2.48 | $54.74 | 4.53% | 4.61% | 4.73% | 4.50% | 2.17% | 3.50% | 3.39% | 8.00% | 8.12% |
| WEC Energy Group, Inc. | WEC | $2.36 | $82.81 | 2.85% | 2.93% | 3.01% | 5.90% | 5.82% | 6.00% | 5.91% | 8.84% | 8.92% |
| Xcel Energy Inc. | XEL | $1.62 | $59.22 | 2.74% | 2.81% | 2.89% | 5.60% | 6.24% | 5.50% | 5.78% | 8.59% | 8.67% |
| PROXY GROUP MEAN | | | | | | | | | | | 8.86% | 8.94% |

Notes:
The proxy group DCF result is adjusted for flotation costs by dividing each company's expected dividend yield by (1 - flotation cost). The flotation cost adjustment is derived as the difference between the unadjusted DCF result and the DCF result adjusted for flotation costs.

| | | |
|---|---|---|
| DCF Result Adjusted For Flotation Costs: | 8.94% | |
| DCF Result Unadjusted For Flotation Costs: | 8.86% | |
| Difference (Flotation Cost Adjustment): | 0.08% | [22] |

[1] Source: SEC Form 424B
[2] Source: SEC Form 424B
[3] Source: SEC Form 424B
[4] Source: SEC Form 424B
[5] Equals [8] / [1]
[6] Equals [4] + ([1] x [3])
[7] Equals [1] x [2]
[8] Equals [7] - [6]
[9] Equals [6] / [7]
[10] Equals average [6] / average [7]
[11] Source: Bloomberg Professional
[12] Source: Bloomberg Professional
[13] Equals [11] / [12]
[14] Equals [3] x (1 + 0.5 x [19])
[15] Equals [4] / (1 - 0.0091)
[16] Source: Zacks
[17] Source: Yahoo! Finance
[18] Source: Value Line
[19] Equals Average([16], [17], [18])
[20] Equals [14] + [19]
[21] Equals [15] + [19]
[22] Equals average [21] - average [20]

Constant Growth Discounted Cash Flow Model
30 Day Average Stock Price

| Company | Ticker | [1] Annualized Dividend | [2] Average Stock Price | [3] Dividend Yield | [4] Expected Dividend Yield | [5] Zacks Earnings Growth | [6] First Call Earnings Growth | [7] Value Line Earnings Growth | [8] Average Earnings Growth | [9] Low ROE | [10] Mean ROE | [11] High ROE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | $2.47 | $81.90 | 3.02% | 3.11% | NA | 7.00% | 5.00% | 6.00% | 8.09% | 9.11% | 10.12% |
| Alliant Energy Corporation | LNT | $1.52 | $55.93 | 2.72% | 2.80% | 5.70% | 5.75% | 6.50% | 5.98% | 8.50% | 8.78% | 9.31% |
| Ameren Corporation | AEE | $1.98 | $77.93 | 2.54% | 2.61% | 6.20% | 4.60% | 6.50% | 5.77% | 7.20% | 8.38% | 9.12% |
| American Electric Power Company, Inc. | AEP | $2.80 | $96.74 | 2.89% | 2.97% | 5.60% | 6.05% | 4.00% | 5.22% | 6.95% | 8.19% | 9.03% |
| Avangrid, Inc. | AGR | $1.76 | $51.41 | 3.42% | 3.55% | 7.50% | 6.40% | 8.50% | 7.47% | 9.93% | 11.02% | 12.07% |
| Avista Corporation | AVA | $1.55 | $48.54 | 3.19% | 3.25% | 3.50% | 3.50% | 3.50% | 3.50% | 6.75% | 6.75% | 6.75% |
| CMS Energy Corporation | CMS | $1.63 | $64.28 | 2.54% | 2.62% | 6.10% | 7.50% | 7.00% | 6.87% | 8.71% | 9.49% | 10.13% |
| DTE Energy Company | DTE | $4.05 | $130.59 | 3.10% | 3.19% | 6.00% | 6.00% | 4.50% | 5.50% | 7.67% | 8.69% | 9.19% |
| Evergy, Inc | EVRG | $2.02 | $66.49 | 3.04% | 3.14% | 6.50% | 6.50% | NMF | 6.50% | 9.64% | 9.64% | 9.64% |
| Hawaiian Electric Industries, Inc. | HE | $1.28 | $47.05 | 2.72% | 2.77% | 4.20% | 3.40% | 2.50% | 3.37% | 5.25% | 6.13% | 6.98% |
| NextEra Energy, Inc. | NEE | $5.00 | $249.63 | 2.00% | 2.09% | 7.80% | 7.74% | 10.50% | 8.68% | 9.82% | 10.77% | 12.61% |
| NorthWestern Corporation | NWE | $2.30 | $73.06 | 3.15% | 3.19% | 3.50% | 3.22% | 2.00% | 2.91% | 5.18% | 6.10% | 6.70% |
| OGE Energy Corp. | OGE | $1.55 | $44.77 | 3.46% | 3.54% | 4.20% | 3.50% | 6.50% | 4.73% | 7.02% | 8.28% | 10.08% |
| Otter Tail Corporation | OTTR | $1.40 | $52.40 | 2.67% | 2.77% | NA | 9.00% | 5.00% | 7.00% | 7.74% | 9.77% | 11.79% |
| Pinnacle West Capital Corporation | PNW | $3.13 | $92.02 | 3.40% | 3.48% | 4.70% | 4.41% | 4.00% | 4.37% | 7.47% | 7.85% | 8.18% |
| PNM Resources, Inc. | PNM | $1.23 | $51.31 | 2.40% | 2.47% | 5.80% | 6.30% | 7.00% | 6.37% | 8.27% | 8.84% | 9.48% |
| Portland General Electric Company | POR | $1.54 | $57.46 | 2.68% | 2.74% | 4.90% | 4.80% | 4.50% | 4.73% | 7.24% | 7.48% | 7.65% |
| Southern Company | SO | $2.48 | $65.51 | 3.79% | 3.85% | 4.50% | 2.10% | 3.50% | 3.37% | 5.93% | 7.22% | 8.37% |
| WEC Energy Group, Inc. | WEC | $2.53 | $94.44 | 2.68% | 2.76% | 6.20% | 6.08% | 6.00% | 6.09% | 8.76% | 8.85% | 8.96% |
| Xcel Energy Inc. | XEL | $1.62 | $64.52 | 2.51% | 2.58% | 5.70% | 6.10% | 5.50% | 5.77% | 8.08% | 8.35% | 8.69% |
| Proxy Group Mean | | | | 2.90% | 2.97% | 5.48% | 5.50% | 5.39% | 5.51% | 7.71% | 8.48% | 9.24% |
| Proxy Group Median | | | | 2.81% | 2.88% | 5.70% | 6.03% | 5.00% | 5.77% | 7.70% | 8.53% | 9.16% |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals indicated number of trading day average as of January 31, 2020
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
90 Day Average Stock Price

| Company | Ticker | [1] Annualized Dividend | [2] Average Stock Price | [3] Dividend Yield | [4] Expected Dividend Yield | [5] Zacks Earnings Growth | [6] First Call Earnings Growth | [7] Value Line Earnings Growth | [8] Average Earnings Growth | [9] Low ROE | [10] Mean ROE | [11] High ROE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | $2.47 | $82.91 | 2.98% | 3.07% | NA | 7.00% | 5.00% | 6.00% | 8.05% | 9.07% | 10.08% |
| Alliant Energy Corporation | LNT | $1.52 | $53.99 | 2.82% | 2.90% | 5.70% | 5.75% | 6.50% | 5.98% | 8.60% | 8.88% | 9.41% |
| Ameren Corporation | AEE | $1.98 | $76.84 | 2.58% | 2.65% | 6.20% | 4.60% | 6.50% | 5.77% | 7.24% | 8.42% | 9.16% |
| American Electric Power Company, Inc. | AEP | $2.80 | $93.76 | 2.99% | 3.06% | 5.60% | 6.05% | 4.00% | 5.22% | 7.05% | 8.28% | 9.13% |
| Avangrid, Inc. | AGR | $1.76 | $50.32 | 3.50% | 3.63% | 7.50% | 6.40% | 8.50% | 7.47% | 10.01% | 11.09% | 12.15% |
| Avista | AVA | $1.55 | $47.93 | 3.23% | 3.29% | 3.50% | 3.50% | 3.50% | 3.50% | 6.79% | 6.79% | 6.79% |
| CMS Energy Corporation | CMS | $1.63 | $63.08 | 2.58% | 2.67% | 6.10% | 7.50% | 7.00% | 6.87% | 8.76% | 9.54% | 10.18% |
| DTE Energy Company | DTE | $4.05 | $128.14 | 3.16% | 3.25% | 6.00% | 6.00% | 4.50% | 5.50% | 7.73% | 8.75% | 9.26% |
| Evergy, Inc | EVRG | $2.02 | $64.82 | 3.12% | 3.22% | 6.50% | 6.50% | NMF | 6.50% | 9.72% | 9.72% | 9.72% |
| Hawaiian Electric Industries, Inc. | HE | $1.28 | $45.40 | 2.82% | 2.87% | 4.20% | 3.40% | 2.50% | 3.37% | 5.35% | 6.23% | 7.08% |
| NextEra Energy, Inc. | NEE | $5.00 | $237.98 | 2.10% | 2.19% | 7.80% | 7.74% | 10.50% | 8.68% | 9.92% | 10.87% | 12.71% |
| NorthWestern Corporation | NWE | $2.30 | $72.61 | 3.17% | 3.21% | 3.50% | 3.22% | 2.00% | 2.91% | 5.20% | 6.12% | 6.72% |
| OGE Energy Corp. | OGE | $1.55 | $43.74 | 3.54% | 3.63% | 4.20% | 3.50% | 6.50% | 4.73% | 7.11% | 8.36% | 10.16% |
| Otter Tail Corporation | OTTR | $1.40 | $52.22 | 2.68% | 2.77% | NA | 9.00% | 5.00% | 7.00% | 7.75% | 9.77% | 11.80% |
| Pinnacle West Capital Corporation | PNW | $3.13 | $91.33 | 3.43% | 3.50% | 4.70% | 4.41% | 4.00% | 4.37% | 7.50% | 7.87% | 8.21% |
| PNM Resources, Inc. | PNM | $1.23 | $50.61 | 2.43% | 2.51% | 5.80% | 6.30% | 7.00% | 6.37% | 8.30% | 8.87% | 9.52% |
| Portland General Electric Company | POR | $1.54 | $56.44 | 2.73% | 2.79% | 4.90% | 4.80% | 4.50% | 4.73% | 7.29% | 7.53% | 7.70% |
| Southern Company | SO | $2.48 | $63.00 | 3.94% | 4.00% | 4.50% | 2.10% | 3.50% | 3.37% | 6.08% | 7.37% | 8.53% |
| WEC Energy Group, Inc. | WEC | $2.53 | $92.40 | 2.74% | 2.82% | 6.20% | 6.08% | 6.00% | 6.09% | 8.82% | 8.91% | 9.02% |
| Xcel Energy Inc. | XEL | $1.62 | $63.28 | 2.56% | 2.63% | 5.70% | 6.10% | 5.50% | 5.77% | 8.13% | 8.40% | 8.74% |
| Proxy Group Mean | | | | 2.95% | 3.03% | 5.48% | 5.50% | 5.39% | 5.51% | 7.77% | 8.54% | 9.30% |
| Proxy Group Median | | | | 2.90% | 2.98% | 5.70% | 6.03% | 5.00% | 5.77% | 7.74% | 8.58% | 9.21% |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals indicated number of trading day average as of January 31, 2020
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
180 Day Average Stock Price

| Company | Ticker | [1] Annualized Dividend | [2] Average Stock Price | [3] Dividend Yield | [4] Expected Dividend Yield | [5] Zacks Earnings Growth | [6] First Call Earnings Growth | [7] Value Line Earnings Growth | [8] Average Earnings Growth | [9] Low ROE | [10] Mean ROE | [11] High ROE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | $2.47 | $83.98 | 2.94% | 3.03% | NA | 7.00% | 5.00% | 6.00% | 8.01% | 9.03% | 10.04% |
| Alliant Energy Corporation | LNT | $1.52 | $52.14 | 2.92% | 3.00% | 5.70% | 5.75% | 6.50% | 5.98% | 8.70% | 8.99% | 9.51% |
| Ameren Corporation | AEE | $1.98 | $76.48 | 2.59% | 2.66% | 6.20% | 4.60% | 6.50% | 5.77% | 7.25% | 8.43% | 9.17% |
| American Electric Power Company, Inc. | AEP | $2.80 | $91.78 | 3.05% | 3.13% | 5.60% | 6.05% | 4.00% | 5.22% | 7.11% | 8.35% | 9.19% |
| Avangrid, Inc. | AGR | $1.76 | $50.34 | 3.50% | 3.63% | 7.50% | 6.40% | 8.50% | 7.47% | 10.01% | 11.09% | 12.15% |
| Avista | AVA | $1.55 | $46.57 | 3.33% | 3.39% | 3.50% | 3.50% | 3.50% | 3.50% | 6.89% | 6.89% | 6.89% |
| CMS Energy Corporation | CMS | $1.63 | $61.24 | 2.66% | 2.75% | 6.10% | 7.50% | 7.00% | 6.87% | 8.84% | 9.62% | 10.26% |
| DTE Energy Company | DTE | $4.05 | $128.63 | 3.15% | 3.24% | 6.00% | 6.00% | 4.50% | 5.50% | 7.72% | 8.74% | 9.24% |
| Evergy, Inc | EVRG | $2.02 | $63.32 | 3.19% | 3.29% | 6.50% | 6.50% | NMF | 6.50% | 9.79% | 9.79% | 9.79% |
| Hawaiian Electric Industries, Inc. | HE | $1.28 | $44.59 | 2.87% | 2.92% | 4.20% | 3.40% | 2.50% | 3.37% | 5.41% | 6.29% | 7.13% |
| NextEra Energy, Inc. | NEE | $5.00 | $224.52 | 2.23% | 2.32% | 7.80% | 7.74% | 10.50% | 8.68% | 10.05% | 11.00% | 12.84% |
| NorthWestern Corporation | NWE | $2.30 | $72.31 | 3.18% | 3.23% | 3.50% | 3.22% | 2.00% | 2.91% | 5.21% | 6.13% | 6.74% |
| OGE Energy Corp. | OGE | $1.55 | $43.38 | 3.57% | 3.66% | 4.20% | 3.50% | 6.50% | 4.73% | 7.14% | 8.39% | 10.19% |
| Otter Tail Corporation | OTTR | $1.40 | $52.07 | 2.69% | 2.78% | NA | 9.00% | 5.00% | 7.00% | 7.76% | 9.78% | 11.81% |
| Pinnacle West Capital Corporation | PNW | $3.13 | $93.03 | 3.36% | 3.44% | 4.70% | 4.41% | 4.00% | 4.37% | 7.43% | 7.81% | 8.14% |
| PNM Resources, Inc. | PNM | $1.23 | $50.30 | 2.45% | 2.52% | 5.80% | 6.30% | 7.00% | 6.37% | 8.32% | 8.89% | 9.53% |
| Portland General Electric Company | POR | $1.54 | $55.77 | 2.76% | 2.83% | 4.90% | 4.80% | 4.50% | 4.73% | 7.32% | 7.56% | 7.73% |
| Southern Company | SO | $2.48 | $59.81 | 4.15% | 4.22% | 4.50% | 2.10% | 3.50% | 3.37% | 6.29% | 7.58% | 8.74% |
| WEC Energy Group, Inc. | WEC | $2.53 | $89.84 | 2.82% | 2.90% | 6.20% | 6.08% | 6.00% | 6.09% | 8.90% | 9.00% | 9.10% |
| Xcel Energy Inc. | XEL | $1.62 | $62.17 | 2.61% | 2.68% | 5.70% | 6.10% | 5.50% | 5.77% | 8.18% | 8.45% | 8.79% |
| Proxy Group Mean | | | | 3.00% | 3.08% | 5.48% | 5.50% | 5.39% | 5.51% | 7.82% | 8.59% | 9.35% |
| Proxy Group Median | | | | 2.93% | 3.02% | 5.70% | 6.03% | 5.00% | 5.77% | 7.74% | 8.59% | 9.22% |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals indicated number of trading day average as of January 31, 2020
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

| [1] S&P 500 Est. Required Market Return | [2] Current 30-Year Treasury (30-day average) | [3] Implied Market Risk Premium |
|---|---|---|
| 13.44% | 2.25% | 11.18% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Agilent Technologies Inc | A | 25,608.74 | 0.09% | 0.87% | 10.40% | 11.32% | 0.0105% |
| American Airlines Group Inc | AAL | 11,757.48 | 0.04% | 1.53% | 6.23% | 7.81% | 0.0033% |
| Advance Auto Parts Inc | AAP | 9,124.93 | 0.03% | 0.18% | 15.34% | 15.54% | 0.0051% |
| Apple Inc | AAPL | 1,354,254.81 | 4.89% | 1.04% | 11.97% | 13.07% | 0.6392% |
| AbbVie Inc | ABBV | 119,814.09 | 0.43% | 5.30% | 4.77% | 10.19% | 0.0441% |
| AmerisourceBergen Corp | ABC | 17,616.10 | 0.06% | 1.95% | 12.35% | 14.41% | 0.0092% |
| ABIOMED Inc | ABMD | 8,411.95 | 0.03% | 0.00% | 24.00% | 24.00% | 0.0073% |
| Abbott Laboratories | ABT | 154,103.23 | 0.56% | 1.60% | 10.12% | 11.80% | 0.0657% |
| Accenture PLC | ACN | 130,514.21 | 0.47% | 1.56% | 10.43% | 12.07% | 0.0569% |
| Adobe Inc | ADBE | 169,295.47 | 0.61% | 0.00% | 16.22% | 16.22% | 0.0992% |
| Analog Devices Inc | ADI | 40,492.75 | 0.15% | 2.07% | 12.53% | 14.73% | 0.0215% |
| Archer-Daniels-Midland Co | ADM | 24,917.28 | 0.09% | 3.25% | 9.20% | 12.60% | 0.0113% |
| Automatic Data Processing Inc | ADP | 73,998.36 | 0.27% | 1.99% | 12.55% | 14.66% | 0.0392% |
| Alliance Data Systems Corp | ADS | 4,734.12 | 0.02% | 2.47% | 10.44% | 13.04% | 0.0022% |
| Autodesk Inc | ADSK | 43,313.50 | 0.16% | 0.00% | 46.89% | 46.89% | 0.0734% |
| Ameren Corp | AEE | 20,186.74 | 0.07% | 2.35% | 5.76% | 8.18% | 0.0060% |
| American Electric Power Co Inc | AEP | 51,479.66 | 0.19% | 2.60% | 6.03% | 8.71% | 0.0162% |
| AES Corp/VA | AES | 13,184.91 | 0.05% | 2.77% | 8.47% | 11.36% | 0.0054% |
| Aflac Inc | AFL | 37,853.31 | 0.14% | 2.10% | 3.41% | 5.55% | 0.0076% |
| Allergan PLC | AGN | 61,269.68 | 0.22% | 1.58% | 5.50% | 7.13% | 0.0158% |
| American International Group Inc | AIG | 43,723.77 | 0.16% | 2.56% | 11.00% | 13.70% | 0.0216% |
| Apartment Investment & Management Co | AIV | 7,847.71 | 0.03% | 3.08% | 3.99% | 7.14% | 0.0020% |
| Assurant Inc | AIZ | 7,916.61 | N/A | 1.90% | N/A | N/A | N/A |
| Arthur J Gallagher & Co | AJG | 19,293.42 | 0.07% | 1.74% | 9.79% | 11.62% | 0.0081% |
| Akamai Technologies Inc | AKAM | 15,085.47 | 0.05% | 0.00% | 13.20% | 13.20% | 0.0072% |
| Albemarle Corp | ALB | 8,512.33 | 0.03% | 1.79% | 8.10% | 9.96% | 0.0031% |
| Align Technology Inc | ALGN | 20,262.81 | 0.07% | 0.00% | 20.31% | 20.31% | 0.0149% |
| Alaska Air Group Inc | ALK | 7,955.77 | 0.03% | 2.31% | 23.69% | 26.28% | 0.0076% |
| Allstate Corp/The | ALL | 38,401.76 | 0.14% | 1.63% | 9.00% | 10.71% | 0.0149% |
| Allegion PLC | ALLE | 12,015.97 | 0.04% | 0.83% | 10.63% | 11.51% | 0.0050% |
| Alexion Pharmaceuticals Inc | ALXN | 21,994.08 | 0.08% | 0.00% | 11.72% | 11.72% | 0.0093% |
| Applied Materials Inc | AMAT | 53,270.00 | 0.19% | 1.54% | 12.42% | 14.05% | 0.0270% |
| Amcor PLC | AMCR | 17,157.30 | 0.06% | 4.84% | 8.60% | 13.65% | 0.0085% |
| Advanced Micro Devices Inc | AMD | 52,340.49 | 0.19% | 0.00% | 17.67% | 17.67% | 0.0334% |
| AMETEK Inc | AME | 22,207.80 | 0.08% | 0.58% | 10.50% | 11.11% | 0.0089% |
| Amgen Inc | AMGN | 127,685.55 | 0.46% | 2.92% | 7.88% | 10.91% | 0.0503% |
| Ameriprise Financial Inc | AMP | 20,956.72 | 0.08% | 2.48% | 6.00% | 8.55% | 0.0065% |
| American Tower Corp | AMT | 102,647.02 | 0.37% | 1.62% | 20.34% | 22.13% | 0.0821% |
| Amazon.com Inc | AMZN | 999,961.80 | 3.61% | 0.00% | 33.19% | 33.19% | 1.1987% |
| Arista Networks Inc | ANET | 17,062.96 | 0.06% | 0.00% | 17.95% | 17.95% | 0.0111% |
| ANSYS Inc | ANSS | 23,479.83 | 0.08% | 0.00% | 10.65% | 10.65% | 0.0090% |
| Anthem Inc | ANTM | 67,265.38 | 0.24% | 1.42% | 13.01% | 14.53% | 0.0353% |
| Aon PLC | AON | 51,109.34 | 0.18% | 0.86% | 10.99% | 11.90% | 0.0220% |
| AO Smith Corp | AOS | 6,963.25 | 0.03% | 2.46% | 8.00% | 10.56% | 0.0027% |
| Apache Corp | APA | 10,318.44 | 0.04% | 3.64% | -29.00% | -25.88% | -0.0096% |
| Air Products & Chemicals Inc | APD | 52,678.16 | 0.19% | 2.13% | 12.67% | 14.94% | 0.0284% |
| Amphenol Corp | APH | 29,492.03 | 0.11% | 0.99% | 9.81% | 10.85% | 0.0116% |
| Aptiv PLC | APTV | 21,645.88 | 0.08% | 1.13% | 5.95% | 7.10% | 0.0056% |
| Alexandria Real Estate Equities Inc | ARE | 21,134.40 | 0.08% | 2.45% | 4.13% | 6.63% | 0.0051% |
| Arconic Inc | ARNC | 12,966.58 | 0.05% | 0.28% | 80.40% | 80.79% | 0.0378% |
| Atmos Energy Corp | ATO | 14,308.01 | 0.05% | 1.96% | 7.15% | 9.18% | 0.0047% |
| Activision Blizzard Inc | ATVI | 44,927.85 | 0.16% | 0.64% | 10.01% | 10.68% | 0.0173% |
| AvalonBay Communities Inc | AVB | 30,263.31 | 0.11% | 2.80% | 6.21% | 9.10% | 0.0099% |
| Broadcom Inc | AVGO | 121,390.29 | 0.44% | 4.26% | 10.33% | 14.81% | 0.0649% |
| Avery Dennison Corp | AVY | 10,958.92 | 0.04% | 1.84% | 5.35% | 7.24% | 0.0029% |
| American Water Works Co Inc | AWK | 24,621.71 | 0.09% | 1.45% | 8.52% | 10.03% | 0.0089% |
| American Express Co | AXP | 106,268.83 | 0.38% | 1.38% | 9.39% | 10.83% | 0.0416% |
| AutoZone Inc | AZO | 24,960.14 | 0.09% | 0.00% | 10.80% | 10.80% | 0.0097% |
| Boeing Co/The | BA | 179,234.45 | 0.65% | 2.63% | 29.38% | 32.40% | 0.2097% |
| Bank of America Corp | BAC | 290,090.77 | 1.05% | 2.41% | 9.75% | 12.28% | 0.1286% |
| Baxter International Inc | BAX | 45,551.79 | 0.16% | 1.08% | 11.74% | 12.89% | 0.0212% |
| Best Buy Co Inc | BBY | 21,915.86 | 0.08% | 2.36% | 7.78% | 10.23% | 0.0081% |
| Becton Dickinson and Co | BDX | 74,577.01 | 0.27% | 1.31% | 10.42% | 11.80% | 0.0318% |
| Franklin Resources Inc | BEN | 12,571.51 | 0.05% | 4.28% | 10.00% | 14.49% | 0.0066% |
| Brown-Forman Corp | BF/B | 31,751.84 | 0.11% | 1.02% | 7.08% | 8.13% | 0.0093% |
| Biogen Inc | BIIB | 48,511.80 | 0.18% | 0.00% | 2.02% | 2.02% | 0.0035% |
| Bank of New York Mellon Corp/The | BK | 40,332.58 | 0.15% | 2.91% | 6.30% | 9.30% | 0.0136% |
| Booking Holdings Inc | BKNG | 76,618.95 | 0.28% | 0.00% | 16.37% | 16.37% | 0.0453% |
| Baker Hughes Co | BKR | 22,251.25 | 0.08% | 3.37% | 30.98% | 34.87% | 0.0280% |
| BlackRock Inc | BLK | 81,917.15 | 0.30% | 2.68% | 9.76% | 12.58% | 0.0372% |
| Ball Corp | BLL | 23,612.31 | 0.09% | 0.68% | 5.50% | 6.20% | 0.0053% |
| Bristol-Myers Squibb Co | BMY | 147,365.90 | 0.53% | 2.61% | 14.78% | 17.59% | 0.0936% |
| Broadridge Financial Solutions Inc | BR | 13,678.72 | 0.05% | 1.82% | 7.50% | 9.39% | 0.0046% |
| Berkshire Hathaway Inc | BRK/B | 548,282.67 | N/A | 0.00% | N/A | N/A | N/A |
| Boston Scientific Corp | BSX | 58,359.39 | 0.21% | 0.00% | 7.00% | 7.00% | 0.0148% |
| BorgWarner Inc | BWA | 7,077.78 | 0.03% | 1.99% | 4.90% | 6.94% | 0.0018% |
| Boston Properties Inc | BXP | 22,189.19 | 0.08% | 2.88% | 2.17% | 5.08% | 0.0041% |
| Citigroup Inc | C | 157,310.18 | 0.57% | 2.91% | 13.50% | 16.61% | 0.0944% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Conagra Brands Inc | CAG | 16,025.91 | 0.06% | 2.58% | 7.97% | 10.65% | 0.0062% |
| Cardinal Health Inc | CAH | 14,978.33 | 0.05% | 3.95% | 1.37% | 5.35% | 0.0029% |
| Caterpillar Inc | CAT | 72,591.68 | 0.26% | 3.18% | 8.97% | 12.29% | 0.0322% |
| Chubb Ltd | CB | 68,882.22 | 0.25% | 1.98% | 10.73% | 12.82% | 0.0319% |
| Cboe Global Markets Inc | CBOE | 13,660.33 | 0.05% | 1.08% | 5.91% | 7.03% | 0.0035% |
| CBRE Group Inc | CBRE | 20,436.59 | 0.07% | 0.00% | 11.00% | 11.00% | 0.0081% |
| Crown Castle International Corp | CCI | 62,298.75 | 0.23% | 3.06% | 17.70% | 21.03% | 0.0473% |
| Carnival Corp | CCL | 29,392.75 | 0.11% | 4.66% | 8.31% | 13.16% | 0.0140% |
| Cadence Design Systems Inc | CDNS | 20,233.56 | 0.07% | 0.00% | 9.35% | 9.35% | 0.0068% |
| CDW Corp/DE | CDW | 18,743.14 | 0.07% | 0.96% | 13.10% | 14.12% | 0.0096% |
| Celanese Corp | CE | 12,510.47 | 0.05% | 2.67% | 4.08% | 6.80% | 0.0031% |
| Cerner Corp | CERN | 22,561.62 | 0.08% | 0.36% | 15.49% | 15.88% | 0.0129% |
| CF Industries Holdings Inc | CF | 8,758.15 | 0.03% | 2.98% | 18.80% | 22.06% | 0.0070% |
| Citizens Financial Group Inc | CFG | 16,206.32 | 0.06% | 4.15% | 5.74% | 10.01% | 0.0059% |
| Church & Dwight Co Inc | CHD | 18,213.73 | 0.07% | 1.32% | 8.17% | 9.54% | 0.0063% |
| CH Robinson Worldwide Inc | CHRW | 9,767.79 | 0.04% | 2.89% | 6.90% | 9.89% | 0.0035% |
| Charter Communications Inc | CHTR | 125,037.91 | 0.45% | 0.00% | 34.30% | 34.30% | 0.1549% |
| Cigna Corp | CI | 71,839.57 | 0.26% | 0.02% | 12.11% | 12.13% | 0.0315% |
| Cincinnati Financial Corp | CINF | 17,146.10 | N/A | 2.25% | N/A | N/A | N/A |
| Colgate-Palmolive Co | CL | 63,232.72 | 0.23% | 2.44% | 3.39% | 5.86% | 0.0134% |
| Clorox Co/The | CLX | 19,742.95 | 0.07% | 2.69% | 3.44% | 6.17% | 0.0044% |
| Comerica Inc | CMA | 8,816.48 | 0.03% | 4.62% | 9.15% | 13.98% | 0.0045% |
| Comcast Corp | CMCSA | 196,645.57 | 0.71% | 2.12% | 9.34% | 11.55% | 0.0820% |
| CME Group Inc | CME | 77,804.34 | 0.28% | 2.42% | 8.65% | 11.17% | 0.0314% |
| Chipotle Mexican Grill Inc | CMG | 24,091.77 | 0.09% | 0.00% | 28.57% | 28.57% | 0.0249% |
| Cummins Inc | CMI | 24,507.98 | 0.09% | 3.07% | 4.71% | 7.85% | 0.0070% |
| CMS Energy Corp | CMS | 19,446.05 | 0.07% | 2.39% | 7.16% | 9.63% | 0.0068% |
| Centene Corp | CNC | 36,674.97 | 0.13% | 0.00% | 15.03% | 15.03% | 0.0199% |
| CenterPoint Energy Inc | CNP | 13,271.27 | 0.05% | 4.38% | 4.66% | 9.13% | 0.0044% |
| Capital One Financial Corp | COF | 45,568.68 | 0.16% | 1.65% | 5.97% | 7.67% | 0.0126% |
| Cabot Oil & Gas Corp | COG | 5,747.66 | 0.02% | 2.48% | 27.68% | 30.50% | 0.0063% |
| Cooper Cos Inc/The | COO | 17,019.24 | 0.06% | 0.03% | 5.90% | 5.93% | 0.0036% |
| ConocoPhillips | COP | 65,210.68 | 0.24% | 2.23% | 0.80% | 3.04% | 0.0071% |
| Costco Wholesale Corp | COST | 134,965.79 | 0.49% | 0.89% | 8.91% | 9.84% | 0.0480% |
| Coty Inc | COTY | 7,775.97 | 0.03% | 4.20% | 8.64% | 13.02% | 0.0037% |
| Campbell Soup Co | CPB | 14,597.10 | 0.05% | 2.93% | 7.07% | 10.10% | 0.0053% |
| Capri Holdings Ltd | CPRI | 4,543.00 | 0.02% | 0.00% | 4.07% | 4.07% | 0.0007% |
| Copart Inc | CPRT | 23,584.80 | N/A | 0.00% | N/A | N/A | N/A |
| salesforce.com Inc | CRM | 161,708.97 | 0.58% | 0.00% | 22.38% | 22.38% | 0.1307% |
| Cisco Systems Inc | CSCO | 195,016.81 | 0.70% | 3.13% | 5.40% | 8.61% | 0.0607% |
| CSX Corp | CSX | 59,723.57 | 0.22% | 1.35% | 13.40% | 14.84% | 0.0320% |
| Cintas Corp | CTAS | 28,943.36 | 0.10% | 0.91% | 10.25% | 11.21% | 0.0117% |
| CenturyLink Inc | CTL | 14,892.53 | 0.05% | 7.32% | 3.97% | 11.43% | 0.0061% |
| Cognizant Technology Solutions Corp | CTSH | 33,609.59 | 0.12% | 1.30% | 10.60% | 11.97% | 0.0145% |
| Corteva Inc | CTVA | 21,648.85 | 0.08% | 1.88% | 16.20% | 18.23% | 0.0143% |
| Citrix Systems Inc | CTXS | 15,785.25 | 0.06% | 1.15% | 9.17% | 10.37% | 0.0059% |
| CVS Health Corp | CVS | 88,231.38 | 0.32% | 2.95% | 5.35% | 8.37% | 0.0267% |
| Chevron Corp | CVX | 202,588.05 | 0.73% | 4.67% | 1.89% | 6.60% | 0.0483% |
| Concho Resources Inc | CXO | 15,233.95 | 0.06% | 0.66% | 7.88% | 8.57% | 0.0047% |
| Dominion Energy Inc | D | 71,086.75 | 0.26% | 4.27% | 4.56% | 8.92% | 0.0229% |
| Delta Air Lines Inc | DAL | 36,049.45 | 0.13% | 2.97% | 11.25% | 14.38% | 0.0187% |
| DuPont de Nemours Inc | DD | 37,799.74 | 0.14% | 2.44% | 5.25% | 7.75% | 0.0106% |
| Deere & Co | DE | 49,922.25 | 0.18% | 2.09% | 6.08% | 8.24% | 0.0148% |
| Discover Financial Services | DFS | 23,290.30 | 0.08% | 2.39% | 11.17% | 13.69% | 0.0115% |
| Dollar General Corp | DG | 39,058.21 | 0.14% | 0.84% | 11.03% | 11.91% | 0.0168% |
| Quest Diagnostics Inc | DGX | 14,906.93 | 0.05% | 2.04% | 6.42% | 8.52% | 0.0046% |
| DR Horton Inc | DHI | 21,688.73 | 0.08% | 1.18% | 14.54% | 15.81% | 0.0124% |
| Danaher Corp | DHR | 111,885.09 | 0.40% | 0.44% | 13.01% | 13.48% | 0.0545% |
| Walt Disney Co/The | DIS | 249,685.43 | 0.90% | 1.34% | 6.40% | 7.79% | 0.0702% |
| Discovery Inc | DISCA | 20,130.70 | 0.07% | 1.20% | 11.50% | 12.77% | 0.0093% |
| DISH Network Corp | DISH | 19,221.67 | 0.07% | 0.00% | 5.40% | 5.40% | 0.0037% |
| Digital Realty Trust Inc | DLR | 26,778.76 | 0.10% | 3.51% | 41.20% | 45.43% | 0.0439% |
| Dollar Tree Inc | DLTR | 20,606.19 | 0.07% | 0.00% | 6.42% | 6.42% | 0.0048% |
| Dover Corp | DOV | 16,538.58 | 0.06% | 1.80% | 10.80% | 12.70% | 0.0076% |
| Dow Inc | DOW | 34,239.78 | 0.12% | 6.25% | -1.28% | 4.93% | 0.0061% |
| Duke Realty Corp | DRE | 13,346.49 | 0.05% | 2.58% | 4.80% | 7.44% | 0.0036% |
| Darden Restaurants Inc | DRI | 14,147.42 | 0.05% | 3.03% | 8.10% | 11.25% | 0.0057% |
| DTE Energy Co | DTE | 25,475.05 | 0.09% | 2.89% | 5.87% | 8.84% | 0.0081% |
| Duke Energy Corp | DUK | 71,175.48 | 0.26% | 3.88% | 4.78% | 8.75% | 0.0225% |
| DaVita Inc | DVA | 10,232.29 | 0.04% | 0.00% | 14.20% | 14.20% | 0.0052% |
| Devon Energy Corp | DVN | 8,342.65 | 0.03% | 1.61% | 11.40% | 13.10% | 0.0039% |
| DXC Technology Co | DXC | 8,161.20 | 0.03% | 2.60% | -1.44% | 1.15% | 0.0003% |
| Electronic Arts Inc | EA | 31,510.36 | 0.11% | 0.00% | 7.79% | 7.79% | 0.0089% |
| eBay Inc | EBAY | 26,716.47 | 0.10% | 1.88% | 12.25% | 14.25% | 0.0137% |
| Ecolab Inc | ECL | 56,527.61 | 0.20% | 0.94% | 12.37% | 13.36% | 0.0273% |
| Consolidated Edison Inc | ED | 31,248.46 | 0.11% | 3.15% | 3.58% | 6.78% | 0.0077% |
| Equifax Inc | EFX | 18,150.40 | 0.07% | 1.04% | 11.67% | 12.78% | 0.0084% |
| Edison International | EIX | 27,450.92 | 0.10% | 3.23% | 5.29% | 8.60% | 0.0085% |
| Estee Lauder Cos Inc/The | EL | 70,221.21 | 0.25% | 0.94% | 11.84% | 12.84% | 0.0326% |
| Eastman Chemical Co | EMN | 9,691.24 | 0.04% | 3.73% | 5.87% | 9.71% | 0.0034% |
| Emerson Electric Co | EMR | 43,633.69 | 0.16% | 2.80% | 8.03% | 10.94% | 0.0172% |
| EOG Resources Inc | EOG | 42,416.42 | 0.15% | 1.40% | 6.00% | 7.44% | 0.0114% |
| Equinix Inc | EQIX | 50,291.50 | 0.18% | 1.67% | 18.00% | 19.82% | 0.0360% |
| Equity Residential | EQR | 30,878.42 | 0.11% | 2.87% | 8.78% | 11.78% | 0.0131% |
| Eversource Energy | ES | 29,928.50 | 0.11% | 2.32% | 6.67% | 9.06% | 0.0098% |
| Essex Property Trust Inc | ESS | 20,469.45 | 0.07% | 2.65% | 8.22% | 10.98% | 0.0081% |
| E*TRADE Financial Corp | ETFC | 9,488.16 | 0.03% | 1.36% | 3.38% | 4.76% | 0.0016% |
| Eaton Corp PLC | ETN | 39,053.90 | 0.14% | 2.99% | 8.44% | 11.55% | 0.0163% |
| Entergy Corp | ETR | 26,185.91 | 0.09% | 2.80% | -0.94% | 1.85% | 0.0017% |
| Evergy Inc | EVRG | 16,445.49 | 0.06% | 2.67% | 6.51% | 9.27% | 0.0055% |
| Edwards Lifesciences Corp | EW | 45,856.20 | 0.17% | 0.00% | 14.32% | 14.32% | 0.0237% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Exelon Corp | EXC | 46,160.02 | 0.17% | 3.04% | 2.97% | 6.06% | 0.0101% |
| Expeditors International of Washington I | EXPD | 12,438.80 | 0.04% | 1.35% | 9.73% | 11.15% | 0.0050% |
| Expedia Group Inc | EXPE | 15,712.92 | 0.06% | 1.22% | 12.35% | 13.65% | 0.0077% |
| Extra Space Storage Inc | EXR | 14,334.22 | 0.05% | 3.22% | 4.88% | 8.18% | 0.0042% |
| Ford Motor Co | F | 34,970.39 | 0.13% | 6.80% | 3.59% | 10.51% | 0.0133% |
| Diamondback Energy Inc | FANG | 11,937.08 | 0.04% | 0.90% | 24.41% | 25.42% | 0.0110% |
| Fastenal Co | FAST | 20,025.62 | 0.07% | 2.70% | 14.25% | 17.15% | 0.0124% |
| Facebook Inc | FB | 575,534.49 | 2.08% | 0.00% | 22.27% | 22.27% | 0.4629% |
| Fortune Brands Home & Security Inc | FBHS | 9,561.08 | 0.03% | 1.35% | 8.96% | 10.38% | 0.0036% |
| Freeport-McMoRan Inc | FCX | 16,105.14 | 0.06% | 1.80% | -1.93% | -0.15% | -0.0001% |
| FedEx Corp | FDX | 37,768.26 | 0.14% | 1.81% | 20.40% | 22.40% | 0.0306% |
| FirstEnergy Corp | FE | 27,442.43 | 0.10% | 2.99% | 0.69% | 3.69% | 0.0037% |
| F5 Networks Inc | FFIV | 7,425.26 | 0.03% | 0.00% | 8.50% | 8.50% | 0.0023% |
| Fidelity National Information Services I | FIS | 88,293.48 | 0.32% | 0.98% | 11.94% | 12.98% | 0.0414% |
| Fiserv Inc | FISV | 80,642.35 | 0.29% | 0.00% | 17.36% | 17.36% | 0.0506% |
| Fifth Third Bancorp | FITB | 20,168.66 | 0.07% | 3.84% | 3.80% | 7.71% | 0.0056% |
| FLIR Systems Inc | FLIR | 6,914.25 | 0.02% | 1.31% | 13.10% | 14.50% | 0.0036% |
| Flowserve Corp | FLS | 6,108.55 | 0.02% | 1.65% | 11.39% | 13.13% | 0.0029% |
| FleetCor Technologies Inc | FLT | 27,356.03 | 0.10% | 0.00% | 15.57% | 15.57% | 0.0154% |
| FMC Corp | FMC | 12,389.93 | 0.04% | 1.68% | 10.20% | 11.97% | 0.0054% |
| Fox Corp | FOXA | 22,815.36 | 0.08% | 1.12% | 6.02% | 7.18% | 0.0059% |
| First Republic Bank/CA | FRC | 18,962.92 | 0.07% | 0.71% | 10.22% | 10.97% | 0.0075% |
| Federal Realty Investment Trust | FRT | 9,441.86 | 0.03% | 3.32% | 5.70% | 9.11% | 0.0031% |
| TechnipFMC PLC | FTI | 7,381.04 | 0.03% | 3.28% | 7.00% | 10.39% | 0.0028% |
| Fortinet Inc | FTNT | 19,730.45 | 0.07% | 0.00% | 16.82% | 16.82% | 0.0120% |
| Fortive Corp | FTV | 25,161.81 | 0.09% | 0.39% | 8.57% | 8.97% | 0.0082% |
| General Dynamics Corp | GD | 50,755.86 | 0.18% | 2.51% | 7.78% | 10.39% | 0.0190% |
| General Electric Co | GE | 108,732.69 | 0.39% | 0.32% | 8.13% | 8.47% | 0.0333% |
| Gilead Sciences Inc | GILD | 79,957.20 | 0.29% | 3.97% | 1.27% | 5.26% | 0.0152% |
| General Mills Inc | GIS | 31,583.53 | 0.11% | 3.75% | 6.50% | 10.38% | 0.0118% |
| Globe Life Inc | GL | 11,290.14 | 0.04% | 0.65% | 8.07% | 8.75% | 0.0036% |
| Corning Inc | GLW | 20,337.78 | 0.07% | 3.43% | 8.48% | 12.06% | 0.0089% |
| General Motors Co | GM | 47,707.10 | 0.17% | 4.59% | 10.51% | 15.34% | 0.0264% |
| Alphabet Inc | GOOGL | 988,702.25 | 3.57% | 0.00% | 15.76% | 15.76% | 0.5628% |
| Genuine Parts Co | GPC | 13,595.08 | 0.05% | 3.23% | 4.47% | 7.77% | 0.0038% |
| Global Payments Inc | GPN | 58,742.11 | 0.21% | 0.14% | 18.27% | 18.42% | 0.0391% |
| Gap Inc/The | GPS | 6,499.14 | 0.02% | 5.59% | 4.63% | 10.36% | 0.0024% |
| Garmin Ltd | GRMN | 18,430.49 | 0.07% | 2.30% | 6.70% | 9.07% | 0.0060% |
| Goldman Sachs Group Inc/The | GS | 87,655.68 | 0.32% | 2.20% | 7.78% | 10.07% | 0.0319% |
| WW Grainger Inc | GWW | 16,303.70 | 0.06% | 1.97% | 9.28% | 11.33% | 0.0067% |
| Halliburton Co | HAL | 19,144.91 | 0.07% | 3.33% | 12.26% | 15.80% | 0.0109% |
| Hasbro Inc | HAS | 13,939.21 | 0.05% | 2.65% | 10.93% | 13.73% | 0.0069% |
| Huntington Bancshares Inc/OH | HBAN | 13,841.45 | 0.05% | 4.56% | 5.84% | 10.53% | 0.0053% |
| Hanesbrands Inc | HBI | 4,976.95 | 0.02% | 4.36% | 4.94% | 9.41% | 0.0017% |
| HCA Healthcare Inc | HCA | 47,077.95 | 0.17% | 0.92% | 9.72% | 10.68% | 0.0182% |
| Home Depot Inc/The | HD | 248,818.56 | 0.90% | 2.37% | 9.38% | 11.87% | 0.1067% |
| Hess Corp | HES | 17,237.23 | 0.06% | 1.83% | 4.40% | 6.27% | 0.0039% |
| HollyFrontier Corp | HFC | 7,249.63 | 0.03% | 2.99% | -4.59% | -1.66% | -0.0004% |
| Hartford Financial Services Group Inc/Th | HIG | 21,365.77 | 0.08% | 2.05% | 9.50% | 11.65% | 0.0090% |
| Huntington Ingalls Industries Inc | HII | 10,674.99 | 0.04% | 1.33% | 40.00% | 41.60% | 0.0160% |
| Hilton Worldwide Holdings Inc | HLT | 30,417.17 | 0.11% | 0.56% | 12.00% | 12.59% | 0.0138% |
| Harley-Davidson Inc | HOG | 5,153.37 | 0.02% | 4.56% | 7.70% | 12.44% | 0.0023% |
| Hologic Inc | HOLX | 14,091.92 | 0.05% | 0.00% | 10.37% | 10.37% | 0.0053% |
| Honeywell International Inc | HON | 123,771.49 | 0.45% | 2.08% | 7.24% | 9.39% | 0.0420% |
| Helmerich & Payne Inc | HP | 4,444.45 | 0.02% | 6.50% | 4.47% | 11.11% | 0.0018% |
| Hewlett Packard Enterprise Co | HPE | 18,010.46 | 0.07% | 3.47% | 5.41% | 8.98% | 0.0058% |
| HP Inc | HPQ | 30,981.96 | 0.11% | 3.30% | -1.30% | 1.98% | 0.0022% |
| H&R Block Inc | HRB | 4,529.71 | 0.02% | 4.44% | 10.00% | 14.66% | 0.0024% |
| Hormel Foods Corp | HRL | 25,271.66 | 0.09% | 1.96% | 4.62% | 6.62% | 0.0060% |
| Henry Schein Inc | HSIC | 10,116.27 | 0.04% | 0.00% | 3.21% | 3.21% | 0.0012% |
| Host Hotels & Resorts Inc | HST | 11,718.69 | 0.04% | 5.04% | 16.32% | 21.78% | 0.0092% |
| Hershey Co/The | HSY | 32,418.33 | 0.12% | 2.05% | 7.90% | 10.03% | 0.0117% |
| Humana Inc | HUM | 44,526.93 | 0.16% | 0.65% | 13.52% | 14.22% | 0.0229% |
| International Business Machines Corp | IBM | 127,292.67 | 0.46% | 4.66% | 4.57% | 9.34% | 0.0429% |
| Intercontinental Exchange Inc | ICE | 55,540.17 | 0.20% | 1.12% | 9.80% | 10.97% | 0.0220% |
| IDEXX Laboratories Inc | IDXX | 23,247.93 | 0.08% | 0.00% | 19.19% | 19.19% | 0.0161% |
| IDEX Corp | IEX | 12,462.41 | 0.05% | 1.27% | 12.23% | 13.58% | 0.0061% |
| International Flavors & Fragrances Inc | IFF | 13,999.43 | 0.05% | 2.23% | 9.57% | 11.90% | 0.0060% |
| Illumina Inc | ILMN | 42,640.29 | 0.15% | 0.00% | 13.96% | 13.96% | 0.0215% |
| Incyte Corp | INCY | 15,739.08 | 0.06% | 0.00% | 40.60% | 40.60% | 0.0231% |
| IHS Markit Ltd | INFO | 30,987.93 | 0.11% | 0.54% | 12.00% | 12.57% | 0.0141% |
| Intel Corp | INTC | 273,428.61 | 0.99% | 2.04% | 6.22% | 8.32% | 0.0821% |
| Intuit Inc | INTU | 72,984.77 | 0.26% | 0.74% | 13.96% | 14.75% | 0.0389% |
| International Paper Co | IP | 15,966.98 | 0.06% | 5.05% | 6.10% | 11.31% | 0.0065% |
| Interpublic Group of Cos Inc/The | IPG | 8,801.52 | 0.03% | 4.14% | 6.11% | 10.37% | 0.0033% |
| IPG Photonics Corp | IPGP | 6,775.45 | 0.02% | 0.00% | -10.17% | -10.17% | -0.0025% |
| IQVIA Holdings Inc | IQV | 30,124.33 | 0.11% | 0.00% | 17.60% | 17.60% | 0.0191% |
| Ingersoll-Rand PLC | IR | 31,750.95 | 0.11% | 1.70% | 8.97% | 10.75% | 0.0123% |
| Iron Mountain Inc | IRM | 9,076.60 | 0.03% | 7.78% | 4.42% | 12.37% | 0.0041% |
| Intuitive Surgical Inc | ISRG | 64,695.74 | 0.23% | 0.00% | 12.24% | 12.24% | 0.0286% |
| Gartner Inc | IT | 14,382.25 | 0.05% | 0.00% | 12.77% | 12.77% | 0.0066% |
| Illinois Tool Works Inc | ITW | 56,239.64 | 0.20% | 2.33% | 6.87% | 9.28% | 0.0188% |
| Invesco Ltd | IVZ | 7,852.36 | 0.03% | 7.41% | 6.09% | 13.72% | 0.0039% |
| Jacobs Engineering Group Inc | J | 12,329.57 | 0.04% | 0.78% | 11.99% | 12.81% | 0.0057% |
| JB Hunt Transport Services Inc | JBHT | 11,502.95 | 0.04% | 1.00% | 11.83% | 12.90% | 0.0054% |
| Johnson Controls International plc | JCI | 30,141.66 | 0.11% | 2.79% | 9.67% | 12.59% | 0.0137% |
| Jack Henry & Associates Inc | JKHY | 11,505.14 | 0.04% | 1.08% | 12.65% | 13.80% | 0.0057% |
| Johnson & Johnson | JNJ | 391,806.84 | 1.42% | 2.69% | 5.55% | 8.32% | 0.1177% |
| Juniper Networks Inc | JNPR | 7,678.18 | 0.03% | 3.43% | 8.66% | 12.24% | 0.0034% |
| JPMorgan Chase & Co | JPM | 415,145.14 | 1.50% | 2.84% | 6.80% | 9.74% | 0.1460% |
| Nordstrom Inc | JWN | 5,722.63 | 0.02% | 4.02% | 6.00% | 10.14% | 0.0021% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Kellogg Co | K | 23,266.03 | 0.08% | 3.32% | 1.65% | 5.00% | 0.0042% |
| KeyCorp | KEY | 18,428.56 | 0.07% | 4.18% | 11.45% | 15.87% | 0.0106% |
| Keysight Technologies Inc | KEYS | 17,523.74 | 0.06% | 0.00% | 8.19% | 8.19% | 0.0052% |
| Kraft Heinz Co/The | KHC | 35,657.89 | 0.13% | 5.48% | -2.88% | 2.52% | 0.0033% |
| Kimco Realty Corp | KIM | 8,226.07 | 0.03% | 5.92% | 4.47% | 10.52% | 0.0031% |
| KLA Corp | KLAC | 26,152.86 | 0.09% | 1.98% | 13.90% | 16.02% | 0.0151% |
| Kimberly-Clark Corp | KMB | 49,103.47 | 0.18% | 2.98% | 5.09% | 8.15% | 0.0145% |
| Kinder Morgan Inc/DE | KMI | 47,269.83 | 0.17% | 5.97% | 3.10% | 9.16% | 0.0156% |
| CarMax Inc | KMX | 15,854.89 | 0.06% | 0.00% | 10.31% | 10.31% | 0.0059% |
| Coca-Cola Co/The | KO | 250,214.30 | 0.90% | 2.86% | 8.20% | 11.18% | 0.1010% |
| Kroger Co/The | KR | 21,503.78 | 0.08% | 2.24% | 5.07% | 7.38% | 0.0057% |
| Kohl's Corp | KSS | 6,693.28 | 0.02% | 6.38% | 8.00% | 14.64% | 0.0035% |
| Kansas City Southern | KSU | 16,219.70 | 0.06% | 0.94% | 11.10% | 12.09% | 0.0071% |
| Loews Corp | L | 15,303.24 | N/A | 0.49% | N/A | N/A | N/A |
| L Brands Inc | LB | 6,403.15 | 0.02% | 5.19% | 11.50% | 16.98% | 0.0039% |
| Leidos Holdings Inc | LDOS | 14,222.92 | 0.05% | 1.34% | 10.00% | 11.40% | 0.0059% |
| Leggett & Platt Inc | LEG | 6,262.98 | 0.02% | 3.32% | 10.00% | 13.49% | 0.0031% |
| Lennar Corp | LEN | 20,437.69 | 0.07% | 0.50% | 12.59% | 13.11% | 0.0097% |
| Laboratory Corp of America Holdings | LH | 17,031.34 | 0.06% | 0.00% | 5.32% | 5.32% | 0.0033% |
| L3Harris Technologies Inc | LHX | 48,928.24 | N/A | 1.30% | N/A | N/A | N/A |
| Linde PLC | LIN | 109,116.56 | 0.39% | 1.76% | 9.50% | 11.34% | 0.0447% |
| LKQ Corp | LKQ | 10,016.70 | 0.04% | 0.00% | 14.20% | 14.20% | 0.0051% |
| Eli Lilly & Co | LLY | 134,072.66 | 0.48% | 2.06% | 10.49% | 12.65% | 0.0613% |
| Lockheed Martin Corp | LMT | 120,760.42 | 0.44% | 2.29% | 8.89% | 11.27% | 0.0492% |
| Lincoln National Corp | LNC | 10,805.05 | 0.04% | 2.76% | 9.00% | 11.89% | 0.0046% |
| Alliant Energy Corp | LNT | 14,487.99 | 0.05% | 2.40% | 5.78% | 8.24% | 0.0043% |
| Lowe's Cos Inc | LOW | 89,095.10 | 0.32% | 1.81% | 14.88% | 16.83% | 0.0541% |
| Lam Research Corp | LRCX | 42,483.59 | 0.15% | 1.51% | 14.14% | 15.76% | 0.0242% |
| Southwest Airlines Co | LUV | 28,934.66 | 0.10% | 1.36% | 7.70% | 9.11% | 0.0095% |
| Las Vegas Sands Corp | LVS | 50,160.47 | 0.18% | 4.85% | 4.45% | 9.41% | 0.0170% |
| Lamb Weston Holdings Inc | LW | 13,339.67 | 0.05% | 0.95% | 8.97% | 9.96% | 0.0048% |
| LyondellBasell Industries NV | LYB | 25,959.37 | 0.09% | 5.81% | 6.40% | 12.40% | 0.0116% |
| Live Nation Entertainment Inc | LYV | 14,566.85 | N/A | 0.00% | N/A | N/A | N/A |
| Macy's Inc | M | 4,928.00 | 0.02% | 9.46% | -1.93% | 7.44% | 0.0013% |
| Mastercard Inc | MA | 318,151.58 | 1.15% | 0.45% | 17.42% | 17.91% | 0.2058% |
| Mid-America Apartment Communities Inc | MAA | 15,650.98 | N/A | 2.92% | N/A | N/A | N/A |
| Marriott International Inc/MD | MAR | 45,790.83 | 0.17% | 1.32% | 7.32% | 8.69% | 0.0144% |
| Masco Corp | MAS | 13,594.21 | 0.05% | 1.01% | 9.60% | 10.66% | 0.0052% |
| McDonald's Corp | MCD | 161,139.38 | 0.58% | 2.37% | 8.99% | 11.47% | 0.0667% |
| Microchip Technology Inc | MCHP | 23,295.54 | 0.08% | 1.50% | 9.31% | 10.88% | 0.0092% |
| McKesson Corp | MCK | 25,696.60 | 0.09% | 1.16% | -15.55% | -14.49% | -0.0134% |
| Moody's Corp | MCO | 48,481.95 | 0.18% | 0.82% | 11.33% | 12.20% | 0.0214% |
| Mondelez International Inc | MDLZ | 82,617.12 | 0.30% | 2.07% | 8.32% | 10.48% | 0.0313% |
| Medtronic PLC | MDT | 154,733.18 | 0.56% | 1.84% | 7.62% | 9.53% | 0.0533% |
| MetLife Inc | MET | 45,714.87 | 0.17% | 3.50% | 9.96% | 13.64% | 0.0225% |
| MGM Resorts International | MGM | 15,995.41 | 0.06% | 1.67% | 1.97% | 3.66% | 0.0021% |
| Mohawk Industries Inc | MHK | 9,431.22 | 0.03% | 0.00% | 8.35% | 8.35% | 0.0028% |
| McCormick & Co Inc/MD | MKC | 21,719.80 | 0.08% | 1.50% | 5.00% | 6.54% | 0.0051% |
| MarketAxess Holdings Inc | MKTX | 13,431.76 | N/A | 0.67% | N/A | N/A | N/A |
| Martin Marietta Materials Inc | MLM | 16,487.64 | 0.06% | 0.78% | 13.85% | 14.69% | 0.0087% |
| Marsh & McLennan Cos Inc | MMC | 56,452.19 | 0.20% | 1.71% | 11.17% | 12.98% | 0.0265% |
| 3M Co | MMM | 91,237.54 | 0.33% | 3.75% | 6.65% | 10.53% | 0.0347% |
| Monster Beverage Corp | MNST | 35,809.60 | 0.13% | 0.00% | 12.50% | 12.50% | 0.0162% |
| Altria Group Inc | MO | 88,309.86 | 0.32% | 7.29% | 7.23% | 14.79% | 0.0472% |
| Mosaic Co/The | MOS | 7,514.65 | 0.03% | 0.97% | 4.45% | 5.44% | 0.0015% |
| Marathon Petroleum Corp | MPC | 35,388.03 | 0.13% | 4.28% | 11.58% | 16.10% | 0.0206% |
| Merck & Co Inc | MRK | 217,528.89 | 0.79% | 2.58% | 10.44% | 13.15% | 0.1033% |
| Marathon Oil Corp | MRO | 9,095.19 | 0.03% | 1.76% | 0.20% | 1.96% | 0.0006% |
| Morgan Stanley | MS | 84,587.93 | 0.31% | 2.88% | 10.85% | 13.88% | 0.0424% |
| MSCI Inc | MSCI | 24,209.34 | 0.09% | 1.00% | 13.75% | 14.82% | 0.0130% |
| Microsoft Corp | MSFT | 1,294,777.38 | 4.68% | 1.16% | 11.88% | 13.11% | 0.6130% |
| Motorola Solutions Inc | MSI | 30,326.48 | 0.11% | 1.30% | 7.10% | 8.44% | 0.0092% |
| M&T Bank Corp | MTB | 22,237.91 | 0.08% | 2.69% | 5.46% | 8.22% | 0.0066% |
| Mettler-Toledo International Inc | MTD | 18,440.51 | 0.07% | 0.00% | 11.79% | 11.79% | 0.0079% |
| Micron Technology Inc | MU | 58,976.28 | 0.21% | 0.00% | 6.19% | 6.19% | 0.0132% |
| Maxim Integrated Products Inc | MXIM | 16,195.98 | 0.06% | 3.20% | 6.73% | 10.03% | 0.0059% |
| Mylan NV | MYL | 11,055.56 | 0.04% | 0.00% | 2.90% | 2.90% | 0.0012% |
| Noble Energy Inc | NBL | 9,455.95 | 0.03% | 2.36% | 8.65% | 11.11% | 0.0038% |
| Norwegian Cruise Line Holdings Ltd | NCLH | 11,456.99 | 0.04% | 0.10% | 8.21% | 8.32% | 0.0034% |
| Nasdaq Inc | NDAQ | 19,089.55 | 0.07% | 1.70% | 7.83% | 9.60% | 0.0066% |
| NextEra Energy Inc | NEE | 131,089.70 | 0.47% | 2.10% | 7.97% | 10.15% | 0.0481% |
| Newmont Corp | NEM | 37,590.79 | 0.14% | 1.83% | 7.70% | 9.60% | 0.0130% |
| Netflix Inc | NFLX | 151,427.79 | 0.55% | 0.00% | 29.57% | 29.57% | 0.1617% |
| NiSource Inc | NI | 10,948.57 | 0.04% | 2.74% | 4.68% | 7.48% | 0.0030% |
| NIKE Inc | NKE | 149,975.00 | 0.54% | 0.97% | 14.25% | 15.29% | 0.0828% |
| NortonLifeLock Inc | NLOK | 17,712.68 | 0.06% | 1.41% | 4.67% | 6.11% | 0.0039% |
| Nielsen Holdings PLC | NLSN | 7,258.53 | 0.03% | 5.48% | 8.75% | 14.47% | 0.0038% |
| Northrop Grumman Corp | NOC | 62,791.84 | 0.23% | 1.49% | 16.49% | 18.11% | 0.0411% |
| National Oilwell Varco Inc | NOV | 7,952.00 | 0.03% | 0.98% | 54.53% | 55.77% | 0.0160% |
| ServiceNow Inc | NOW | 63,790.18 | 0.23% | 0.00% | 36.26% | 36.26% | 0.0835% |
| NRG Energy Inc | NRG | 9,281.31 | 0.03% | 0.33% | 37.98% | 38.37% | 0.0129% |
| Norfolk Southern Corp | NSC | 53,698.39 | 0.19% | 1.83% | 11.20% | 13.13% | 0.0255% |
| NetApp Inc | NTAP | 12,187.28 | 0.04% | 3.59% | 5.54% | 9.22% | 0.0041% |
| Northern Trust Corp | NTRS | 20,724.14 | 0.07% | 2.97% | 9.42% | 12.53% | 0.0094% |
| Nucor Corp | NUE | 14,399.69 | 0.05% | 3.39% | 6.80% | 10.31% | 0.0054% |
| NVIDIA Corp | NVDA | 144,695.16 | 0.52% | 0.27% | 9.17% | 9.46% | 0.0494% |
| NVR Inc | NVR | 13,866.18 | 0.05% | 0.00% | 12.23% | 12.23% | 0.0061% |
| Newell Brands Inc | NWL | 8,269.00 | 0.03% | 4.71% | -12.53% | -8.11% | -0.0024% |
| News Corp | NWSA | 8,080.98 | 0.03% | 1.42% | -1.25% | 0.17% | 0.0000% |
| Realty Income Corp | O | 25,555.32 | 0.09% | 3.46% | 4.95% | 8.50% | 0.0078% |
| Old Dominion Freight Line Inc | ODFL | 15,663.77 | 0.06% | 0.34% | 12.87% | 13.23% | 0.0075% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| ONEOK Inc | OKE | 30,927.65 | 0.11% | 4.76% | 12.31% | 17.36% | 0.0194% |
| Omnicom Group Inc | OMC | 16,397.40 | 0.06% | 3.45% | 4.16% | 7.68% | 0.0045% |
| Oracle Corp | ORCL | 168,241.19 | 0.61% | 1.78% | 8.18% | 10.04% | 0.0610% |
| O'Reilly Automotive Inc | ORLY | 30,725.08 | 0.11% | 0.00% | 11.95% | 11.95% | 0.0133% |
| Occidental Petroleum Corp | OXY | 35,482.57 | 0.13% | 7.82% | 4.80% | 12.81% | 0.0164% |
| Paycom Software Inc | PAYC | 18,580.23 | 0.07% | 0.00% | 26.00% | 26.00% | 0.0174% |
| Paychex Inc | PAYX | 30,738.81 | 0.11% | 2.92% | 7.25% | 10.28% | 0.0114% |
| People's United Financial Inc | PBCT | 6,835.29 | 0.02% | 4.65% | 2.00% | 6.70% | 0.0017% |
| PACCAR Inc | PCAR | 25,698.92 | 0.09% | 3.56% | 4.47% | 8.11% | 0.0075% |
| Healthpeak Properties Inc | PEAK | 18,353.23 | 0.07% | 4.11% | 3.64% | 7.83% | 0.0052% |
| Public Service Enterprise Group Inc | PEG | 29,939.01 | 0.11% | 3.17% | 5.22% | 8.48% | 0.0092% |
| PepsiCo Inc | PEP | 198,037.71 | 0.72% | 2.67% | 5.08% | 7.81% | 0.0559% |
| Pfizer Inc | PFE | 206,090.72 | 0.74% | 3.99% | 2.77% | 6.81% | 0.0507% |
| Principal Financial Group Inc | PFG | 14,702.73 | 0.05% | 4.30% | 8.34% | 12.82% | 0.0068% |
| Procter & Gamble Co/The | PG | 307,743.22 | 1.11% | 2.40% | 7.44% | 9.93% | 0.1104% |
| Progressive Corp/The | PGR | 47,171.37 | 0.17% | 3.33% | 6.23% | 9.67% | 0.0165% |
| Parker-Hannifin Corp | PH | 25,139.26 | 0.09% | 1.74% | 7.82% | 9.62% | 0.0087% |
| PulteGroup Inc | PHM | 12,054.39 | 0.04% | 1.08% | 11.97% | 13.10% | 0.0057% |
| Packaging Corp of America | PKG | 9,063.50 | 0.03% | 3.39% | 10.00% | 13.56% | 0.0044% |
| PerkinElmer Inc | PKI | 10,274.60 | 0.04% | 0.30% | 7.67% | 7.98% | 0.0030% |
| Prologis Inc | PLD | 58,679.26 | 0.21% | 2.41% | 7.38% | 9.87% | 0.0209% |
| Philip Morris International Inc | PM | 128,670.83 | 0.46% | 5.58% | 6.04% | 11.79% | 0.0548% |
| PNC Financial Services Group Inc/The | PNC | 64,322.15 | 0.23% | 3.26% | 7.57% | 10.96% | 0.0255% |
| Pentair PLC | PNR | 7,216.23 | 0.03% | 1.76% | 7.96% | 9.79% | 0.0026% |
| Pinnacle West Capital Corp | PNW | 10,981.41 | 0.04% | 3.09% | 4.67% | 7.83% | 0.0031% |
| PPG Industries Inc | PPG | 28,337.75 | 0.10% | 1.78% | 5.52% | 7.35% | 0.0075% |
| PPL Corp | PPL | 26,166.57 | 0.09% | 4.56% | 1.38% | 5.97% | 0.0056% |
| Perrigo Co PLC | PRGO | 7,763.69 | 0.03% | 1.41% | -1.60% | -0.20% | -0.0001% |
| Prudential Financial Inc | PRU | 36,606.12 | 0.13% | 4.40% | 9.00% | 13.60% | 0.0180% |
| Public Storage | PSA | 39,086.51 | 0.14% | 3.58% | 3.51% | 7.15% | 0.0101% |
| Phillips 66 | PSX | 40,600.95 | 0.15% | 4.21% | -0.04% | 4.17% | 0.0061% |
| PVH Corp | PVH | 6,359.78 | 0.02% | 0.17% | 6.27% | 6.45% | 0.0015% |
| Quanta Services Inc | PWR | 5,589.83 | 0.02% | 0.33% | 14.50% | 14.85% | 0.0030% |
| Pioneer Natural Resources Co | PXD | 22,362.28 | 0.08% | 0.62% | 20.13% | 20.81% | 0.0168% |
| PayPal Holdings Inc | PYPL | 133,592.97 | 0.48% | 0.00% | 18.81% | 18.81% | 0.0908% |
| QUALCOMM Inc | QCOM | 97,451.84 | 0.35% | 3.00% | 12.26% | 15.44% | 0.0544% |
| Qorvo Inc | QRVO | 12,246.37 | 0.04% | 0.24% | 13.24% | 13.49% | 0.0060% |
| Royal Caribbean Cruises Ltd | RCL | 24,543.62 | 0.09% | 2.49% | 10.06% | 12.68% | 0.0112% |
| Everest Re Group Ltd | RE | 11,279.11 | 0.04% | 2.07% | 10.00% | 12.17% | 0.0050% |
| Regency Centers Corp | REG | 10,405.95 | 0.04% | 3.77% | 4.78% | 8.64% | 0.0032% |
| Regeneron Pharmaceuticals Inc | REGN | 37,104.38 | 0.13% | 0.00% | 9.59% | 9.59% | 0.0129% |
| Regions Financial Corp | RF | 15,019.43 | 0.05% | 4.19% | 7.16% | 11.50% | 0.0062% |
| Robert Half International Inc | RHI | 6,753.34 | 0.02% | 2.23% | 1.83% | 4.08% | 0.0010% |
| Raymond James Financial Inc | RJF | 12,699.63 | 0.05% | 1.58% | 9.85% | 11.51% | 0.0053% |
| Ralph Lauren Corp | RL | 8,468.96 | 0.03% | 2.40% | 6.05% | 8.52% | 0.0026% |
| ResMed Inc | RMD | 22,989.76 | 0.08% | 1.00% | 12.61% | 13.67% | 0.0114% |
| Rockwell Automation Inc | ROK | 22,267.76 | 0.08% | 2.13% | 8.08% | 10.30% | 0.0083% |
| Rollins Inc | ROL | 12,426.41 | N/A | 1.40% | N/A | N/A | N/A |
| Roper Technologies Inc | ROP | 39,714.75 | 0.14% | 0.54% | 13.10% | 13.68% | 0.0196% |
| Ross Stores Inc | ROST | 40,263.01 | 0.15% | 0.91% | 9.83% | 10.79% | 0.0157% |
| Republic Services Inc | RSG | 30,334.71 | 0.11% | 1.64% | 8.38% | 10.09% | 0.0111% |
| Raytheon Co | RTN | 61,527.15 | 0.22% | 1.83% | 7.41% | 9.31% | 0.0207% |
| SBA Communications Corp | SBAC | 28,100.71 | 0.10% | 0.28% | 28.40% | 28.72% | 0.0292% |
| Starbucks Corp | SBUX | 99,564.97 | 0.36% | 1.95% | 13.65% | 15.74% | 0.0566% |
| Charles Schwab Corp/The | SCHW | 58,512.59 | 0.21% | 1.64% | 3.63% | 5.30% | 0.0112% |
| Sealed Air Corp | SEE | 5,485.31 | 0.02% | 1.81% | 5.08% | 6.93% | 0.0014% |
| Sherwin-Williams Co/The | SHW | 51,415.32 | 0.19% | 0.96% | 11.25% | 12.26% | 0.0228% |
| SVB Financial Group | SIVB | 12,414.39 | 0.04% | 0.02% | 11.50% | 11.52% | 0.0052% |
| JM Smucker Co/The | SJM | 11,817.38 | 0.04% | 3.32% | 1.27% | 4.61% | 0.0020% |
| Schlumberger Ltd | SLB | 46,395.11 | 0.17% | 5.97% | 26.04% | 32.78% | 0.0549% |
| SL Green Realty Corp | SLG | 7,481.07 | 0.03% | 3.89% | 7.58% | 11.62% | 0.0031% |
| Snap-on Inc | SNA | 8,755.12 | 0.03% | 2.41% | 6.62% | 9.11% | 0.0029% |
| Synopsys Inc | SNPS | 22,205.40 | 0.08% | 0.00% | 13.77% | 13.77% | 0.0110% |
| Southern Co/The | SO | 73,830.87 | 0.27% | 3.50% | 4.10% | 7.68% | 0.0205% |
| Simon Property Group Inc | SPG | 40,859.60 | 0.15% | 6.25% | 4.30% | 10.68% | 0.0158% |
| S&P Global Inc | SPGI | 71,787.61 | 0.26% | 0.77% | 11.47% | 12.29% | 0.0319% |
| Sempra Energy | SRE | 45,283.76 | 0.16% | 2.42% | 10.00% | 12.53% | 0.0205% |
| STERIS PLC | STE | 12,775.97 | 0.05% | 0.95% | 10.10% | 11.10% | 0.0051% |
| State Street Corp | STT | 27,500.83 | 0.10% | 2.88% | 8.61% | 11.61% | 0.0115% |
| Seagate Technology PLC | STX | 14,971.91 | 0.05% | 4.50% | 5.37% | 9.99% | 0.0054% |
| Constellation Brands Inc | STZ | 36,138.73 | 0.13% | 1.59% | 5.17% | 6.80% | 0.0089% |
| Stanley Black & Decker Inc | SWK | 24,220.04 | 0.09% | 1.78% | 8.65% | 10.50% | 0.0092% |
| Skyworks Solutions Inc | SWKS | 19,253.06 | 0.07% | 1.37% | 17.23% | 18.72% | 0.0130% |
| Synchrony Financial | SYF | 19,961.32 | 0.07% | 2.84% | -0.43% | 2.40% | 0.0017% |
| Stryker Corp | SYK | 78,879.08 | 0.28% | 1.10% | 9.36% | 10.51% | 0.0299% |
| Sysco Corp | SYY | 41,910.03 | 0.15% | 2.05% | 9.43% | 11.57% | 0.0175% |
| AT&T Inc | T | 272,933.10 | 0.99% | 5.55% | 5.58% | 11.29% | 0.1113% |
| Molson Coors Beverage Co | TAP | 12,109.45 | 0.04% | 3.53% | -4.74% | -1.29% | -0.0006% |
| TransDigm Group Inc | TDG | 34,446.58 | 0.12% | 0.00% | 11.86% | 11.86% | 0.0148% |
| TE Connectivity Ltd | TEL | 30,801.22 | 0.11% | 2.00% | 9.98% | 12.08% | 0.0134% |
| Truist Financial Corp | TFC | 69,215.50 | 0.25% | 3.63% | 8.93% | 12.72% | 0.0318% |
| Teleflex Inc | TFX | 17,199.40 | 0.06% | 0.36% | 15.48% | 15.87% | 0.0099% |
| Target Corp | TGT | 56,116.07 | 0.20% | 2.39% | 9.55% | 12.05% | 0.0244% |
| Tiffany & Co | TIF | 16,234.06 | 0.06% | 1.74% | 6.77% | 8.57% | 0.0050% |
| TJX Cos Inc/The | TJX | 71,035.97 | 0.26% | 1.56% | 11.13% | 12.78% | 0.0328% |
| Thermo Fisher Scientific Inc | TMO | 125,586.44 | 0.45% | 0.26% | 12.57% | 12.84% | 0.0583% |
| T-Mobile US Inc | TMUS | 67,752.97 | 0.24% | 0.73% | 6.00% | 6.75% | 0.0165% |
| Tapestry Inc | TPR | 7,110.86 | 0.03% | 5.27% | 9.30% | 14.81% | 0.0038% |
| T Rowe Price Group Inc | TROW | 31,202.93 | 0.11% | 2.43% | 10.66% | 13.22% | 0.0149% |
| Travelers Cos Inc/The | TRV | 33,628.91 | 0.12% | 2.57% | 11.75% | 14.47% | 0.0176% |
| Tractor Supply Co | TSCO | 11,004.00 | 0.04% | 1.59% | 10.78% | 12.45% | 0.0049% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Tyson Foods Inc | TSN | 30,191.01 | 0.11% | 2.04% | 10.33% | 12.48% | 0.0136% |
| Take-Two Interactive Software Inc | TTWO | 14,127.56 | 0.05% | 0.00% | 7.60% | 7.60% | 0.0039% |
| Twitter Inc | TWTR | 25,216.07 | 0.09% | 0.00% | 42.67% | 42.67% | 0.0389% |
| Texas Instruments Inc | TXN | 112,780.66 | 0.41% | 3.01% | 8.12% | 11.25% | 0.0458% |
| Textron Inc | TXT | 10,484.11 | 0.04% | 0.17% | 11.17% | 11.35% | 0.0043% |
| Under Armour Inc | UAA | 8,566.16 | 0.03% | 0.00% | 28.88% | 28.88% | 0.0089% |
| United Airlines Holdings Inc | UAL | 18,927.67 | 0.07% | 0.00% | 11.23% | 11.23% | 0.0077% |
| UDR Inc | UDR | 14,040.19 | 0.05% | 2.86% | 5.31% | 8.25% | 0.0042% |
| Universal Health Services Inc | UHS | 12,008.40 | 0.04% | 0.44% | 6.15% | 6.60% | 0.0029% |
| Ulta Beauty Inc | ULTA | 15,314.10 | 0.06% | 0.00% | 16.68% | 16.68% | 0.0092% |
| UnitedHealth Group Inc | UNH | 258,123.20 | 0.93% | 1.73% | 13.53% | 15.38% | 0.1434% |
| Unum Group | UNM | 5,505.31 | 0.02% | 4.11% | 9.00% | 13.30% | 0.0026% |
| Union Pacific Corp | UNP | 124,553.34 | 0.45% | 2.18% | 8.40% | 10.68% | 0.0480% |
| United Parcel Service Inc | UPS | 88,801.80 | 0.32% | 3.87% | 7.95% | 11.97% | 0.0384% |
| United Rentals Inc | URI | 10,092.01 | 0.04% | 0.00% | 10.80% | 10.80% | 0.0039% |
| US Bancorp | USB | 81,639.48 | 0.29% | 3.29% | 6.40% | 9.79% | 0.0289% |
| United Technologies Corp | UTX | 129,662.99 | 0.47% | 2.04% | 8.90% | 11.03% | 0.0516% |
| Visa Inc | V | 390,480.01 | 1.41% | 0.58% | 15.53% | 16.15% | 0.2278% |
| Varian Medical Systems Inc | VAR | 12,779.10 | 0.05% | 0.00% | 10.63% | 10.63% | 0.0049% |
| VF Corp | VFC | 33,136.03 | 0.12% | 2.14% | 10.05% | 12.29% | 0.0147% |
| ViacomCBS Inc | VIAC | 21,200.06 | 0.08% | 2.02% | 7.00% | 9.09% | 0.0070% |
| Valero Energy Corp | VLO | 34,622.13 | 0.13% | 4.65% | 17.78% | 22.84% | 0.0286% |
| Vulcan Materials Co | VMC | 18,745.38 | 0.07% | 0.86% | 19.05% | 19.99% | 0.0135% |
| Vornado Realty Trust | VNO | 12,552.23 | 0.05% | 4.77% | 5.15% | 10.05% | 0.0046% |
| Verisk Analytics Inc | VRSK | 26,623.93 | 0.10% | 0.54% | 9.90% | 10.46% | 0.0101% |
| VeriSign Inc | VRSN | 24,437.51 | 0.09% | 0.00% | 10.30% | 10.30% | 0.0091% |
| Vertex Pharmaceuticals Inc | VRTX | 58,804.36 | 0.21% | 0.00% | 38.78% | 38.78% | 0.0824% |
| Ventas Inc | VTR | 21,566.51 | 0.08% | 5.49% | 4.23% | 9.84% | 0.0077% |
| Verizon Communications Inc | VZ | 245,843.84 | 0.89% | 4.12% | 2.84% | 7.02% | 0.0623% |
| Westinghouse Air Brake Technologies Corp | WAB | 14,157.67 | 0.05% | 0.66% | 11.42% | 12.12% | 0.0062% |
| Waters Corp | WAT | 14,419.77 | 0.05% | 0.00% | 9.32% | 9.32% | 0.0049% |
| Walgreens Boots Alliance Inc | WBA | 45,046.06 | 0.16% | 3.63% | 8.23% | 12.00% | 0.0195% |
| Western Digital Corp | WDC | 19,480.00 | 0.07% | 3.05% | 2.77% | 5.87% | 0.0041% |
| WEC Energy Group Inc | WEC | 31,508.86 | 0.11% | 2.52% | 6.69% | 9.30% | 0.0106% |
| Welltower Inc | WELL | 34,456.44 | 0.12% | 4.10% | 2.87% | 7.03% | 0.0087% |
| Wells Fargo & Co | WFC | 194,068.74 | 0.70% | 4.47% | 10.31% | 15.00% | 0.1051% |
| Whirlpool Corp | WHR | 9,237.91 | 0.03% | 3.41% | 4.73% | 8.22% | 0.0027% |
| Willis Towers Watson PLC | WLTW | 27,166.13 | 0.10% | 1.21% | 10.00% | 11.27% | 0.0111% |
| Waste Management Inc | WM | 51,630.15 | 0.19% | 1.68% | 7.50% | 9.24% | 0.0172% |
| Williams Cos Inc/The | WMB | 25,077.29 | 0.09% | 7.35% | 5.00% | 12.53% | 0.0113% |
| Walmart Inc | WMT | 324,828.16 | 1.17% | 1.88% | 4.18% | 6.10% | 0.0716% |
| WR Berkley Corp | WRB | 13,486.28 | 0.05% | 1.55% | 6.95% | 8.56% | 0.0042% |
| Westrock Co | WRK | 10,079.79 | 0.04% | 5.52% | 4.45% | 10.09% | 0.0037% |
| Western Union Co/The | WU | 11,277.99 | 0.04% | 2.97% | 4.22% | 7.26% | 0.0030% |
| Weyerhaeuser Co | WY | 21,571.87 | 0.08% | 4.70% | 3.80% | 8.59% | 0.0067% |
| Wynn Resorts Ltd | WYNN | 13,543.86 | 0.05% | 2.97% | 13.10% | 16.27% | 0.0080% |
| Cimarex Energy Co | XEC | 4,468.45 | 0.02% | 1.69% | 19.35% | 21.20% | 0.0034% |
| Xcel Energy Inc | XEL | 36,282.41 | 0.13% | 2.46% | 5.78% | 8.31% | 0.0109% |
| Xilinx Inc | XLNX | 21,021.71 | 0.08% | 1.75% | 9.05% | 10.88% | 0.0083% |
| Exxon Mobil Corp | XOM | 262,836.31 | 0.95% | 5.76% | 6.33% | 12.28% | 0.1165% |
| DENTSPLY SIRONA Inc | XRAY | 12,455.17 | 0.04% | 0.63% | 12.72% | 13.39% | 0.0060% |
| Xerox Holdings Corp | XRX | 7,689.82 | N/A | 2.82% | N/A | N/A | N/A |
| Xylem Inc/NY | XYL | 14,705.24 | 0.05% | 1.18% | 12.28% | 13.52% | 0.0072% |
| Yum! Brands Inc | YUM | 31,991.42 | 0.12% | 1.59% | 11.67% | 13.35% | 0.0154% |
| Zimmer Biomet Holdings Inc | ZBH | 30,420.72 | 0.11% | 0.65% | 6.39% | 7.06% | 0.0078% |
| Zebra Technologies Corp | ZBRA | 12,888.31 | 0.05% | 0.00% | 11.80% | 11.80% | 0.0055% |
| Zions Bancorp NA | ZION | 7,508.44 | 0.03% | 3.13% | 5.24% | 8.45% | 0.0023% |
| Zoetis Inc | ZTS | 63,924.12 | 0.23% | 0.49% | 11.40% | 11.91% | 0.0275% |
| | Total Market Capitalization: | 27,688,228 | | | | | 13.44% |

Notes:
[1] Equals sum of Col. [9]
[2] Source: Bloomberg Professional
[3] Equals [1] − [2]
[4] Source: Bloomberg Professional
[5] Equals weight in S&P 500 based on market capitalization
[6] Source: Bloomberg Professional
[7] Source: Bloomberg Professional
[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]
[9] Equals Col. [5] x Col. [8]

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

| [1] S&P 500 Est. Required Market Return | [2] Current 30-Year Treasury (30-day average) | [3] Implied Market Risk Premium |
|---|---|---|
| 14.51% | 2.25% | 12.25% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Agilent Technologies Inc | A | 27,575.81 | 0.10% | 0.81% | 11.00% | 11.85% | 0.0121% |
| American Airlines Group Inc | AAL | 12,615.41 | 0.05% | 1.39% | 7.00% | 8.44% | 0.0040% |
| Advance Auto Parts Inc | AAP | 10,372.55 | 0.04% | 0.16% | 14.00% | 14.17% | 0.0055% |
| Apple Inc | AAPL | 1,418,414.00 | 5.26% | 1.01% | 12.50% | 13.57% | 0.7146% |
| AbbVie Inc | ABBV | 126,095.80 | 0.47% | 5.54% | 10.50% | 16.33% | 0.0764% |
| AmerisourceBergen Corp | ABC | 18,995.92 | 0.07% | 1.84% | 8.00% | 9.91% | 0.0070% |
| ABIOMED Inc | ABMD | 8,344.79 | 0.03% | 0.00% | 12.50% | 12.50% | 0.0039% |
| Abbott Laboratories | ABT | 160,452.00 | 0.60% | 1.59% | 10.00% | 11.67% | 0.0695% |
| Accenture PLC | ACN | 133,905.90 | 0.50% | 1.52% | 9.00% | 10.59% | 0.0526% |
| Adobe Inc | ADBE | 170,569.50 | 0.63% | 0.00% | 21.00% | 21.00% | 0.1329% |
| Analog Devices Inc | ADI | 44,512.98 | 0.17% | 1.79% | 9.00% | 10.87% | 0.0180% |
| Archer-Daniels-Midland Co | ADM | 25,048.29 | 0.09% | 3.29% | 9.50% | 12.95% | 0.0120% |
| Automatic Data Processing Inc | ADP | 77,071.52 | 0.29% | 2.05% | 13.50% | 15.69% | 0.0449% |
| Alliance Data Systems Corp | ADS | 5,153.98 | 0.02% | 2.25% | 9.00% | 11.35% | 0.0022% |
| Autodesk Inc | ADSK | 43,698.55 | N/A | 0.00% | N/A | N/A | N/A |
| Ameren Corp | AEE | 19,753.80 | 0.07% | 2.50% | 6.50% | 9.08% | 0.0067% |
| American Electric Power Co Inc | AEP | 49,872.72 | 0.19% | 2.81% | 4.00% | 6.87% | 0.0127% |
| AES Corp/VA | AES | 13,649.64 | N/A | 2.77% | N/A | N/A | N/A |
| Aflac Inc | AFL | 38,638.43 | 0.14% | 2.13% | 8.00% | 10.22% | 0.0146% |
| Allergan PLC | AGN | 62,535.86 | 0.23% | 1.55% | 3.00% | 4.57% | 0.0106% |
| American International Group Inc | AIG | 44,898.07 | N/A | 2.48% | N/A | N/A | N/A |
| Apartment Investment & Management Co | AIV | 8,211.35 | 0.03% | 2.90% | -3.00% | -0.14% | 0.0000% |
| Assurant Inc | AIZ | 7,918.72 | 0.03% | 1.93% | 8.50% | 10.51% | 0.0031% |
| Arthur J Gallagher & Co | AJG | 18,088.64 | 0.07% | 1.77% | 14.50% | 16.40% | 0.0110% |
| Akamai Technologies Inc | AKAM | 15,590.49 | 0.06% | 0.00% | 18.00% | 18.00% | 0.0104% |
| Albemarle Corp | ALB | 8,683.94 | 0.03% | 1.80% | 5.50% | 7.35% | 0.0024% |
| Align Technology Inc | ALGN | 21,339.90 | 0.08% | 0.00% | 25.00% | 25.00% | 0.0198% |
| Alaska Air Group Inc | ALK | 8,281.82 | 0.03% | 2.08% | 6.00% | 8.14% | 0.0025% |
| Allstate Corp/The | ALL | 38,398.75 | 0.14% | 1.69% | 10.50% | 12.28% | 0.0175% |
| Allegion PLC | ALLE | 12,073.74 | 0.04% | 0.83% | 9.50% | 10.37% | 0.0046% |
| Alexion Pharmaceuticals Inc | ALXN | 24,022.12 | 0.09% | 0.00% | 42.00% | 42.00% | 0.0374% |
| Applied Materials Inc | AMAT | 58,523.24 | 0.22% | 1.36% | 7.50% | 8.91% | 0.0194% |
| Amcor PLC | AMCR | 17,371.87 | N/A | 4.47% | N/A | N/A | N/A |
| Advanced Micro Devices Inc | AMD | 57,604.94 | 0.21% | 0.00% | 34.00% | 34.00% | 0.0727% |
| AMETEK Inc | AME | 23,037.60 | 0.09% | 0.56% | 15.50% | 16.10% | 0.0138% |
| Amgen Inc | AMGN | 140,130.90 | 0.52% | 2.72% | 7.50% | 10.32% | 0.0537% |
| Ameriprise Financial Inc | AMP | 21,834.67 | 0.08% | 2.26% | 12.50% | 14.90% | 0.0121% |
| American Tower Corp | AMT | 105,319.40 | 0.39% | 1.86% | 7.50% | 9.43% | 0.0369% |
| Amazon.com Inc | AMZN | 932,867.10 | 3.46% | 0.00% | 39.00% | 39.00% | 1.3503% |
| Arista Networks Inc | ANET | 17,569.22 | 0.07% | 0.00% | 12.00% | 12.00% | 0.0078% |
| ANSYS Inc | ANSS | 23,373.19 | 0.09% | 0.00% | 12.00% | 12.00% | 0.0104% |
| Anthem Inc | ANTM | 77,250.64 | 0.29% | 1.05% | 18.50% | 19.65% | 0.0563% |
| Aon PLC | AON | 49,886.71 | 0.19% | 0.83% | 11.00% | 11.88% | 0.0220% |
| AO Smith Corp | AOS | 7,618.96 | 0.03% | 2.06% | 6.50% | 8.63% | 0.0024% |
| Apache Corp | APA | 11,382.19 | 0.04% | 3.30% | 46.00% | 50.06% | 0.0211% |
| Air Products & Chemicals Inc | APD | 52,288.04 | 0.19% | 2.26% | 10.50% | 12.88% | 0.0250% |
| Amphenol Corp | APH | 31,604.25 | 0.12% | 0.94% | 9.50% | 10.48% | 0.0123% |
| Aptiv PLC | APTV | 23,604.63 | 0.09% | 0.95% | 11.00% | 12.00% | 0.0105% |
| Alexandria Real Estate Equities Inc | ARE | 18,362.49 | N/A | 2.50% | N/A | N/A | N/A |
| Arconic Inc | ARNC | 12,784.75 | N/A | 0.27% | N/A | N/A | N/A |
| Atmos Energy Corp | ATO | 13,814.75 | 0.05% | 1.99% | 7.50% | 9.56% | 0.0049% |
| Activision Blizzard Inc | ATVI | 46,187.41 | 0.17% | 0.67% | 9.00% | 9.70% | 0.0166% |
| AvalonBay Communities Inc | AVB | 30,262.61 | 0.11% | 2.93% | 2.50% | 5.47% | 0.0061% |
| Broadcom Inc | AVGO | 127,220.70 | 0.47% | 4.07% | 33.50% | 38.25% | 0.1806% |
| Avery Dennison Corp | AVY | 10,934.59 | 0.04% | 1.91% | 11.00% | 13.02% | 0.0053% |
| American Water Works Co Inc | AWK | 24,456.38 | 0.09% | 1.51% | 9.50% | 11.08% | 0.0101% |
| American Express Co | AXP | 107,854.80 | 0.40% | 1.31% | 10.00% | 11.38% | 0.0455% |
| AutoZone Inc | AZO | 27,581.73 | 0.10% | 0.00% | 13.50% | 13.50% | 0.0138% |
| Boeing Co/The | BA | 178,848.70 | 0.66% | 2.59% | 12.00% | 14.75% | 0.0979% |
| Bank of America Corp | BAC | 309,784.60 | 1.15% | 2.23% | 10.50% | 12.85% | 0.1477% |
| Baxter International Inc | BAX | 46,480.95 | 0.17% | 0.97% | 10.50% | 11.52% | 0.0199% |
| Best Buy Co Inc | BBY | 23,353.20 | 0.09% | 2.45% | 10.50% | 13.08% | 0.0113% |
| Becton Dickinson and Co | BDX | 75,376.11 | 0.28% | 1.13% | 9.50% | 10.68% | 0.0299% |
| Franklin Resources Inc | BEN | 12,822.10 | 0.05% | 4.52% | 7.50% | 12.19% | 0.0058% |
| Brown-Forman Corp | BF/B | 34,355.11 | 0.13% | 0.97% | 14.50% | 15.54% | 0.0198% |
| Biogen Inc | BIIB | 51,697.80 | 0.19% | 0.00% | 8.00% | 8.00% | 0.0154% |
| Bank of New York Mellon Corp/The | BK | 43,361.79 | 0.16% | 2.64% | 7.00% | 9.73% | 0.0157% |
| Booking Holdings Inc | BKNG | 83,883.82 | 0.31% | 0.00% | 12.00% | 12.00% | 0.0374% |
| Baker Hughes Co | BKR | 14,901.04 | N/A | 3.14% | N/A | N/A | N/A |
| BlackRock Inc | BLK | 83,648.43 | 0.31% | 2.44% | 9.00% | 11.55% | 0.0359% |
| Ball Corp | BLL | 23,659.31 | 0.09% | 0.84% | 25.00% | 25.95% | 0.0228% |
| Bristol-Myers Squibb Co | BMY | 108,950.30 | 0.40% | 2.69% | 9.00% | 11.81% | 0.0478% |
| Broadridge Financial Solutions Inc | BR | 15,042.40 | 0.06% | 1.65% | 11.00% | 12.74% | 0.0071% |
| Berkshire Hathaway Inc | BRK/B | - | N/A | 0.00% | N/A | N/A | N/A |
| Boston Scientific Corp | BSX | 60,726.82 | 0.23% | 0.00% | 15.50% | 15.50% | 0.0349% |
| BorgWarner Inc | BWA | 8,375.36 | 0.03% | 1.68% | 4.50% | 6.22% | 0.0019% |
| Boston Properties Inc | BXP | 21,954.66 | 0.08% | 2.78% | 5.00% | 7.85% | 0.0064% |
| Citigroup Inc | C | 174,218.90 | 0.65% | 2.63% | 10.00% | 12.76% | 0.0825% |

| | | [4] | [5] | [6] | [7] | [8] | [9] |
|---|---|---|---|---|---|---|---|
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| Conagra Brands Inc | CAG | 15,913.95 | 0.06% | 2.66% | 5.50% | 8.23% | 0.0049% |
| Cardinal Health Inc | CAH | 16,076.91 | 0.06% | 3.50% | 10.50% | 14.18% | 0.0085% |
| Caterpillar Inc | CAT | 78,891.93 | 0.29% | 2.89% | 12.00% | 15.06% | 0.0441% |
| Chubb Ltd | CB | 68,977.98 | 0.26% | 1.97% | 10.00% | 12.07% | 0.0309% |
| Cboe Global Markets Inc | CBOE | 13,308.32 | 0.05% | 1.20% | 14.50% | 15.79% | 0.0078% |
| CBRE Group Inc | CBRE | 20,427.33 | 0.08% | 0.00% | 11.00% | 11.00% | 0.0083% |
| Crown Castle International Corp | CCI | 62,308.48 | 0.23% | 3.21% | 12.50% | 15.91% | 0.0368% |
| Carnival Corp | CCL | 26,062.87 | 0.10% | 4.04% | 10.00% | 14.24% | 0.0138% |
| Cadence Design Systems Inc | CDNS | 21,162.32 | 0.08% | 0.00% | 12.50% | 12.50% | 0.0098% |
| CDW Corp/DE | CDW | 19,963.25 | 0.07% | 1.10% | 10.50% | 11.66% | 0.0086% |
| Celanese Corp | CE | 14,023.67 | 0.05% | 2.35% | 8.50% | 10.95% | 0.0057% |
| Cerner Corp | CERN | 23,757.31 | 0.09% | 0.95% | 9.00% | 9.99% | 0.0088% |
| CF Industries Holdings Inc | CF | 9,258.24 | N/A | 3.06% | N/A | N/A | N/A |
| Citizens Financial Group Inc | CFG | 17,694.37 | 0.07% | 3.91% | 9.50% | 13.60% | 0.0089% |
| Church & Dwight Co Inc | CHD | 17,411.11 | 0.06% | 1.28% | 9.00% | 10.34% | 0.0067% |
| CH Robinson Worldwide Inc | CHRW | 10,785.13 | 0.04% | 2.56% | 9.00% | 11.68% | 0.0047% |
| Charter Communications Inc | CHTR | 110,212.20 | 0.41% | 0.00% | 17.50% | 17.50% | 0.0716% |
| Cigna Corp | CI | 79,427.50 | 0.29% | 0.02% | 14.50% | 14.52% | 0.0428% |
| Cincinnati Financial Corp | CINF | 17,317.13 | 0.06% | 2.11% | 9.50% | 11.71% | 0.0075% |
| Colgate-Palmolive Co | CL | 60,515.88 | 0.22% | 2.44% | 5.50% | 8.01% | 0.0180% |
| Clorox Co/The | CLX | 19,962.49 | 0.07% | 2.67% | 3.50% | 6.22% | 0.0046% |
| Comerica Inc | CMA | 9,511.54 | 0.04% | 4.06% | 9.50% | 13.75% | 0.0049% |
| Comcast Corp | CMCSA | 207,673.30 | 0.77% | 1.84% | 13.50% | 15.46% | 0.1192% |
| CME Group Inc | CME | 74,435.38 | 0.28% | 1.44% | 3.00% | 4.46% | 0.0123% |
| Chipotle Mexican Grill Inc | CMG | 24,460.43 | 0.09% | 0.00% | 26.50% | 26.50% | 0.0241% |
| Cummins Inc | CMI | 26,298.31 | 0.10% | 3.05% | 8.00% | 11.17% | 0.0109% |
| CMS Energy Corp | CMS | 19,012.26 | 0.07% | 2.43% | 7.00% | 9.52% | 0.0067% |
| Centene Corp | CNC | 28,545.75 | 0.11% | 0.00% | 15.50% | 15.50% | 0.0164% |
| CenterPoint Energy Inc | CNP | 13,525.19 | 0.05% | 4.42% | 10.50% | 15.15% | 0.0076% |
| Capital One Financial Corp | COF | 49,380.40 | 0.18% | 1.51% | 6.00% | 7.56% | 0.0138% |
| Cabot Oil & Gas Corp | COG | 6,212.68 | 0.02% | 2.63% | 46.50% | 49.74% | 0.0115% |
| Cooper Cos Inc/The | COO | 17,635.80 | 0.07% | 0.02% | 14.50% | 14.52% | 0.0095% |
| ConocoPhillips | COP | 69,281.56 | 0.26% | 2.66% | 37.00% | 40.15% | 0.1032% |
| Costco Wholesale Corp | COST | 138,223.50 | 0.51% | 0.92% | 11.00% | 11.97% | 0.0614% |
| Coty Inc | COTY | 8,107.47 | 0.03% | 4.67% | 5.00% | 9.79% | 0.0029% |
| Campbell Soup Co | CPB | 15,814.08 | 0.06% | 2.86% | 2.00% | 4.89% | 0.0029% |
| Capri Holdings Ltd | CPRI | 5,534.61 | 0.02% | 0.00% | 10.50% | 10.50% | 0.0022% |
| Copart Inc | CPRT | 23,220.15 | 0.09% | 0.00% | 16.00% | 16.00% | 0.0138% |
| salesforce.com Inc | CRM | 163,006.30 | 0.61% | 0.00% | 30.00% | 30.00% | 0.1815% |
| Cisco Systems Inc | CSCO | 207,809.00 | 0.77% | 2.86% | 7.50% | 10.47% | 0.0807% |
| CSX Corp | CSX | 59,958.31 | 0.22% | 1.25% | 14.50% | 15.84% | 0.0353% |
| Cintas Corp | CTAS | 29,661.13 | 0.11% | 0.89% | 15.50% | 16.46% | 0.0181% |
| CenturyLink Inc | CTL | 16,191.34 | 0.06% | 6.73% | 1.00% | 7.76% | 0.0047% |
| Cognizant Technology Solutions Corp | CTSH | 34,402.50 | 0.13% | 1.28% | 6.00% | 7.32% | 0.0093% |
| Corteva Inc | CTVA | 21,291.70 | N/A | 2.11% | N/A | N/A | N/A |
| Citrix Systems Inc | CTXS | 16,688.01 | 0.06% | 1.09% | 7.00% | 8.13% | 0.0050% |
| CVS Health Corp | CVS | 95,662.53 | 0.36% | 2.72% | 6.50% | 9.31% | 0.0331% |
| Chevron Corp | CVX | 213,857.60 | 0.79% | 4.29% | 16.50% | 21.14% | 0.1678% |
| Concho Resources Inc | CXO | 16,921.87 | 0.06% | 0.59% | 21.00% | 21.65% | 0.0136% |
| Dominion Energy Inc | D | 69,189.62 | 0.26% | 4.47% | 6.50% | 11.12% | 0.0285% |
| Delta Air Lines Inc | DAL | 38,979.20 | 0.14% | 2.87% | 10.00% | 13.01% | 0.0188% |
| DuPont de Nemours Inc | DD | 43,566.10 | N/A | 2.15% | N/A | N/A | N/A |
| Deere & Co | DE | 54,177.05 | 0.20% | 1.77% | 13.50% | 15.39% | 0.0309% |
| Discover Financial Services | DFS | 27,041.12 | 0.10% | 2.05% | 7.50% | 9.63% | 0.0097% |
| Dollar General Corp | DG | 39,498.65 | 0.15% | 0.83% | 12.00% | 12.88% | 0.0189% |
| Quest Diagnostics Inc | DGX | 14,578.65 | 0.05% | 1.96% | 9.00% | 11.05% | 0.0060% |
| DR Horton Inc | DHI | 21,733.74 | 0.08% | 1.19% | 7.00% | 8.23% | 0.0066% |
| Danaher Corp | DHR | 116,693.10 | 0.43% | 0.42% | 13.50% | 13.95% | 0.0604% |
| Walt Disney Co/The | DIS | 256,244.40 | 0.95% | 1.24% | 7.50% | 8.79% | 0.0836% |
| Discovery Inc | DISCA | 16,047.15 | 0.06% | 0.00% | 18.00% | 18.00% | 0.0107% |
| DISH Network Corp | DISH | 18,188.91 | 0.07% | 0.00% | -2.00% | -2.00% | -0.0014% |
| Digital Realty Trust Inc | DLR | 26,238.81 | 0.10% | 3.62% | 7.00% | 10.75% | 0.0105% |
| Dollar Tree Inc | DLTR | 20,815.40 | 0.08% | 0.00% | 10.00% | 10.00% | 0.0077% |
| Dover Corp | DOV | 17,235.81 | 0.06% | 1.65% | 12.50% | 14.25% | 0.0091% |
| Dow Inc | DOW | 37,260.18 | N/A | 5.97% | N/A | N/A | N/A |
| Duke Realty Corp | DRE | 12,904.28 | 0.05% | 2.67% | 4.50% | 7.23% | 0.0035% |
| Darden Restaurants Inc | DRI | 14,292.01 | 0.05% | 3.03% | 11.00% | 14.20% | 0.0075% |
| DTE Energy Co | DTE | 24,556.86 | 0.09% | 3.03% | 4.50% | 7.60% | 0.0069% |
| Duke Energy Corp | DUK | 70,042.32 | 0.26% | 3.98% | 6.00% | 10.10% | 0.0263% |
| DaVita Inc | DVA | 10,778.07 | 0.04% | 0.00% | 11.50% | 11.50% | 0.0046% |
| Devon Energy Corp | DVN | 9,435.48 | 0.04% | 1.48% | 18.00% | 19.61% | 0.0069% |
| DXC Technology Co | DXC | 9,089.42 | 0.03% | 2.36% | 10.00% | 12.48% | 0.0042% |
| Electronic Arts Inc | EA | 33,249.64 | 0.12% | 0.00% | 11.00% | 11.00% | 0.0136% |
| eBay Inc | EBAY | 29,164.59 | 0.11% | 1.66% | 10.00% | 11.74% | 0.0127% |
| Ecolab Inc | ECL | 57,150.05 | 0.21% | 0.95% | 10.00% | 11.00% | 0.0233% |
| Consolidated Edison Inc | ED | 30,799.64 | 0.11% | 3.30% | 3.00% | 6.35% | 0.0073% |
| Equifax Inc | EFX | 18,764.45 | 0.07% | 1.01% | 8.50% | 9.55% | 0.0067% |
| Edison International | EIX | 27,853.65 | 0.10% | 3.32% | 14.00% | 17.55% | 0.0181% |
| Estee Lauder Cos Inc/The | EL | 75,339.83 | 0.28% | 0.92% | 14.00% | 14.98% | 0.0419% |
| Eastman Chemical Co | EMN | 10,066.83 | 0.04% | 3.57% | 5.00% | 8.66% | 0.0032% |
| Emerson Electric Co | EMR | 47,407.49 | 0.18% | 2.58% | 11.00% | 13.72% | 0.0241% |
| EOG Resources Inc | EOG | 47,606.81 | 0.18% | 1.41% | 31.50% | 33.13% | 0.0585% |
| Equinix Inc | EQIX | 50,827.14 | 0.19% | 1.77% | 23.50% | 25.48% | 0.0481% |
| Equity Residential | EQR | 30,690.17 | 0.11% | 2.83% | -13.50% | -10.86% | -0.0124% |
| Eversource Energy | ES | 29,537.40 | 0.11% | 2.44% | 5.50% | 8.01% | 0.0088% |
| Essex Property Trust Inc | ESS | 20,591.28 | 0.08% | 2.61% | -0.50% | 2.10% | 0.0016% |
| E*TRADE Financial Corp | ETFC | 10,448.45 | 0.04% | 1.22% | 17.50% | 18.83% | 0.0073% |
| Eaton Corp PLC | ETN | 40,471.86 | 0.15% | 2.90% | 7.00% | 10.00% | 0.0150% |
| Entergy Corp | ETR | 25,871.36 | 0.10% | 2.88% | 2.00% | 4.91% | 0.0047% |
| Evergy Inc | EVRG | 15,998.72 | N/A | 2.92% | N/A | N/A | N/A |
| Edwards Lifesciences Corp | EW | 48,219.79 | 0.18% | 0.00% | 16.50% | 16.50% | 0.0295% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Exelon Corp | EXC | 46,607.40 | 0.17% | 3.17% | 9.00% | 12.31% | 0.0213% |
| Expeditors International of Washington I | EXPD | 12,592.88 | 0.05% | 1.35% | 9.00% | 10.41% | 0.0049% |
| Expedia Group Inc | EXPE | 16,546.58 | 0.06% | 1.20% | 24.00% | 25.34% | 0.0156% |
| Extra Space Storage Inc | EXR | 14,052.62 | 0.05% | 3.37% | 4.00% | 7.44% | 0.0039% |
| Ford Motor Co | F | 35,591.57 | 0.13% | 6.57% | 3.50% | 10.18% | 0.0135% |
| Diamondback Energy Inc | FANG | 13,648.73 | 0.05% | 0.89% | 17.00% | 17.97% | 0.0091% |
| Fastenal Co | FAST | 20,681.35 | 0.08% | 2.77% | 8.50% | 11.39% | 0.0087% |
| Facebook Inc | FB | 627,195.10 | 2.33% | 0.00% | 17.50% | 17.50% | 0.4074% |
| Fortune Brands Home & Security Inc | FBHS | 9,818.49 | 0.04% | 1.36% | 8.50% | 9.92% | 0.0036% |
| Freeport-McMoRan Inc | FCX | 17,368.47 | 0.06% | 1.67% | 22.50% | 24.36% | 0.0157% |
| FedEx Corp | FDX | 40,442.11 | 0.15% | 1.68% | 6.00% | 7.73% | 0.0116% |
| FirstEnergy Corp | FE | 27,204.71 | 0.10% | 3.18% | 6.50% | 9.78% | 0.0099% |
| F5 Networks Inc | FFIV | 8,086.76 | 0.03% | 0.00% | 12.50% | 12.50% | 0.0038% |
| Fidelity National Information Services I | FIS | 91,492.15 | 0.34% | 0.94% | 23.50% | 24.55% | 0.0834% |
| Fiserv Inc | FISV | 83,214.18 | 0.31% | 0.00% | 15.00% | 15.00% | 0.0463% |
| Fifth Third Bancorp | FITB | 21,097.60 | 0.08% | 3.41% | 7.00% | 10.53% | 0.0082% |
| FLIR Systems Inc | FLIR | 7,362.04 | 0.03% | 1.31% | 12.00% | 13.39% | 0.0037% |
| Flowserve Corp | FLS | 6,418.03 | 0.02% | 1.55% | 13.50% | 15.15% | 0.0036% |
| FleetCor Technologies Inc | FLT | 27,480.38 | 0.10% | 0.00% | 16.50% | 16.50% | 0.0168% |
| FMC Corp | FMC | 12,550.62 | 0.05% | 1.82% | 15.00% | 16.96% | 0.0079% |
| Fox Corp | FOXA | 23,268.13 | N/A | 1.23% | N/A | N/A | N/A |
| First Republic Bank/CA | FRC | 19,525.04 | 0.07% | 0.66% | 10.50% | 11.19% | 0.0081% |
| Federal Realty Investment Trust | FRT | 9,731.95 | 0.04% | 3.22% | 3.00% | 6.27% | 0.0023% |
| TechnipFMC PLC | FTI | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Fortinet Inc | FTNT | 20,396.69 | 0.08% | 0.00% | 28.00% | 28.00% | 0.0212% |
| Fortive Corp | FTV | 26,046.96 | 0.10% | 0.36% | 10.00% | 10.38% | 0.0100% |
| General Dynamics Corp | GD | 53,411.67 | 0.20% | 2.21% | 6.00% | 8.28% | 0.0164% |
| General Electric Co | GE | 102,793.90 | 0.38% | 0.34% | 2.00% | 2.34% | 0.0089% |
| Gilead Sciences Inc | GILD | 80,948.05 | 0.30% | 3.94% | -1.50% | 2.41% | 0.0072% |
| General Mills Inc | GIS | 32,793.50 | 0.12% | 3.61% | 4.50% | 8.19% | 0.0100% |
| Globe Life Inc | GL | 11,361.68 | 0.04% | 0.66% | 9.50% | 10.19% | 0.0043% |
| Corning Inc | GLW | 22,694.40 | 0.08% | 2.71% | 14.50% | 17.41% | 0.0147% |
| General Motors Co | GM | 48,832.00 | 0.18% | 4.47% | 2.00% | 6.51% | 0.0118% |
| Alphabet Inc | GOOGL | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Genuine Parts Co | GPC | 14,554.00 | 0.05% | 3.05% | 8.00% | 11.17% | 0.0060% |
| Global Payments Inc | GPN | 60,042.88 | 0.22% | 0.39% | 20.50% | 20.93% | 0.0466% |
| Gap Inc/The | GPS | 6,643.13 | 0.02% | 5.45% | 3.00% | 8.53% | 0.0021% |
| Garmin Ltd | GRMN | 19,116.76 | 0.07% | 2.27% | 10.50% | 12.89% | 0.0091% |
| Goldman Sachs Group Inc/The | GS | 87,797.05 | 0.33% | 2.04% | 10.00% | 12.14% | 0.0396% |
| WW Grainger Inc | GWW | 17,912.60 | 0.07% | 1.73% | 8.50% | 10.30% | 0.0069% |
| Halliburton Co | HAL | 20,656.08 | 0.08% | 3.05% | 19.50% | 22.85% | 0.0175% |
| Hasbro Inc | HAS | 13,317.17 | 0.05% | 2.58% | 9.50% | 12.20% | 0.0060% |
| Huntington Bancshares Inc/OH | HBAN | 14,737.41 | 0.05% | 4.35% | 10.50% | 15.08% | 0.0082% |
| Hanesbrands Inc | HBI | 5,221.68 | 0.02% | 4.16% | 3.00% | 7.22% | 0.0014% |
| HCA Healthcare Inc | HCA | 49,882.38 | 0.19% | 1.09% | 12.50% | 13.66% | 0.0253% |
| Home Depot Inc/The | HD | 254,678.50 | 0.95% | 2.74% | 9.00% | 11.86% | 0.1121% |
| Hess Corp | HES | 20,134.04 | N/A | 1.50% | N/A | N/A | N/A |
| HollyFrontier Corp | HFC | 7,478.07 | 0.03% | 3.03% | 17.00% | 20.29% | 0.0056% |
| Hartford Financial Services Group Inc/Th | HIG | 21,229.41 | 0.08% | 2.07% | 12.50% | 14.70% | 0.0116% |
| Huntington Ingalls Industries Inc | HII | 11,361.10 | 0.04% | 1.49% | 7.00% | 8.54% | 0.0036% |
| Hilton Worldwide Holdings Inc | HLT | 31,436.08 | 0.12% | 0.54% | 17.00% | 17.59% | 0.0205% |
| Harley-Davidson Inc | HOG | 5,438.79 | 0.02% | 4.26% | 8.50% | 12.94% | 0.0026% |
| Hologic Inc | HOLX | 14,372.74 | 0.05% | 0.00% | 12.00% | 12.00% | 0.0064% |
| Honeywell International Inc | HON | 128,315.80 | 0.48% | 2.01% | 8.50% | 10.60% | 0.0505% |
| Helmerich & Payne Inc | HP | 4,670.60 | N/A | 6.65% | N/A | N/A | N/A |
| Hewlett Packard Enterprise Co | HPE | 19,622.63 | 0.07% | 3.17% | 8.00% | 11.30% | 0.0082% |
| HP Inc | HPQ | 32,221.80 | 0.12% | 3.17% | 7.00% | 10.28% | 0.0123% |
| H&R Block Inc | HRB | 4,756.19 | 0.02% | 4.35% | 7.00% | 11.50% | 0.0020% |
| Hormel Foods Corp | HRL | 25,115.59 | 0.09% | 1.98% | 10.50% | 12.58% | 0.0117% |
| Henry Schein Inc | HSIC | 10,384.11 | 0.04% | 0.00% | 7.00% | 7.00% | 0.0027% |
| Host Hotels & Resorts Inc | HST | 12,919.98 | 0.05% | 4.76% | -1.50% | 3.22% | 0.0015% |
| Hershey Co/The | HSY | 32,184.31 | 0.12% | 2.08% | 7.00% | 9.15% | 0.0109% |
| Humana Inc | HUM | 49,301.45 | 0.18% | 0.63% | 12.00% | 12.67% | 0.0232% |
| International Business Machines Corp | IBM | 126,531.00 | 0.47% | 4.60% | 1.00% | 5.62% | 0.0264% |
| Intercontinental Exchange Inc | ICE | 54,293.40 | 0.20% | 1.13% | 10.50% | 11.69% | 0.0236% |
| IDEXX Laboratories Inc | IDXX | 24,555.38 | 0.09% | 0.00% | 13.00% | 13.00% | 0.0118% |
| IDEX Corp | IEX | 13,210.67 | 0.05% | 1.15% | 9.50% | 10.70% | 0.0052% |
| International Flavors & Fragrances Inc | IFF | 14,526.87 | 0.05% | 2.27% | 8.00% | 10.36% | 0.0056% |
| Illumina Inc | ILMN | 48,069.00 | 0.18% | 0.00% | 14.00% | 14.00% | 0.0250% |
| Incyte Corp | INCY | 16,850.86 | N/A | 0.00% | N/A | N/A | N/A |
| IHS Markit Ltd | INFO | 31,667.68 | 0.12% | 0.84% | 18.00% | 18.92% | 0.0222% |
| Intel Corp | INTC | 275,442.00 | 1.02% | 1.99% | 10.50% | 12.59% | 0.1288% |
| Intuit Inc | INTU | 75,133.25 | 0.28% | 0.74% | 14.50% | 15.29% | 0.0426% |
| International Paper Co | IP | 17,511.19 | 0.06% | 4.59% | 9.00% | 13.80% | 0.0090% |
| Interpublic Group of Cos Inc/The | IPG | 9,107.63 | 0.03% | 3.99% | 11.00% | 15.21% | 0.0051% |
| IPG Photonics Corp | IPGP | 7,787.81 | 0.03% | 0.00% | 8.00% | 8.00% | 0.0023% |
| IQVIA Holdings Inc | IQV | 31,216.54 | 0.12% | 0.00% | 12.50% | 12.50% | 0.0145% |
| Ingersoll-Rand PLC | IR | 31,696.29 | 0.12% | 1.60% | 12.50% | 14.20% | 0.0167% |
| Iron Mountain Inc | IRM | 9,162.48 | 0.03% | 7.77% | 8.50% | 16.60% | 0.0056% |
| Intuitive Surgical Inc | ISRG | 71,094.00 | 0.26% | 0.00% | 14.00% | 14.00% | 0.0369% |
| Gartner Inc | IT | 14,430.12 | 0.05% | 0.00% | 13.50% | 13.50% | 0.0072% |
| Illinois Tool Works Inc | ITW | 57,723.44 | 0.21% | 2.38% | 9.50% | 11.99% | 0.0257% |
| Invesco Ltd | IVZ | 8,383.42 | 0.03% | 6.71% | 3.50% | 10.33% | 0.0032% |
| Jacobs Engineering Group Inc | J | 13,049.66 | 0.05% | 0.79% | 14.50% | 15.35% | 0.0074% |
| JB Hunt Transport Services Inc | JBHT | 12,416.34 | 0.05% | 0.94% | 9.50% | 10.48% | 0.0048% |
| Johnson Controls International plc | JCI | 32,466.09 | 0.12% | 2.49% | 8.00% | 10.59% | 0.0128% |
| Jack Henry & Associates Inc | JKHY | 11,724.60 | 0.04% | 1.05% | 12.00% | 13.11% | 0.0057% |
| Johnson & Johnson | JNJ | 390,776.60 | 1.45% | 2.56% | 12.00% | 14.71% | 0.2134% |
| Juniper Networks Inc | JNPR | 8,351.09 | 0.03% | 3.19% | 5.50% | 8.78% | 0.0027% |
| JPMorgan Chase & Co | JPM | 428,255.70 | 1.59% | 2.71% | 8.50% | 11.33% | 0.1800% |
| Nordstrom Inc | JWN | 6,105.57 | 0.02% | 3.76% | 5.00% | 8.85% | 0.0020% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Kellogg Co | K | 24,026.66 | 0.09% | 3.29% | 3.50% | 6.85% | 0.0061% |
| KeyCorp | KEY | 19,602.71 | 0.07% | 3.78% | 10.50% | 14.48% | 0.0105% |
| Keysight Technologies Inc | KEYS | 19,561.25 | 0.07% | 0.00% | 21.50% | 21.50% | 0.0156% |
| Kraft Heinz Co/The | KHC | 37,460.28 | N/A | 5.22% | N/A | N/A | N/A |
| Kimco Realty Corp | KIM | 8,617.41 | 0.03% | 5.53% | 5.00% | 10.67% | 0.0034% |
| KLA Corp | KLAC | 28,805.29 | 0.11% | 1.86% | 11.00% | 12.96% | 0.0139% |
| Kimberly-Clark Corp | KMB | 49,629.41 | 0.18% | 2.85% | 7.50% | 10.46% | 0.0193% |
| Kinder Morgan Inc/DE | KMI | 49,284.39 | 0.18% | 4.60% | 35.50% | 40.92% | 0.0748% |
| CarMax Inc | KMX | 16,069.93 | 0.06% | 0.00% | 10.50% | 10.50% | 0.0063% |
| Coca-Cola Co/The | KO | 247,743.70 | 0.92% | 2.87% | 6.50% | 9.46% | 0.0870% |
| Kroger Co/The | KR | 22,808.88 | 0.08% | 2.39% | 4.00% | 6.44% | 0.0055% |
| Kohl's Corp | KSS | 7,256.54 | 0.03% | 6.40% | 6.50% | 13.11% | 0.0035% |
| Kansas City Southern | KSU | 16,524.78 | 0.06% | 0.96% | 12.00% | 13.02% | 0.0080% |
| Loews Corp | L | 15,398.17 | 0.06% | 0.49% | 14.00% | 14.52% | 0.0083% |
| L Brands Inc | LB | 5,796.00 | 0.02% | 5.71% | -2.50% | 3.14% | 0.0007% |
| Leidos Holdings Inc | LDOS | 14,470.83 | 0.05% | 1.33% | 9.00% | 10.39% | 0.0056% |
| Leggett & Platt Inc | LEG | 6,752.55 | 0.03% | 3.12% | 9.00% | 12.26% | 0.0031% |
| Lennar Corp | LEN | 21,366.23 | 0.08% | 0.74% | 8.50% | 9.27% | 0.0074% |
| Laboratory Corp of America Holdings | LH | 17,509.60 | 0.06% | 0.00% | 8.00% | 8.00% | 0.0052% |
| L3Harris Technologies Inc | LHX | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Linde PLC | LIN | 112,745.60 | N/A | 1.81% | N/A | N/A | N/A |
| LKQ Corp | LKQ | 10,524.91 | 0.04% | 0.00% | 10.00% | 10.00% | 0.0039% |
| Eli Lilly & Co | LLY | 135,568.10 | 0.50% | 2.10% | 12.00% | 14.23% | 0.0716% |
| Lockheed Martin Corp | LMT | 120,946.40 | 0.45% | 2.24% | 12.50% | 14.88% | 0.0668% |
| Lincoln National Corp | LNC | 11,568.41 | 0.04% | 2.79% | 9.00% | 11.92% | 0.0051% |
| Alliant Energy Corp | LNT | 14,050.45 | 0.05% | 2.60% | 6.50% | 9.18% | 0.0048% |
| Lowe's Cos Inc | LOW | 94,241.28 | 0.35% | 1.92% | 11.50% | 13.53% | 0.0473% |
| Lam Research Corp | LRCX | 45,260.59 | 0.17% | 1.47% | 9.00% | 10.54% | 0.0177% |
| Southwest Airlines Co | LUV | 29,155.69 | 0.11% | 1.30% | 10.50% | 11.87% | 0.0128% |
| Las Vegas Sands Corp | LVS | 53,337.60 | 0.20% | 4.55% | 7.50% | 12.22% | 0.0242% |
| Lamb Weston Holdings Inc | LW | 13,270.21 | 0.05% | 1.01% | 11.00% | 12.07% | 0.0059% |
| LyondellBasell Industries NV | LYB | 28,753.11 | 0.11% | 4.87% | 5.50% | 10.50% | 0.0112% |
| Live Nation Entertainment Inc | LYV | 15,889.79 | N/A | 0.00% | N/A | N/A | N/A |
| Macy's Inc | M | 5,274.03 | 0.02% | 8.85% | 2.00% | 10.94% | 0.0021% |
| Mastercard Inc | MA | 328,229.80 | 1.22% | 0.49% | 16.00% | 16.53% | 0.2014% |
| Mid-America Apartment Communities Inc | MAA | 15,529.46 | 0.06% | 2.93% | 1.00% | 3.94% | 0.0023% |
| Marriott International Inc/MD | MAR | 47,387.42 | 0.18% | 1.33% | 11.50% | 12.91% | 0.0227% |
| Masco Corp | MAS | 14,134.87 | 0.05% | 1.09% | 9.50% | 10.64% | 0.0056% |
| McDonald's Corp | MCD | 160,726.60 | 0.60% | 2.34% | 8.50% | 10.94% | 0.0653% |
| Microchip Technology Inc | MCHP | 26,326.01 | 0.10% | 1.33% | 9.50% | 10.89% | 0.0106% |
| McKesson Corp | MCK | 27,948.96 | 0.10% | 1.06% | 10.50% | 11.62% | 0.0120% |
| Moody's Corp | MCO | 48,526.00 | 0.18% | 0.78% | 11.50% | 12.32% | 0.0222% |
| Mondelez International Inc | MDLZ | 79,871.08 | 0.30% | 2.13% | 8.50% | 10.72% | 0.0318% |
| Medtronic PLC | MDT | 162,145.30 | 0.60% | 1.79% | 8.50% | 10.37% | 0.0624% |
| MetLife Inc | MET | 47,635.39 | 0.18% | 3.40% | 7.50% | 11.03% | 0.0195% |
| MGM Resorts International | MGM | 16,609.70 | 0.06% | 1.61% | 14.00% | 15.72% | 0.0097% |
| Mohawk Industries Inc | MHK | 10,332.03 | 0.04% | 0.00% | 1.50% | 1.50% | 0.0006% |
| McCormick & Co Inc/MD | MKC | 22,963.21 | 0.09% | 1.44% | 8.00% | 9.50% | 0.0081% |
| MarketAxess Holdings Inc | MKTX | 13,876.21 | 0.05% | 0.56% | 14.50% | 15.10% | 0.0078% |
| Martin Marietta Materials Inc | MLM | 16,741.88 | 0.06% | 0.83% | 9.50% | 10.37% | 0.0064% |
| Marsh & McLennan Cos Inc | MMC | 57,685.92 | 0.21% | 1.61% | 9.00% | 10.68% | 0.0229% |
| 3M Co | MMM | 102,209.60 | 0.38% | 3.24% | 6.00% | 9.34% | 0.0354% |
| Monster Beverage Corp | MNST | 36,635.86 | 0.14% | 0.00% | 14.50% | 14.50% | 0.0197% |
| Altria Group Inc | MO | 94,452.40 | 0.35% | 6.65% | 8.50% | 15.43% | 0.0541% |
| Mosaic Co/The | MOS | 7,581.92 | 0.03% | 1.25% | 18.00% | 19.36% | 0.0054% |
| Marathon Petroleum Corp | MPC | 35,964.50 | 0.13% | 3.83% | 11.00% | 15.04% | 0.0201% |
| Merck & Co Inc | MRK | 225,906.70 | 0.84% | 2.76% | 9.00% | 11.88% | 0.0996% |
| Marathon Oil Corp | MRO | 9,788.22 | N/A | 1.64% | N/A | N/A | N/A |
| Morgan Stanley | MS | 90,157.78 | 0.33% | 2.52% | 10.00% | 12.65% | 0.0423% |
| MSCI Inc | MSCI | 23,645.96 | 0.09% | 1.01% | 18.50% | 19.60% | 0.0172% |
| Microsoft Corp | MSFT | 1,272,741.00 | 4.72% | 1.22% | 14.00% | 15.31% | 0.7230% |
| Motorola Solutions Inc | MSI | 30,273.84 | 0.11% | 1.45% | 10.50% | 12.03% | 0.0135% |
| M&T Bank Corp | MTB | 22,532.45 | 0.08% | 2.58% | 9.50% | 12.20% | 0.0102% |
| Mettler-Toledo International Inc | MTD | 20,241.10 | 0.08% | 0.00% | 10.00% | 10.00% | 0.0075% |
| Micron Technology Inc | MU | 65,593.59 | 0.24% | 0.00% | 14.00% | 14.00% | 0.0341% |
| Maxim Integrated Products Inc | MXIM | 17,208.03 | 0.06% | 3.02% | 5.50% | 8.60% | 0.0055% |
| Mylan NV | MYL | 11,427.36 | 0.04% | 0.00% | 3.50% | 3.50% | 0.0015% |
| Noble Energy Inc | NBL | 10,689.96 | N/A | 2.15% | N/A | N/A | N/A |
| Norwegian Cruise Line Holdings Ltd | NCLH | 12,386.77 | 0.05% | 0.00% | 16.00% | 16.00% | 0.0074% |
| Nasdaq Inc | NDAQ | 17,967.70 | 0.07% | 1.72% | 8.00% | 9.79% | 0.0065% |
| NextEra Energy Inc | NEE | 127,120.90 | 0.47% | 2.11% | 10.50% | 12.72% | 0.0600% |
| Newmont Corp | NEM | 35,826.96 | 0.13% | 1.28% | 11.50% | 12.85% | 0.0171% |
| Netflix Inc | NFLX | 153,212.50 | 0.57% | 0.00% | 32.00% | 32.00% | 0.1820% |
| NiSource Inc | NI | 10,900.92 | 0.04% | 2.74% | 12.50% | 15.41% | 0.0062% |
| NIKE Inc | NKE | 160,608.20 | 0.60% | 0.95% | 17.50% | 18.53% | 0.1105% |
| NortonLifeLock Inc | NLOK | 17,693.20 | 0.07% | 1.76% | 7.00% | 8.82% | 0.0058% |
| Nielsen Holdings PLC | NLSN | 7,603.66 | 0.03% | 1.12% | 45.50% | 46.87% | 0.0132% |
| Northrop Grumman Corp | NOC | 64,359.81 | 0.24% | 1.38% | 9.50% | 10.95% | 0.0261% |
| National Oilwell Varco Inc | NOV | 8,766.51 | N/A | 0.88% | N/A | N/A | N/A |
| ServiceNow Inc | NOW | 58,728.59 | N/A | 0.00% | N/A | N/A | N/A |
| NRG Energy Inc | NRG | 9,794.70 | N/A | 3.09% | N/A | N/A | N/A |
| Norfolk Southern Corp | NSC | 54,394.43 | 0.20% | 1.80% | 14.00% | 15.93% | 0.0322% |
| NetApp Inc | NTAP | 13,870.53 | 0.05% | 3.17% | 10.00% | 13.33% | 0.0069% |
| Northern Trust Corp | NTRS | 22,050.56 | 0.08% | 2.69% | 8.50% | 11.30% | 0.0093% |
| Nucor Corp | NUE | 15,639.63 | 0.06% | 3.11% | 13.00% | 16.31% | 0.0095% |
| NVIDIA Corp | NVDA | 154,750.30 | 0.57% | 0.25% | 11.50% | 11.76% | 0.0676% |
| NVR Inc | NVR | 14,896.43 | 0.06% | 0.00% | 13.50% | 13.50% | 0.0075% |
| Newell Brands Inc | NWL | 8,533.73 | 0.03% | 4.56% | 4.00% | 8.65% | 0.0027% |
| News Corp | NWSA | 8,439.55 | N/A | 1.39% | N/A | N/A | N/A |
| Realty Income Corp | O | 23,461.03 | 0.09% | 3.63% | 4.50% | 8.21% | 0.0072% |
| Old Dominion Freight Line Inc | ODFL | 16,405.78 | 0.06% | 0.35% | 9.50% | 9.87% | 0.0060% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| ONEOK Inc | OKE | 31,513.56 | 0.12% | 4.98% | 17.00% | 22.40% | 0.0262% |
| Omnicom Group Inc | OMC | 17,146.39 | 0.06% | 3.56% | 6.50% | 10.18% | 0.0065% |
| Oracle Corp | ORCL | 176,705.70 | 0.66% | 1.75% | 10.00% | 11.84% | 0.0776% |
| O'Reilly Automotive Inc | ORLY | 33,021.19 | 0.12% | 0.00% | 12.00% | 12.00% | 0.0147% |
| Occidental Petroleum Corp | OXY | 37,983.84 | 0.14% | 7.46% | 24.50% | 32.87% | 0.0463% |
| Paycom Software Inc | PAYC | 18,153.30 | 0.07% | 0.00% | 25.50% | 25.50% | 0.0172% |
| Paychex Inc | PAYX | 32,130.56 | 0.12% | 2.97% | 10.50% | 13.63% | 0.0162% |
| People's United Financial Inc | PBCT | 6,401.52 | 0.02% | 4.48% | 8.00% | 12.66% | 0.0030% |
| PACCAR Inc | PCAR | 26,826.32 | 0.10% | 4.61% | 7.50% | 12.28% | 0.0122% |
| Healthpeak Properties Inc | PEAK | 17,681.68 | 0.07% | 4.00% | -3.50% | 0.43% | 0.0003% |
| Public Service Enterprise Group Inc | PEG | 31,116.96 | 0.12% | 3.14% | 6.00% | 9.23% | 0.0107% |
| PepsiCo Inc | PEP | 200,535.40 | 0.74% | 2.75% | 6.50% | 9.34% | 0.0695% |
| Pfizer Inc | PFE | 225,294.10 | 0.84% | 3.73% | 10.00% | 13.92% | 0.1164% |
| Principal Financial Group Inc | PFG | 15,381.74 | 0.06% | 3.98% | 5.50% | 9.59% | 0.0055% |
| Procter & Gamble Co/The | PG | 308,656.90 | 1.15% | 2.38% | 9.00% | 11.49% | 0.1316% |
| Progressive Corp/The | PGR | 44,622.52 | 0.17% | 0.52% | 15.50% | 16.06% | 0.0266% |
| Parker-Hannifin Corp | PH | 25,925.52 | 0.10% | 1.74% | 9.50% | 11.32% | 0.0109% |
| PulteGroup Inc | PHM | 11,882.08 | 0.04% | 1.10% | 9.50% | 10.65% | 0.0047% |
| Packaging Corp of America | PKG | 10,138.58 | 0.04% | 2.95% | 6.00% | 9.04% | 0.0034% |
| PerkinElmer Inc | PKI | 11,041.53 | 0.04% | 0.28% | 11.00% | 11.30% | 0.0046% |
| Prologis Inc | PLD | 60,254.25 | 0.22% | 2.38% | 6.50% | 8.96% | 0.0200% |
| Philip Morris International Inc | PM | 135,484.30 | 0.50% | 5.37% | 6.00% | 11.53% | 0.0580% |
| PNC Financial Services Group Inc/The | PNC | 67,039.69 | 0.25% | 3.01% | 8.00% | 11.13% | 0.0277% |
| Pentair PLC | PNR | 7,863.39 | 0.03% | 1.63% | 6.00% | 7.68% | 0.0022% |
| Pinnacle West Capital Corp | PNW | 10,767.24 | 0.04% | 3.36% | 4.00% | 7.43% | 0.0030% |
| PPG Industries Inc | PPG | 29,855.82 | 0.11% | 1.62% | 6.00% | 7.67% | 0.0085% |
| PPL Corp | PPL | 26,515.89 | 0.10% | 4.52% | 1.50% | 6.05% | 0.0060% |
| Perrigo Co PLC | PRGO | 8,095.82 | 0.03% | 1.51% | 2.00% | 3.53% | 0.0011% |
| Prudential Financial Inc | PRU | 38,048.36 | 0.14% | 4.19% | 6.50% | 10.83% | 0.0153% |
| Public Storage | PSA | 38,866.04 | 0.14% | 3.76% | 4.50% | 8.34% | 0.0120% |
| Phillips 66 | PSX | 45,360.07 | 0.17% | 3.82% | 10.00% | 14.01% | 0.0236% |
| PVH Corp | PVH | 7,102.33 | 0.03% | 0.16% | 9.00% | 9.17% | 0.0024% |
| Quanta Services Inc | PWR | 5,848.88 | 0.02% | 0.49% | 17.00% | 17.53% | 0.0038% |
| Pioneer Natural Resources Co | PXD | 23,261.24 | 0.09% | 1.25% | 35.00% | 36.47% | 0.0315% |
| PayPal Holdings Inc | PYPL | 138,402.90 | 0.51% | 0.00% | 20.00% | 20.00% | 0.1027% |
| QUALCOMM Inc | QCOM | 112,056.00 | 0.42% | 2.70% | 10.50% | 13.34% | 0.0555% |
| Qorvo Inc | QRVO | 13,801.77 | 0.05% | 0.00% | 62.50% | 62.50% | 0.0320% |
| Royal Caribbean Cruises Ltd | RCL | 27,162.97 | 0.10% | 2.41% | 12.50% | 15.06% | 0.0152% |
| Everest Re Group Ltd | RE | 11,444.96 | 0.04% | 2.23% | 18.50% | 20.94% | 0.0089% |
| Regency Centers Corp | REG | 10,759.35 | 0.04% | 3.65% | 16.00% | 19.94% | 0.0080% |
| Regeneron Pharmaceuticals Inc | REGN | 39,953.46 | 0.15% | 0.00% | 10.00% | 10.00% | 0.0148% |
| Regions Financial Corp | RF | 15,595.49 | 0.06% | 4.08% | 10.50% | 14.79% | 0.0086% |
| Robert Half International Inc | RHI | 7,260.71 | 0.03% | 2.11% | 9.00% | 11.20% | 0.0030% |
| Raymond James Financial Inc | RJF | 12,576.71 | 0.05% | 1.64% | 8.00% | 9.71% | 0.0045% |
| Ralph Lauren Corp | RL | 8,804.29 | 0.03% | 2.33% | 8.00% | 10.42% | 0.0034% |
| ResMed Inc | RMD | 23,202.88 | 0.09% | 0.97% | 18.00% | 19.06% | 0.0164% |
| Rockwell Automation Inc | ROK | 23,406.11 | 0.09% | 2.03% | 8.00% | 10.11% | 0.0088% |
| Rollins Inc | ROL | 11,987.65 | 0.04% | 1.15% | 13.00% | 14.22% | 0.0063% |
| Roper Technologies Inc | ROP | 39,381.79 | 0.15% | 0.54% | 11.50% | 12.07% | 0.0176% |
| Ross Stores Inc | ROST | 42,482.07 | 0.16% | 0.95% | 9.50% | 10.50% | 0.0165% |
| Republic Services Inc | RSG | 33,355.05 | 0.12% | 1.75% | 11.50% | 13.35% | 0.0165% |
| Raytheon Co | RTN | 64,003.94 | 0.24% | 1.64% | 10.00% | 11.72% | 0.0278% |
| SBA Communications Corp | SBAC | 28,715.15 | 0.11% | 0.58% | 29.50% | 30.17% | 0.0321% |
| Starbucks Corp | SBUX | 113,109.40 | 0.42% | 1.80% | 13.50% | 15.42% | 0.0647% |
| Charles Schwab Corp/The | SCHW | 62,410.09 | 0.23% | 1.55% | 12.00% | 13.64% | 0.0316% |
| Sealed Air Corp | SEE | 5,887.14 | 0.02% | 1.68% | 22.50% | 24.37% | 0.0053% |
| Sherwin-Williams Co/The | SHW | 55,066.02 | 0.20% | 0.87% | 10.50% | 11.42% | 0.0233% |
| SVB Financial Group | SIVB | 13,357.13 | 0.05% | 0.00% | 15.00% | 15.00% | 0.0074% |
| JM Smucker Co/The | SJM | 12,361.82 | 0.05% | 3.29% | 3.50% | 6.85% | 0.0031% |
| Schlumberger Ltd | SLB | 50,433.29 | 0.19% | 5.49% | 15.00% | 20.90% | 0.0391% |
| SL Green Realty Corp | SLG | 7,971.40 | 0.03% | 3.81% | 5.50% | 9.41% | 0.0028% |
| Snap-on Inc | SNA | 9,238.26 | 0.03% | 2.57% | 6.00% | 8.65% | 0.0030% |
| Synopsys Inc | SNPS | 23,301.80 | 0.09% | 0.00% | 12.00% | 12.00% | 0.0104% |
| Southern Co/The | SO | 72,320.70 | 0.27% | 3.68% | 3.50% | 7.24% | 0.0194% |
| Simon Property Group Inc | SPG | 45,501.57 | 0.17% | 5.98% | 4.50% | 10.61% | 0.0179% |
| S&P Global Inc | SPGI | 72,633.23 | 0.27% | 0.85% | 11.00% | 11.90% | 0.0321% |
| Sempra Energy | SRE | 45,136.92 | 0.17% | 2.62% | 11.00% | 13.76% | 0.0231% |
| STERIS PLC | STE | 12,873.03 | 0.05% | 0.98% | 10.00% | 11.03% | 0.0053% |
| State Street Corp | STT | 29,257.11 | 0.11% | 2.62% | 5.00% | 7.69% | 0.0083% |
| Seagate Technology PLC | STX | 16,482.35 | 0.06% | 4.14% | 4.00% | 8.22% | 0.0050% |
| Constellation Brands Inc | STZ | 37,013.16 | 0.14% | 1.62% | 8.50% | 10.19% | 0.0140% |
| Stanley Black & Decker Inc | SWK | 29,804.62 | 0.11% | 1.66% | 9.00% | 10.73% | 0.0119% |
| Skyworks Solutions Inc | SWKS | 21,840.37 | 0.08% | 1.37% | 8.00% | 9.42% | 0.0076% |
| Synchrony Financial | SYF | 23,662.38 | 0.09% | 2.49% | 9.50% | 12.11% | 0.0106% |
| Stryker Corp | SYK | 80,952.77 | 0.30% | 1.06% | 13.00% | 14.13% | 0.0425% |
| Sysco Corp | SYY | 42,703.12 | 0.16% | 2.15% | 10.50% | 12.76% | 0.0202% |
| AT&T Inc | T | 282,129.30 | 1.05% | 5.38% | 5.50% | 11.03% | 0.1155% |
| Molson Coors Beverage Co | TAP | 12,272.86 | 0.05% | 4.02% | 2.50% | 6.57% | 0.0030% |
| TransDigm Group Inc | TDG | 37,018.43 | 0.14% | 0.00% | 11.50% | 11.50% | 0.0158% |
| TE Connectivity Ltd | TEL | 33,765.47 | 0.13% | 1.83% | 6.50% | 8.39% | 0.0105% |
| Truist Financial Corp | TFC | 43,188.84 | 0.16% | 3.27% | 8.00% | 11.40% | 0.0183% |
| Teleflex Inc | TFX | 17,815.63 | 0.07% | 0.35% | 15.00% | 15.38% | 0.0102% |
| Target Corp | TGT | 58,536.51 | 0.22% | 2.29% | 9.50% | 11.90% | 0.0259% |
| Tiffany & Co | TIF | 16,091.78 | 0.06% | 1.77% | 10.50% | 12.36% | 0.0074% |
| TJX Cos Inc/The | TJX | 75,138.84 | 0.28% | 1.47% | 13.50% | 15.07% | 0.0420% |
| Thermo Fisher Scientific Inc | TMO | 145,564.30 | 0.54% | 0.23% | 10.00% | 10.24% | 0.0553% |
| T-Mobile US Inc | TMUS | 70,309.75 | 0.26% | 0.00% | 18.50% | 18.50% | 0.0483% |
| Tapestry Inc | TPR | 7,708.65 | 0.03% | 4.83% | 10.50% | 15.58% | 0.0045% |
| T Rowe Price Group Inc | TROW | 31,264.65 | 0.12% | 2.37% | 10.00% | 12.49% | 0.0145% |
| Travelers Cos Inc/The | TRV | 34,634.44 | 0.13% | 2.44% | 9.00% | 11.55% | 0.0148% |
| Tractor Supply Co | TSCO | 11,096.84 | 0.04% | 1.62% | 11.50% | 13.21% | 0.0054% |

| Company | Ticker | [4] Market Capitalization | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Tyson Foods Inc | TSN | 32,193.36 | 0.12% | 1.91% | 8.00% | 9.99% | 0.0119% |
| Take-Two Interactive Software Inc | TTWO | 14,610.08 | 0.05% | 0.00% | 23.50% | 23.50% | 0.0127% |
| Twitter Inc | TWTR | 26,289.08 | N/A | 0.00% | N/A | N/A | N/A |
| Texas Instruments Inc | TXN | 125,547.60 | 0.47% | 2.68% | 6.00% | 8.76% | 0.0408% |
| Textron Inc | TXT | 10,293.40 | 0.04% | 0.18% | 13.00% | 13.19% | 0.0050% |
| Under Armour Inc | UAA | 9,586.02 | 0.04% | 0.00% | 17.50% | 17.50% | 0.0062% |
| United Airlines Holdings Inc | UAL | 21,527.61 | 0.08% | 0.00% | 12.00% | 12.00% | 0.0096% |
| UDR Inc | UDR | 13,275.81 | 0.05% | 2.84% | 5.50% | 8.42% | 0.0041% |
| Universal Health Services Inc | UHS | 12,942.87 | 0.05% | 0.54% | 11.00% | 11.57% | 0.0056% |
| Ulta Beauty Inc | ULTA | 15,592.43 | 0.06% | 0.00% | 13.00% | 13.00% | 0.0075% |
| UnitedHealth Group Inc | UNH | 283,588.70 | 1.05% | 1.44% | 13.50% | 15.04% | 0.1583% |
| Unum Group | UNM | 5,912.59 | 0.02% | 3.98% | 7.50% | 11.63% | 0.0026% |
| Union Pacific Corp | UNP | 130,189.90 | 0.48% | 2.07% | 13.00% | 15.20% | 0.0735% |
| United Parcel Service Inc | UPS | 100,279.20 | 0.37% | 3.39% | 8.00% | 11.53% | 0.0429% |
| United Rentals Inc | URI | 11,752.77 | 0.04% | 0.00% | 14.50% | 14.50% | 0.0063% |
| US Bancorp | USB | 86,224.32 | 0.32% | 3.13% | 6.00% | 9.22% | 0.0295% |
| United Technologies Corp | UTX | 132,770.80 | 0.49% | 1.91% | 9.00% | 11.00% | 0.0542% |
| Visa Inc | V | 410,148.70 | 1.52% | 0.58% | 18.00% | 18.63% | 0.2836% |
| Varian Medical Systems Inc | VAR | 13,566.43 | 0.05% | 0.00% | 10.50% | 10.50% | 0.0053% |
| VF Corp | VFC | 34,067.15 | 0.13% | 2.25% | 7.00% | 9.33% | 0.0118% |
| ViacomCBS Inc | VIAC | 13,871.25 | 0.05% | 2.60% | 12.00% | 14.76% | 0.0076% |
| Valero Energy Corp | VLO | 36,771.60 | 0.14% | 4.19% | 11.50% | 15.93% | 0.0217% |
| Vulcan Materials Co | VMC | 18,867.82 | 0.07% | 0.87% | 14.50% | 15.43% | 0.0108% |
| Vornado Realty Trust | VNO | 13,094.22 | 0.05% | 3.85% | -1.50% | 2.32% | 0.0011% |
| Verisk Analytics Inc | VRSK | 27,018.95 | 0.10% | 0.61% | 10.00% | 10.64% | 0.0107% |
| VeriSign Inc | VRSN | 25,308.93 | 0.09% | 0.00% | 11.00% | 11.00% | 0.0103% |
| Vertex Pharmaceuticals Inc | VRTX | 60,176.86 | 0.22% | 0.00% | 50.00% | 50.00% | 0.1117% |
| Ventas Inc | VTR | 20,852.33 | 0.08% | 5.54% | 4.00% | 9.65% | 0.0075% |
| Verizon Communications Inc | VZ | 250,256.30 | 0.93% | 4.07% | 4.00% | 8.15% | 0.0757% |
| Westinghouse Air Brake Technologies Corp | WAB | 15,330.25 | 0.06% | 0.60% | 13.50% | 14.14% | 0.0080% |
| Waters Corp | WAT | 15,753.75 | 0.06% | 0.00% | 13.00% | 13.00% | 0.0076% |
| Walgreens Boots Alliance Inc | WBA | 47,335.20 | 0.18% | 3.43% | 9.00% | 12.58% | 0.0221% |
| Western Digital Corp | WDC | 21,137.14 | 0.08% | 2.82% | 1.00% | 3.83% | 0.0030% |
| WEC Energy Group Inc | WEC | 31,133.53 | 0.12% | 2.56% | 6.00% | 8.64% | 0.0100% |
| Welltower Inc | WELL | 33,472.25 | 0.12% | 4.13% | 10.50% | 14.85% | 0.0184% |
| Wells Fargo & Co | WFC | 205,858.00 | 0.76% | 4.27% | 5.50% | 9.89% | 0.0755% |
| Whirlpool Corp | WHR | 9,495.36 | 0.04% | 3.19% | 6.50% | 9.79% | 0.0035% |
| Willis Towers Watson PLC | WLTW | 26,565.52 | 0.10% | 1.26% | 17.50% | 18.87% | 0.0186% |
| Waste Management Inc | WM | 51,382.74 | 0.19% | 1.69% | 8.50% | 10.26% | 0.0196% |
| Williams Cos Inc/The | WMB | 27,197.28 | 0.10% | 6.77% | 20.00% | 27.45% | 0.0277% |
| Walmart Inc | WMT | 328,784.60 | 1.22% | 1.87% | 7.50% | 9.44% | 0.1152% |
| WR Berkley Corp | WRB | 13,110.65 | 0.05% | 0.62% | 12.00% | 12.66% | 0.0062% |
| Westrock Co | WRK | 10,840.49 | 0.04% | 4.42% | 8.00% | 12.60% | 0.0051% |
| Western Union Co/The | WU | 11,652.22 | 0.04% | 2.88% | 6.50% | 9.47% | 0.0041% |
| Weyerhaeuser Co | WY | 22,963.09 | 0.09% | 4.41% | 15.00% | 19.74% | 0.0168% |
| Wynn Resorts Ltd | WYNN | 14,935.26 | 0.06% | 2.88% | 14.50% | 17.59% | 0.0098% |
| Cimarex Energy Co | XEC | 4,900.60 | 0.02% | 1.66% | 8.50% | 10.23% | 0.0019% |
| Xcel Energy Inc | XEL | 35,081.29 | 0.13% | 2.57% | 5.50% | 8.14% | 0.0106% |
| Xilinx Inc | XLNX | 25,752.63 | 0.10% | 1.45% | 8.00% | 9.51% | 0.0091% |
| Exxon Mobil Corp | XOM | 282,503.90 | 1.05% | 5.27% | 11.00% | 16.56% | 0.1736% |
| DENTSPLY SIRONA Inc | XRAY | 13,262.42 | 0.05% | 0.59% | 4.50% | 5.10% | 0.0025% |
| Xerox Holdings Corp | XRX | 7,933.03 | 0.03% | 2.76% | 12.50% | 15.43% | 0.0045% |
| Xylem Inc/NY | XYL | 14,824.80 | 0.06% | 1.17% | 14.00% | 15.25% | 0.0084% |
| Yum! Brands Inc | YUM | 32,111.94 | 0.12% | 1.64% | 12.00% | 13.74% | 0.0164% |
| Zimmer Biomet Holdings Inc | ZBH | 30,739.26 | 0.11% | 0.66% | 4.50% | 5.17% | 0.0059% |
| Zebra Technologies Corp | ZBRA | 13,747.39 | 0.05% | 0.00% | 15.50% | 15.50% | 0.0079% |
| Zions Bancorp NA | ZION | 8,142.13 | 0.03% | 2.85% | 9.50% | 12.49% | 0.0038% |
| Zoetis Inc | ZTS | 65,953.04 | 0.24% | 0.58% | 13.50% | 14.12% | 0.0346% |
| Total Market Capitalization: | | 26,942,730.24 | | | | | 14.51% |

Notes:
[1] Equals sum of Col. [9]
[2] Source: Bloomberg Professional
[3] Equals [1] − [2]
[4] Source: Value Line
[5] Equals weight in S&P 500 based on market capitalization
[6] Source: Value Line
[7] Source: Value Line
[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]
[9] Equals Col. [5] x Col. [8]

Bloomberg and Value Line Beta Coefficients

| Company | Ticker | [1] Bloomberg | [2] Value Line |
|---|---|---|---|
| ALLETE, Inc. | ALE | 0.484 | 0.65 |
| Alliant Energy Corporation | LNT | 0.537 | 0.60 |
| Ameren Corporation | AEE | 0.486 | 0.55 |
| American Electric Power Company, Inc. | AEP | 0.538 | 0.55 |
| Avangrid, Inc. | AGR | 0.508 | 0.40 |
| Avista | AVA | 0.492 | 0.60 |
| CMS Energy Corporation | CMS | 0.486 | 0.50 |
| DTE Energy Company | DTE | 0.528 | 0.55 |
| Evergy, Inc | EVRG | 0.437 | 0.51 |
| Hawaiian Electric Industries, Inc. | HE | 0.511 | 0.55 |
| NextEra Energy, Inc. | NEE | 0.523 | 0.55 |
| NorthWestern Corporation | NWE | 0.528 | 0.60 |
| OGE Energy Corp. | OGE | 0.583 | 0.75 |
| Otter Tail Corporation | OTTR | 0.631 | 0.70 |
| Pinnacle West Capital Corporation | PNW | 0.426 | 0.50 |
| PNM Resources, Inc. | PNM | 0.528 | 0.60 |
| Portland General Electric Company | POR | 0.524 | 0.55 |
| Southern Company | SO | 0.512 | 0.50 |
| WEC Energy Group, Inc. | WEC | 0.471 | 0.50 |
| Xcel Energy Inc. | XEL | 0.517 | 0.50 |
| Mean | | 0.513 | 0.561 |

Notes:
[1] Source: Bloomberg Professional

[2] Source: Value Line. Value Line does not report a beta coefficient for Evergy, Inc. Therefore, the beta coefficient for Evergy has been manually calculated according to Value Line's methodology.

Capital Asset Pricing Model and Empirical Capital Asset Pricing Model Results
Bloomberg, and Value Line Derived Market Risk Premium

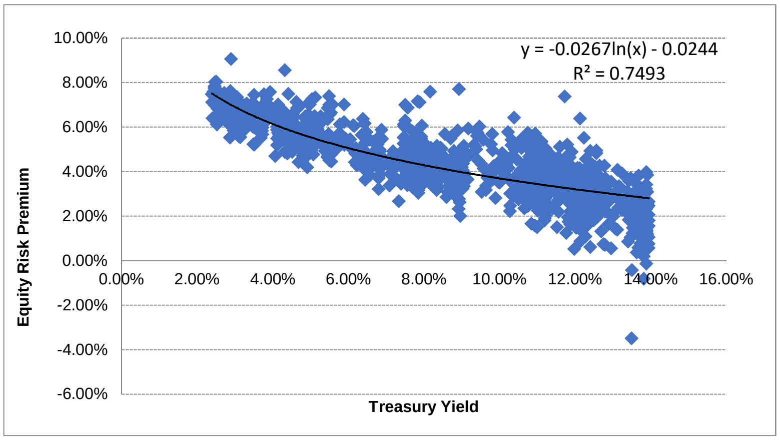
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
|---|---|---|---|---|---|---|---|---|
| | | | Ex-Ante Market Risk Premium | | CAPM Result | | ECAPM Result | |
| | Risk-Free Rate | Average Beta Coefficient | Bloomberg Market DCF Derived | Value Line Market DCF Derived | Bloomberg MRP | Value Line MRP | Bloomberg Market DCF Derived | Value Line Market DCF Derived |
| ***PROXY GROUP AVERAGE BLOOMBERG BETA COEFFICIENT*** | | | | | | | | |
| Current 30-Year Treasury [9] | 2.25% | 0.513 | 11.18% | 12.25% | 7.99% | 8.54% | 9.35% | 10.03% |
| Near-Term Projected 30-Year Treasury [10] | 2.42% | 0.513 | 11.18% | 12.25% | 8.15% | 8.70% | 9.51% | 10.19% |
| Long-Term Projected 30-Year Treasury [11] | 3.45% | 0.513 | 11.18% | 12.25% | 9.18% | 9.73% | 10.55% | 11.22% |
| Mean | | | | | 8.07% | 8.62% | 9.43% | 10.11% |

| | | | Ex-Ante Market Risk Premium | | CAPM Result | | ECAPM Result | |
|---|---|---|---|---|---|---|---|---|
| | Risk-Free Rate | Average Beta Coefficient | Bloomberg Market DCF Derived | Value Line Market DCF Derived | Bloomberg MRP | Value Line MRP | Bloomberg Market DCF Derived | Value Line Market DCF Derived |
| ***PROXY GROUP AVERAGE VALUE LINE AVERAGE BETA COEFFICIENT*** | | | | | | | | |
| Current 30-Year Treasury [9] | 2.25% | 0.561 | 11.18% | 12.25% | 8.52% | 9.12% | 9.75% | 10.47% |
| Near-Term Projected 30-Year Treasury [10] | 2.42% | 0.561 | 11.18% | 12.25% | 8.69% | 9.29% | 9.91% | 10.63% |
| Long-Term Projected 30-Year Treasury [11] | 3.45% | 0.561 | 11.18% | 12.25% | 9.72% | 10.32% | 10.95% | 11.67% |
| Mean | | | | | 8.60% | 9.20% | 9.83% | 10.55% |

Notes:
[1] *See Notes [9], [10], [11]*
[2] Source: Rebuttal Exhibit DWD-3
[3] Source: Rebuttal Exhibit DWD-2
[4] Source: Rebuttal Exhibit DWD-2
[5] Equals Col. [1] + (Col. [2] x Col. [3])
[6] Equals Col. [1] + (Col. [2] x Col. [4])
[7] Equals Col. [1] + 0.25 x Col. [3] + 0.75 x Col. [2] x Col. [3]
[8] Equals Col. [1] + 0.25 x Col. [4] + 0.75 x Col. [2] x Col. [4]
[9] Source: Bloomberg Professional
[10] Source: Blue Chip Financial Forecasts, Vol. 39, No. 2, February 1, 2020, at 2.
[11] Source: Blue Chip Financial Forecasts, Vol. 38, No. 12, December 1, 2019, at 14.

Bond Yield Plus Risk Premium

| | [1] Constant | [2] Slope | [3] 30-Year Treasury Yield | [4] Risk Premium | [5] Return on Equity |
|---|---|---|---|---|---|
| | -2.44% | -2.67% | | | |
| Current 30-Year Treasury | | | 2.25% | 7.67% | 9.92% |
| Near-Term Projected 30-Year Treasury | | | 2.42% | 7.48% | 9.90% |
| Long-Term Projected 30-Year Treasury | | | 3.45% | 6.53% | 9.98% |




Notes:
[1] Constant of regression equation
[2] Slope of regression equation
[3] Source: Current = Bloomberg Professional;
Near Term Projected = Blue Chip Financial Forecasts, Vol. 39, No. 2, February 1, 2020, at 2;
Long Term Projected = Blue Chip Financial Forecasts, Vol. 38, No. 12, December 1, 2019, at 14.
[4] Equals [1] + ln([3]) x [2]
[5] Equals [3] + [4]
[6] Source: S&P Global Market Intelligence
[7] Source: S&P Global Market Intelligence
[8] Source: Bloomberg Professional, equals 200-trading day average (i.e. lag period)
[9] Equals [7] - [8]

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 1/1/1980 | 14.50% | 9.36% | 5.14% |
| 1/7/1980 | 14.39% | 9.39% | 5.00% |
| 1/9/1980 | 15.00% | 9.40% | 5.60% |
| 1/14/1980 | 15.17% | 9.42% | 5.75% |
| 1/17/1980 | 13.93% | 9.44% | 4.49% |
| 1/23/1980 | 15.50% | 9.47% | 6.03% |
| 1/30/1980 | 13.86% | 9.52% | 4.34% |
| 1/31/1980 | 12.61% | 9.53% | 3.08% |
| 2/6/1980 | 13.71% | 9.58% | 4.13% |
| 2/13/1980 | 12.80% | 9.64% | 3.16% |
| 2/14/1980 | 13.00% | 9.65% | 3.35% |
| 2/19/1980 | 13.50% | 9.68% | 3.82% |
| 2/27/1980 | 13.75% | 9.78% | 3.97% |
| 2/29/1980 | 13.75% | 9.81% | 3.94% |
| 2/29/1980 | 14.00% | 9.81% | 4.19% |
| 2/29/1980 | 14.77% | 9.81% | 4.96% |
| 3/7/1980 | 12.70% | 9.90% | 2.80% |
| 3/14/1980 | 13.50% | 9.97% | 3.53% |
| 3/26/1980 | 14.16% | 10.11% | 4.05% |
| 3/27/1980 | 14.24% | 10.12% | 4.12% |
| 3/28/1980 | 14.50% | 10.14% | 4.36% |
| 4/11/1980 | 12.75% | 10.28% | 2.47% |
| 4/14/1980 | 13.85% | 10.29% | 3.56% |
| 4/16/1980 | 15.50% | 10.32% | 5.18% |
| 4/22/1980 | 13.25% | 10.36% | 2.89% |
| 4/22/1980 | 13.90% | 10.36% | 3.54% |
| 4/24/1980 | 16.80% | 10.38% | 6.42% |
| 4/29/1980 | 15.50% | 10.41% | 5.09% |
| 5/6/1980 | 13.70% | 10.45% | 3.25% |
| 5/7/1980 | 15.00% | 10.46% | 4.54% |
| 5/8/1980 | 13.75% | 10.47% | 3.28% |
| 5/9/1980 | 14.35% | 10.47% | 3.88% |
| 5/13/1980 | 13.60% | 10.49% | 3.11% |
| 5/15/1980 | 13.25% | 10.50% | 2.75% |
| 5/19/1980 | 13.75% | 10.52% | 3.23% |
| 5/27/1980 | 13.62% | 10.55% | 3.07% |
| 5/27/1980 | 14.60% | 10.55% | 4.05% |
| 5/29/1980 | 16.00% | 10.56% | 5.44% |
| 5/30/1980 | 13.80% | 10.57% | 3.23% |
| 6/2/1980 | 15.63% | 10.58% | 5.05% |
| 6/9/1980 | 15.90% | 10.61% | 5.29% |
| 6/10/1980 | 13.78% | 10.61% | 3.17% |
| 6/12/1980 | 14.25% | 10.62% | 3.63% |
| 6/19/1980 | 13.40% | 10.63% | 2.77% |
| 6/30/1980 | 13.00% | 10.65% | 2.35% |
| 6/30/1980 | 13.40% | 10.65% | 2.75% |
| 7/9/1980 | 14.75% | 10.68% | 4.07% |
| 7/10/1980 | 15.00% | 10.69% | 4.31% |
| 7/15/1980 | 15.80% | 10.70% | 5.10% |
| 7/18/1980 | 13.80% | 10.72% | 3.08% |
| 7/22/1980 | 14.10% | 10.73% | 3.37% |
| 7/24/1980 | 15.00% | 10.73% | 4.27% |
| 7/25/1980 | 13.48% | 10.74% | 2.74% |
| 7/31/1980 | 14.58% | 10.76% | 3.82% |
| 8/8/1980 | 13.50% | 10.78% | 2.72% |
| 8/8/1980 | 14.00% | 10.78% | 3.22% |
| 8/8/1980 | 15.45% | 10.78% | 4.67% |
| 8/11/1980 | 14.85% | 10.78% | 4.07% |
| 8/14/1980 | 14.00% | 10.79% | 3.21% |
| 8/14/1980 | 16.25% | 10.79% | 5.46% |
| 8/25/1980 | 13.75% | 10.82% | 2.93% |
| 8/27/1980 | 13.80% | 10.83% | 2.97% |
| 8/29/1980 | 12.50% | 10.84% | 1.66% |
| 9/15/1980 | 13.50% | 10.88% | 2.62% |
| 9/15/1980 | 13.93% | 10.88% | 3.05% |
| 9/15/1980 | 15.80% | 10.88% | 4.92% |
| 9/24/1980 | 12.50% | 10.93% | 1.57% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 9/24/1980 | 15.00% | 10.93% | 4.07% |
| 9/26/1980 | 13.75% | 10.95% | 2.80% |
| 9/30/1980 | 14.10% | 10.96% | 3.14% |
| 9/30/1980 | 14.20% | 10.96% | 3.24% |
| 10/1/1980 | 13.90% | 10.97% | 2.93% |
| 10/3/1980 | 15.50% | 10.99% | 4.51% |
| 10/7/1980 | 12.50% | 11.00% | 1.50% |
| 10/9/1980 | 13.25% | 11.01% | 2.24% |
| 10/9/1980 | 14.50% | 11.01% | 3.49% |
| 10/9/1980 | 14.50% | 11.01% | 3.49% |
| 10/16/1980 | 16.10% | 11.03% | 5.07% |
| 10/17/1980 | 14.50% | 11.03% | 3.47% |
| 10/31/1980 | 13.75% | 11.11% | 2.64% |
| 10/31/1980 | 14.25% | 11.11% | 3.14% |
| 11/4/1980 | 15.00% | 11.12% | 3.88% |
| 11/5/1980 | 13.75% | 11.13% | 2.62% |
| 11/5/1980 | 14.00% | 11.13% | 2.87% |
| 11/8/1980 | 13.75% | 11.15% | 2.60% |
| 11/10/1980 | 14.85% | 11.15% | 3.70% |
| 11/17/1980 | 14.00% | 11.18% | 2.82% |
| 11/18/1980 | 14.00% | 11.19% | 2.81% |
| 11/19/1980 | 13.00% | 11.19% | 1.81% |
| 11/24/1980 | 14.00% | 11.20% | 2.80% |
| 11/26/1980 | 14.00% | 11.21% | 2.79% |
| 12/8/1980 | 14.15% | 11.22% | 2.93% |
| 12/8/1980 | 15.10% | 11.22% | 3.88% |
| 12/9/1980 | 15.35% | 11.22% | 4.13% |
| 12/12/1980 | 15.45% | 11.22% | 4.23% |
| 12/17/1980 | 13.25% | 11.23% | 2.02% |
| 12/18/1980 | 15.80% | 11.23% | 4.57% |
| 12/19/1980 | 14.50% | 11.23% | 3.27% |
| 12/19/1980 | 14.64% | 11.23% | 3.41% |
| 12/22/1980 | 13.45% | 11.22% | 2.23% |
| 12/22/1980 | 15.00% | 11.22% | 3.78% |
| 12/30/1980 | 14.50% | 11.21% | 3.29% |
| 12/30/1980 | 14.95% | 11.21% | 3.74% |
| 12/31/1980 | 13.39% | 11.21% | 2.18% |
| 1/2/1981 | 15.25% | 11.21% | 4.04% |
| 1/7/1981 | 14.30% | 11.21% | 3.09% |
| 1/19/1981 | 15.25% | 11.19% | 4.06% |
| 1/23/1981 | 13.10% | 11.20% | 1.90% |
| 1/23/1981 | 14.40% | 11.20% | 3.20% |
| 1/26/1981 | 15.25% | 11.20% | 4.05% |
| 1/27/1981 | 15.00% | 11.20% | 3.80% |
| 1/31/1981 | 13.47% | 11.21% | 2.26% |
| 2/3/1981 | 15.25% | 11.23% | 4.02% |
| 2/5/1981 | 15.75% | 11.25% | 4.50% |
| 2/11/1981 | 15.60% | 11.28% | 4.32% |
| 2/20/1981 | 15.25% | 11.34% | 3.91% |
| 3/11/1981 | 15.40% | 11.50% | 3.90% |
| 3/12/1981 | 14.51% | 11.51% | 3.00% |
| 3/12/1981 | 16.00% | 11.51% | 4.49% |
| 3/13/1981 | 13.02% | 11.52% | 1.50% |
| 3/18/1981 | 16.19% | 11.55% | 4.64% |
| 3/19/1981 | 13.75% | 11.56% | 2.19% |
| 3/23/1981 | 14.30% | 11.58% | 2.72% |
| 3/25/1981 | 15.30% | 11.61% | 3.69% |
| 4/1/1981 | 14.53% | 11.69% | 2.84% |
| 4/3/1981 | 19.10% | 11.72% | 7.38% |
| 4/9/1981 | 15.00% | 11.79% | 3.21% |
| 4/9/1981 | 15.30% | 11.79% | 3.51% |
| 4/9/1981 | 16.50% | 11.79% | 4.71% |
| 4/9/1981 | 17.00% | 11.79% | 5.21% |
| 4/10/1981 | 13.75% | 11.81% | 1.94% |
| 4/13/1981 | 13.57% | 11.83% | 1.74% |
| 4/15/1981 | 15.30% | 11.86% | 3.44% |
| 4/16/1981 | 13.50% | 11.88% | 1.62% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 4/17/1981 | 14.10% | 11.88% | 2.22% |
| 4/21/1981 | 14.00% | 11.91% | 2.09% |
| 4/21/1981 | 16.80% | 11.91% | 4.89% |
| 4/24/1981 | 16.00% | 11.96% | 4.04% |
| 4/27/1981 | 12.50% | 11.98% | 0.52% |
| 4/27/1981 | 13.61% | 11.98% | 1.63% |
| 4/29/1981 | 13.65% | 12.01% | 1.64% |
| 4/30/1981 | 13.50% | 12.02% | 1.48% |
| 5/4/1981 | 16.22% | 12.06% | 4.16% |
| 5/5/1981 | 14.40% | 12.08% | 2.32% |
| 5/7/1981 | 16.25% | 12.12% | 4.13% |
| 5/7/1981 | 16.27% | 12.12% | 4.15% |
| 5/8/1981 | 13.00% | 12.14% | 0.86% |
| 5/8/1981 | 16.00% | 12.14% | 3.86% |
| 5/12/1981 | 13.50% | 12.17% | 1.33% |
| 5/15/1981 | 15.75% | 12.23% | 3.52% |
| 5/18/1981 | 14.88% | 12.24% | 2.64% |
| 5/20/1981 | 16.00% | 12.27% | 3.73% |
| 5/21/1981 | 14.00% | 12.28% | 1.72% |
| 5/26/1981 | 14.90% | 12.31% | 2.59% |
| 5/27/1981 | 15.00% | 12.32% | 2.68% |
| 5/29/1981 | 15.50% | 12.34% | 3.16% |
| 6/1/1981 | 16.50% | 12.35% | 4.15% |
| 6/3/1981 | 14.67% | 12.38% | 2.29% |
| 6/5/1981 | 13.00% | 12.40% | 0.60% |
| 6/10/1981 | 16.75% | 12.42% | 4.33% |
| 6/17/1981 | 14.40% | 12.46% | 1.94% |
| 6/18/1981 | 16.33% | 12.47% | 3.86% |
| 6/25/1981 | 14.75% | 12.52% | 2.23% |
| 6/26/1981 | 16.00% | 12.53% | 3.47% |
| 6/30/1981 | 15.25% | 12.55% | 2.70% |
| 7/1/1981 | 15.50% | 12.56% | 2.94% |
| 7/1/1981 | 17.50% | 12.56% | 4.94% |
| 7/10/1981 | 16.00% | 12.62% | 3.38% |
| 7/14/1981 | 16.90% | 12.64% | 4.26% |
| 7/15/1981 | 16.00% | 12.65% | 3.35% |
| 7/17/1981 | 15.00% | 12.67% | 2.33% |
| 7/20/1981 | 15.00% | 12.68% | 2.32% |
| 7/21/1981 | 14.00% | 12.69% | 1.31% |
| 7/28/1981 | 13.48% | 12.75% | 0.73% |
| 7/31/1981 | 13.50% | 12.79% | 0.71% |
| 7/31/1981 | 15.00% | 12.79% | 2.21% |
| 7/31/1981 | 16.00% | 12.79% | 3.21% |
| 8/5/1981 | 15.71% | 12.83% | 2.88% |
| 8/10/1981 | 14.50% | 12.87% | 1.63% |
| 8/11/1981 | 15.00% | 12.88% | 2.12% |
| 8/20/1981 | 13.50% | 12.95% | 0.55% |
| 8/20/1981 | 16.50% | 12.95% | 3.55% |
| 8/24/1981 | 15.00% | 12.97% | 2.03% |
| 8/28/1981 | 15.00% | 13.01% | 1.99% |
| 9/3/1981 | 14.50% | 13.06% | 1.44% |
| 9/10/1981 | 14.50% | 13.11% | 1.39% |
| 9/11/1981 | 16.00% | 13.12% | 2.88% |
| 9/16/1981 | 16.00% | 13.15% | 2.85% |
| 9/17/1981 | 16.50% | 13.16% | 3.34% |
| 9/23/1981 | 15.85% | 13.20% | 2.65% |
| 9/28/1981 | 15.50% | 13.23% | 2.27% |
| 10/9/1981 | 15.75% | 13.34% | 2.41% |
| 10/15/1981 | 16.25% | 13.37% | 2.88% |
| 10/16/1981 | 15.50% | 13.39% | 2.11% |
| 10/16/1981 | 16.50% | 13.39% | 3.11% |
| 10/19/1981 | 14.25% | 13.40% | 0.85% |
| 10/20/1981 | 15.25% | 13.41% | 1.84% |
| 10/20/1981 | 17.00% | 13.41% | 3.59% |
| 10/23/1981 | 16.00% | 13.46% | 2.54% |
| 10/27/1981 | 10.00% | 13.49% | -3.49% |
| 10/29/1981 | 14.75% | 13.52% | 1.23% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 10/29/1981 | 16.50% | 13.52% | 2.98% |
| 11/3/1981 | 15.17% | 13.54% | 1.63% |
| 11/5/1981 | 16.60% | 13.56% | 3.04% |
| 11/6/1981 | 15.17% | 13.57% | 1.60% |
| 11/24/1981 | 15.50% | 13.61% | 1.89% |
| 11/25/1981 | 15.25% | 13.61% | 1.64% |
| 11/25/1981 | 15.35% | 13.61% | 1.74% |
| 11/25/1981 | 16.10% | 13.61% | 2.49% |
| 11/25/1981 | 16.10% | 13.61% | 2.49% |
| 12/1/1981 | 15.70% | 13.61% | 2.09% |
| 12/1/1981 | 16.00% | 13.61% | 2.39% |
| 12/1/1981 | 16.49% | 13.61% | 2.88% |
| 12/1/1981 | 16.50% | 13.61% | 2.89% |
| 12/4/1981 | 16.00% | 13.61% | 2.39% |
| 12/11/1981 | 16.25% | 13.63% | 2.62% |
| 12/14/1981 | 14.00% | 13.63% | 0.37% |
| 12/15/1981 | 15.81% | 13.63% | 2.18% |
| 12/15/1981 | 16.00% | 13.63% | 2.37% |
| 12/16/1981 | 15.25% | 13.63% | 1.62% |
| 12/17/1981 | 16.50% | 13.64% | 2.86% |
| 12/18/1981 | 15.45% | 13.64% | 1.81% |
| 12/30/1981 | 14.25% | 13.67% | 0.58% |
| 12/30/1981 | 16.00% | 13.67% | 2.33% |
| 12/30/1981 | 16.25% | 13.67% | 2.58% |
| 12/31/1981 | 16.15% | 13.68% | 2.47% |
| 1/4/1982 | 15.50% | 13.68% | 1.82% |
| 1/11/1982 | 14.50% | 13.73% | 0.77% |
| 1/11/1982 | 17.00% | 13.73% | 3.27% |
| 1/13/1982 | 14.75% | 13.74% | 1.01% |
| 1/14/1982 | 15.75% | 13.75% | 2.00% |
| 1/15/1982 | 15.00% | 13.76% | 1.24% |
| 1/15/1982 | 16.50% | 13.76% | 2.74% |
| 1/22/1982 | 16.25% | 13.80% | 2.45% |
| 1/27/1982 | 16.84% | 13.81% | 3.03% |
| 1/28/1982 | 13.00% | 13.82% | -0.82% |
| 1/29/1982 | 15.50% | 13.82% | 1.68% |
| 2/1/1982 | 15.85% | 13.83% | 2.02% |
| 2/3/1982 | 16.44% | 13.84% | 2.60% |
| 2/8/1982 | 15.50% | 13.86% | 1.64% |
| 2/11/1982 | 16.00% | 13.88% | 2.12% |
| 2/11/1982 | 16.20% | 13.88% | 2.32% |
| 2/17/1982 | 15.00% | 13.89% | 1.11% |
| 2/19/1982 | 15.17% | 13.89% | 1.28% |
| 2/26/1982 | 15.25% | 13.89% | 1.36% |
| 3/1/1982 | 15.03% | 13.89% | 1.14% |
| 3/1/1982 | 16.00% | 13.89% | 2.11% |
| 3/3/1982 | 15.00% | 13.88% | 1.12% |
| 3/8/1982 | 17.10% | 13.88% | 3.22% |
| 3/12/1982 | 16.25% | 13.88% | 2.37% |
| 3/17/1982 | 17.30% | 13.88% | 3.42% |
| 3/22/1982 | 15.10% | 13.89% | 1.21% |
| 3/27/1982 | 15.40% | 13.90% | 1.50% |
| 3/30/1982 | 15.50% | 13.91% | 1.59% |
| 3/31/1982 | 17.00% | 13.91% | 3.09% |
| 4/1/1982 | 14.70% | 13.92% | 0.78% |
| 4/1/1982 | 16.50% | 13.92% | 2.58% |
| 4/2/1982 | 15.50% | 13.92% | 1.58% |
| 4/5/1982 | 15.50% | 13.93% | 1.57% |
| 4/8/1982 | 16.40% | 13.94% | 2.46% |
| 4/13/1982 | 14.50% | 13.94% | 0.56% |
| 4/23/1982 | 15.75% | 13.94% | 1.81% |
| 4/27/1982 | 15.00% | 13.94% | 1.06% |
| 4/28/1982 | 15.75% | 13.94% | 1.81% |
| 4/30/1982 | 14.70% | 13.94% | 0.76% |
| 4/30/1982 | 15.50% | 13.94% | 1.56% |
| 5/3/1982 | 16.60% | 13.94% | 2.66% |
| 5/4/1982 | 16.00% | 13.94% | 2.06% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 5/14/1982 | 15.50% | 13.92% | 1.58% |
| 5/18/1982 | 15.42% | 13.92% | 1.50% |
| 5/19/1982 | 14.69% | 13.92% | 0.77% |
| 5/20/1982 | 15.00% | 13.91% | 1.09% |
| 5/20/1982 | 15.10% | 13.91% | 1.19% |
| 5/20/1982 | 15.50% | 13.91% | 1.59% |
| 5/20/1982 | 16.30% | 13.91% | 2.39% |
| 5/21/1982 | 17.75% | 13.91% | 3.84% |
| 5/27/1982 | 15.00% | 13.89% | 1.11% |
| 5/28/1982 | 15.50% | 13.89% | 1.61% |
| 5/28/1982 | 17.00% | 13.89% | 3.11% |
| 6/1/1982 | 13.75% | 13.89% | -0.14% |
| 6/1/1982 | 16.60% | 13.89% | 2.71% |
| 6/9/1982 | 17.86% | 13.88% | 3.98% |
| 6/14/1982 | 15.75% | 13.88% | 1.87% |
| 6/15/1982 | 14.85% | 13.87% | 0.98% |
| 6/18/1982 | 15.50% | 13.86% | 1.64% |
| 6/21/1982 | 14.90% | 13.86% | 1.04% |
| 6/23/1982 | 16.00% | 13.86% | 2.14% |
| 6/23/1982 | 16.17% | 13.86% | 2.31% |
| 6/24/1982 | 14.85% | 13.86% | 0.99% |
| 6/25/1982 | 14.70% | 13.85% | 0.85% |
| 7/1/1982 | 16.00% | 13.84% | 2.16% |
| 7/2/1982 | 15.62% | 13.83% | 1.79% |
| 7/2/1982 | 17.00% | 13.83% | 3.17% |
| 7/13/1982 | 14.00% | 13.82% | 0.18% |
| 7/13/1982 | 16.80% | 13.82% | 2.98% |
| 7/14/1982 | 15.76% | 13.81% | 1.95% |
| 7/14/1982 | 16.02% | 13.81% | 2.21% |
| 7/19/1982 | 16.50% | 13.79% | 2.71% |
| 7/22/1982 | 14.50% | 13.76% | 0.74% |
| 7/22/1982 | 17.00% | 13.76% | 3.24% |
| 7/27/1982 | 16.75% | 13.74% | 3.01% |
| 7/29/1982 | 16.50% | 13.73% | 2.77% |
| 8/11/1982 | 17.50% | 13.68% | 3.82% |
| 8/18/1982 | 17.07% | 13.62% | 3.45% |
| 8/20/1982 | 15.73% | 13.60% | 2.13% |
| 8/25/1982 | 16.00% | 13.57% | 2.43% |
| 8/26/1982 | 15.50% | 13.56% | 1.94% |
| 8/30/1982 | 15.00% | 13.55% | 1.45% |
| 9/3/1982 | 16.20% | 13.53% | 2.67% |
| 9/8/1982 | 15.00% | 13.52% | 1.48% |
| 9/15/1982 | 13.08% | 13.51% | -0.43% |
| 9/15/1982 | 16.25% | 13.51% | 2.74% |
| 9/16/1982 | 16.00% | 13.50% | 2.50% |
| 9/17/1982 | 15.25% | 13.50% | 1.75% |
| 9/23/1982 | 17.17% | 13.47% | 3.70% |
| 9/24/1982 | 14.50% | 13.47% | 1.03% |
| 9/27/1982 | 15.25% | 13.46% | 1.79% |
| 10/1/1982 | 15.50% | 13.42% | 2.08% |
| 10/15/1982 | 15.90% | 13.32% | 2.58% |
| 10/22/1982 | 15.75% | 13.24% | 2.51% |
| 10/22/1982 | 17.15% | 13.24% | 3.91% |
| 10/29/1982 | 15.54% | 13.16% | 2.38% |
| 11/1/1982 | 15.50% | 13.14% | 2.36% |
| 11/3/1982 | 17.20% | 13.12% | 4.08% |
| 11/4/1982 | 16.25% | 13.10% | 3.15% |
| 11/5/1982 | 16.20% | 13.09% | 3.11% |
| 11/9/1982 | 16.00% | 13.05% | 2.95% |
| 11/23/1982 | 15.50% | 12.88% | 2.62% |
| 11/23/1982 | 15.85% | 12.88% | 2.97% |
| 11/30/1982 | 16.50% | 12.80% | 3.70% |
| 12/1/1982 | 17.04% | 12.78% | 4.26% |
| 12/6/1982 | 15.00% | 12.72% | 2.28% |
| 12/6/1982 | 16.35% | 12.72% | 3.63% |
| 12/10/1982 | 15.50% | 12.66% | 2.84% |
| 12/13/1982 | 16.00% | 12.64% | 3.36% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 12/14/1982 | 15.30% | 12.62% | 2.68% |
| 12/14/1982 | 16.40% | 12.62% | 3.78% |
| 12/20/1982 | 16.00% | 12.57% | 3.43% |
| 12/21/1982 | 14.75% | 12.55% | 2.20% |
| 12/21/1982 | 15.85% | 12.55% | 3.30% |
| 12/22/1982 | 16.25% | 12.54% | 3.71% |
| 12/22/1982 | 16.58% | 12.54% | 4.04% |
| 12/22/1982 | 16.75% | 12.54% | 4.21% |
| 12/29/1982 | 14.90% | 12.48% | 2.42% |
| 12/29/1982 | 16.25% | 12.48% | 3.77% |
| 12/30/1982 | 16.00% | 12.46% | 3.54% |
| 12/30/1982 | 16.35% | 12.46% | 3.89% |
| 12/30/1982 | 16.77% | 12.46% | 4.31% |
| 1/5/1983 | 17.33% | 12.40% | 4.93% |
| 1/11/1983 | 15.90% | 12.34% | 3.56% |
| 1/12/1983 | 14.63% | 12.32% | 2.31% |
| 1/12/1983 | 15.50% | 12.32% | 3.18% |
| 1/20/1983 | 17.75% | 12.23% | 5.52% |
| 1/21/1983 | 15.00% | 12.21% | 2.79% |
| 1/24/1983 | 14.50% | 12.20% | 2.30% |
| 1/24/1983 | 15.50% | 12.20% | 3.30% |
| 1/25/1983 | 15.85% | 12.19% | 3.66% |
| 1/27/1983 | 16.14% | 12.16% | 3.98% |
| 2/1/1983 | 18.50% | 12.13% | 6.37% |
| 2/4/1983 | 14.00% | 12.09% | 1.91% |
| 2/10/1983 | 15.00% | 12.05% | 2.95% |
| 2/21/1983 | 15.50% | 11.98% | 3.52% |
| 2/22/1983 | 15.50% | 11.96% | 3.54% |
| 2/23/1983 | 15.10% | 11.95% | 3.15% |
| 2/23/1983 | 16.00% | 11.95% | 4.05% |
| 3/2/1983 | 15.25% | 11.89% | 3.36% |
| 3/9/1983 | 15.20% | 11.82% | 3.38% |
| 3/15/1983 | 13.00% | 11.76% | 1.24% |
| 3/18/1983 | 15.25% | 11.72% | 3.53% |
| 3/23/1983 | 15.40% | 11.68% | 3.72% |
| 3/24/1983 | 15.00% | 11.66% | 3.34% |
| 3/29/1983 | 15.50% | 11.62% | 3.88% |
| 3/30/1983 | 16.71% | 11.60% | 5.11% |
| 3/31/1983 | 15.00% | 11.58% | 3.42% |
| 4/4/1983 | 15.20% | 11.57% | 3.63% |
| 4/8/1983 | 15.50% | 11.49% | 4.01% |
| 4/11/1983 | 14.81% | 11.48% | 3.33% |
| 4/19/1983 | 14.50% | 11.36% | 3.14% |
| 4/20/1983 | 16.00% | 11.35% | 4.65% |
| 4/29/1983 | 16.00% | 11.23% | 4.77% |
| 5/1/1983 | 14.50% | 11.23% | 3.27% |
| 5/9/1983 | 15.50% | 11.14% | 4.36% |
| 5/11/1983 | 16.46% | 11.11% | 5.35% |
| 5/12/1983 | 14.14% | 11.10% | 3.04% |
| 5/18/1983 | 15.00% | 11.04% | 3.96% |
| 5/23/1983 | 14.90% | 11.00% | 3.90% |
| 5/23/1983 | 15.50% | 11.00% | 4.50% |
| 5/25/1983 | 15.50% | 10.97% | 4.53% |
| 5/27/1983 | 15.00% | 10.95% | 4.05% |
| 5/31/1983 | 14.00% | 10.94% | 3.06% |
| 5/31/1983 | 15.50% | 10.94% | 4.56% |
| 6/2/1983 | 14.50% | 10.92% | 3.58% |
| 6/17/1983 | 15.03% | 10.83% | 4.20% |
| 7/1/1983 | 14.80% | 10.77% | 4.03% |
| 7/1/1983 | 14.90% | 10.77% | 4.13% |
| 7/8/1983 | 16.25% | 10.75% | 5.50% |
| 7/13/1983 | 13.20% | 10.75% | 2.45% |
| 7/19/1983 | 15.00% | 10.74% | 4.26% |
| 7/19/1983 | 15.10% | 10.74% | 4.36% |
| 7/25/1983 | 16.25% | 10.73% | 5.52% |
| 7/28/1983 | 15.90% | 10.74% | 5.16% |
| 8/3/1983 | 16.34% | 10.75% | 5.59% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 8/3/1983 | 16.50% | 10.75% | 5.75% |
| 8/19/1983 | 15.00% | 10.80% | 4.20% |
| 8/22/1983 | 15.50% | 10.80% | 4.70% |
| 8/22/1983 | 16.40% | 10.80% | 5.60% |
| 8/31/1983 | 14.75% | 10.85% | 3.90% |
| 9/7/1983 | 15.00% | 10.87% | 4.13% |
| 9/14/1983 | 15.78% | 10.89% | 4.89% |
| 9/16/1983 | 15.00% | 10.90% | 4.10% |
| 9/19/1983 | 14.50% | 10.91% | 3.59% |
| 9/20/1983 | 16.50% | 10.91% | 5.59% |
| 9/28/1983 | 14.50% | 10.94% | 3.56% |
| 9/29/1983 | 15.50% | 10.95% | 4.55% |
| 9/30/1983 | 15.25% | 10.95% | 4.30% |
| 9/30/1983 | 16.15% | 10.95% | 5.20% |
| 10/4/1983 | 14.80% | 10.96% | 3.84% |
| 10/7/1983 | 16.00% | 10.97% | 5.03% |
| 10/13/1983 | 15.52% | 10.99% | 4.53% |
| 10/17/1983 | 15.50% | 11.00% | 4.50% |
| 10/18/1983 | 14.50% | 11.00% | 3.50% |
| 10/19/1983 | 16.25% | 11.01% | 5.24% |
| 10/19/1983 | 16.50% | 11.01% | 5.49% |
| 10/26/1983 | 15.00% | 11.04% | 3.96% |
| 10/27/1983 | 15.20% | 11.04% | 4.16% |
| 11/1/1983 | 16.00% | 11.06% | 4.94% |
| 11/9/1983 | 14.90% | 11.09% | 3.81% |
| 11/10/1983 | 14.35% | 11.10% | 3.25% |
| 11/23/1983 | 16.00% | 11.13% | 4.87% |
| 11/23/1983 | 16.15% | 11.13% | 5.02% |
| 11/30/1983 | 15.00% | 11.14% | 3.86% |
| 12/5/1983 | 15.25% | 11.15% | 4.10% |
| 12/6/1983 | 15.07% | 11.16% | 3.91% |
| 12/8/1983 | 15.90% | 11.16% | 4.74% |
| 12/9/1983 | 14.75% | 11.17% | 3.58% |
| 12/12/1983 | 14.50% | 11.18% | 3.32% |
| 12/15/1983 | 15.56% | 11.20% | 4.36% |
| 12/19/1983 | 14.80% | 11.21% | 3.59% |
| 12/20/1983 | 14.69% | 11.22% | 3.47% |
| 12/20/1983 | 16.00% | 11.22% | 4.78% |
| 12/20/1983 | 16.25% | 11.22% | 5.03% |
| 12/22/1983 | 14.75% | 11.23% | 3.52% |
| 12/22/1983 | 15.75% | 11.23% | 4.52% |
| 1/3/1984 | 14.75% | 11.27% | 3.48% |
| 1/10/1984 | 15.90% | 11.30% | 4.60% |
| 1/12/1984 | 15.60% | 11.31% | 4.29% |
| 1/18/1984 | 13.75% | 11.33% | 2.42% |
| 1/19/1984 | 15.90% | 11.33% | 4.57% |
| 1/30/1984 | 16.10% | 11.37% | 4.73% |
| 1/31/1984 | 15.25% | 11.38% | 3.87% |
| 2/1/1984 | 14.80% | 11.39% | 3.41% |
| 2/6/1984 | 13.75% | 11.41% | 2.34% |
| 2/6/1984 | 14.75% | 11.41% | 3.34% |
| 2/9/1984 | 15.25% | 11.43% | 3.82% |
| 2/15/1984 | 15.70% | 11.45% | 4.25% |
| 2/20/1984 | 15.00% | 11.46% | 3.54% |
| 2/20/1984 | 15.00% | 11.46% | 3.54% |
| 2/22/1984 | 14.75% | 11.48% | 3.27% |
| 2/28/1984 | 14.50% | 11.52% | 2.98% |
| 3/2/1984 | 14.25% | 11.54% | 2.71% |
| 3/20/1984 | 16.00% | 11.65% | 4.35% |
| 3/23/1984 | 15.50% | 11.67% | 3.83% |
| 3/26/1984 | 14.71% | 11.68% | 3.03% |
| 4/2/1984 | 15.50% | 11.72% | 3.78% |
| 4/6/1984 | 14.74% | 11.76% | 2.98% |
| 4/11/1984 | 15.72% | 11.78% | 3.94% |
| 4/17/1984 | 15.00% | 11.81% | 3.19% |
| 4/18/1984 | 16.20% | 11.82% | 4.38% |
| 4/25/1984 | 14.64% | 11.85% | 2.79% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 4/30/1984 | 14.40% | 11.88% | 2.52% |
| 5/16/1984 | 14.69% | 11.99% | 2.70% |
| 5/16/1984 | 15.00% | 11.99% | 3.01% |
| 5/22/1984 | 14.40% | 12.02% | 2.38% |
| 5/29/1984 | 15.10% | 12.06% | 3.04% |
| 6/13/1984 | 15.25% | 12.16% | 3.09% |
| 6/15/1984 | 15.60% | 12.17% | 3.43% |
| 6/22/1984 | 16.25% | 12.21% | 4.04% |
| 6/29/1984 | 15.25% | 12.26% | 2.99% |
| 7/2/1984 | 13.35% | 12.27% | 1.08% |
| 7/10/1984 | 16.00% | 12.31% | 3.69% |
| 7/12/1984 | 16.50% | 12.33% | 4.17% |
| 7/13/1984 | 16.25% | 12.34% | 3.91% |
| 7/17/1984 | 14.14% | 12.35% | 1.79% |
| 7/18/1984 | 15.30% | 12.36% | 2.94% |
| 7/18/1984 | 15.50% | 12.36% | 3.14% |
| 7/19/1984 | 14.30% | 12.37% | 1.93% |
| 7/24/1984 | 16.79% | 12.40% | 4.39% |
| 7/31/1984 | 16.00% | 12.43% | 3.57% |
| 8/3/1984 | 14.25% | 12.45% | 1.80% |
| 8/17/1984 | 14.30% | 12.49% | 1.81% |
| 8/20/1984 | 15.00% | 12.49% | 2.51% |
| 8/27/1984 | 16.30% | 12.51% | 3.79% |
| 8/31/1984 | 15.55% | 12.53% | 3.02% |
| 9/6/1984 | 16.00% | 12.54% | 3.46% |
| 9/10/1984 | 14.75% | 12.55% | 2.20% |
| 9/13/1984 | 15.00% | 12.55% | 2.45% |
| 9/17/1984 | 17.38% | 12.56% | 4.82% |
| 9/26/1984 | 14.50% | 12.57% | 1.93% |
| 9/28/1984 | 15.00% | 12.57% | 2.43% |
| 9/28/1984 | 16.25% | 12.57% | 3.68% |
| 10/9/1984 | 14.75% | 12.58% | 2.17% |
| 10/12/1984 | 15.60% | 12.59% | 3.01% |
| 10/22/1984 | 15.00% | 12.59% | 2.41% |
| 10/26/1984 | 16.40% | 12.59% | 3.81% |
| 10/31/1984 | 16.25% | 12.59% | 3.66% |
| 11/7/1984 | 15.60% | 12.58% | 3.02% |
| 11/9/1984 | 16.00% | 12.58% | 3.42% |
| 11/14/1984 | 15.75% | 12.59% | 3.16% |
| 11/20/1984 | 15.25% | 12.58% | 2.67% |
| 11/20/1984 | 15.92% | 12.58% | 3.34% |
| 11/23/1984 | 15.00% | 12.58% | 2.42% |
| 11/28/1984 | 16.15% | 12.57% | 3.58% |
| 12/3/1984 | 15.80% | 12.57% | 3.23% |
| 12/4/1984 | 16.50% | 12.56% | 3.94% |
| 12/18/1984 | 16.40% | 12.54% | 3.86% |
| 12/19/1984 | 14.75% | 12.53% | 2.22% |
| 12/19/1984 | 15.00% | 12.53% | 2.47% |
| 12/20/1984 | 16.00% | 12.53% | 3.47% |
| 12/28/1984 | 16.00% | 12.50% | 3.50% |
| 1/3/1985 | 14.75% | 12.49% | 2.26% |
| 1/10/1985 | 15.75% | 12.47% | 3.28% |
| 1/11/1985 | 16.30% | 12.46% | 3.84% |
| 1/23/1985 | 15.80% | 12.43% | 3.37% |
| 1/24/1985 | 15.82% | 12.43% | 3.39% |
| 1/25/1985 | 16.75% | 12.42% | 4.33% |
| 1/30/1985 | 14.90% | 12.40% | 2.50% |
| 1/31/1985 | 14.75% | 12.39% | 2.36% |
| 2/8/1985 | 14.47% | 12.35% | 2.12% |
| 3/1/1985 | 13.84% | 12.30% | 1.54% |
| 3/8/1985 | 16.85% | 12.28% | 4.57% |
| 3/14/1985 | 15.50% | 12.25% | 3.25% |
| 3/15/1985 | 15.62% | 12.25% | 3.37% |
| 3/29/1985 | 15.62% | 12.16% | 3.46% |
| 4/3/1985 | 14.60% | 12.13% | 2.47% |
| 4/9/1985 | 15.50% | 12.10% | 3.40% |
| 4/16/1985 | 15.70% | 12.05% | 3.65% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 4/22/1985 | 14.00% | 12.01% | 1.99% |
| 4/26/1985 | 15.50% | 11.97% | 3.53% |
| 4/29/1985 | 15.00% | 11.96% | 3.04% |
| 5/2/1985 | 14.68% | 11.93% | 2.75% |
| 5/8/1985 | 15.62% | 11.88% | 3.74% |
| 5/10/1985 | 16.50% | 11.86% | 4.64% |
| 5/29/1985 | 14.61% | 11.73% | 2.88% |
| 5/31/1985 | 16.00% | 11.71% | 4.29% |
| 6/14/1985 | 15.50% | 11.60% | 3.90% |
| 7/9/1985 | 15.00% | 11.44% | 3.56% |
| 7/16/1985 | 14.50% | 11.39% | 3.11% |
| 7/26/1985 | 14.50% | 11.32% | 3.18% |
| 8/2/1985 | 14.80% | 11.29% | 3.51% |
| 8/7/1985 | 15.00% | 11.26% | 3.74% |
| 8/28/1985 | 14.25% | 11.15% | 3.10% |
| 8/28/1985 | 15.50% | 11.15% | 4.35% |
| 8/29/1985 | 14.50% | 11.14% | 3.36% |
| 9/9/1985 | 14.60% | 11.11% | 3.49% |
| 9/9/1985 | 14.90% | 11.11% | 3.79% |
| 9/17/1985 | 14.90% | 11.08% | 3.82% |
| 9/23/1985 | 15.00% | 11.06% | 3.94% |
| 9/27/1985 | 15.50% | 11.04% | 4.46% |
| 9/27/1985 | 15.80% | 11.04% | 4.76% |
| 10/2/1985 | 14.00% | 11.03% | 2.97% |
| 10/2/1985 | 14.75% | 11.03% | 3.72% |
| 10/3/1985 | 15.25% | 11.03% | 4.22% |
| 10/24/1985 | 15.40% | 10.96% | 4.44% |
| 10/24/1985 | 15.82% | 10.96% | 4.86% |
| 10/24/1985 | 15.85% | 10.96% | 4.89% |
| 10/28/1985 | 16.00% | 10.95% | 5.05% |
| 10/29/1985 | 16.65% | 10.94% | 5.71% |
| 10/31/1985 | 15.06% | 10.93% | 4.13% |
| 11/4/1985 | 14.50% | 10.91% | 3.59% |
| 11/7/1985 | 15.50% | 10.89% | 4.61% |
| 11/8/1985 | 14.30% | 10.89% | 3.41% |
| 12/12/1985 | 14.75% | 10.73% | 4.02% |
| 12/18/1985 | 15.00% | 10.69% | 4.31% |
| 12/20/1985 | 14.50% | 10.66% | 3.84% |
| 12/20/1985 | 14.50% | 10.66% | 3.84% |
| 12/20/1985 | 15.00% | 10.66% | 4.34% |
| 1/24/1986 | 15.40% | 10.40% | 5.00% |
| 1/31/1986 | 15.00% | 10.35% | 4.65% |
| 2/5/1986 | 15.00% | 10.32% | 4.68% |
| 2/5/1986 | 15.75% | 10.32% | 5.43% |
| 2/10/1986 | 13.30% | 10.29% | 3.01% |
| 2/11/1986 | 12.50% | 10.27% | 2.23% |
| 2/14/1986 | 14.40% | 10.24% | 4.16% |
| 2/18/1986 | 16.00% | 10.22% | 5.78% |
| 2/24/1986 | 14.50% | 10.17% | 4.33% |
| 2/26/1986 | 14.00% | 10.15% | 3.85% |
| 3/5/1986 | 14.90% | 10.07% | 4.83% |
| 3/11/1986 | 14.50% | 10.01% | 4.49% |
| 3/12/1986 | 13.50% | 10.00% | 3.50% |
| 3/27/1986 | 14.10% | 9.85% | 4.25% |
| 3/31/1986 | 13.50% | 9.84% | 3.66% |
| 4/1/1986 | 14.00% | 9.82% | 4.18% |
| 4/2/1986 | 15.50% | 9.81% | 5.69% |
| 4/4/1986 | 15.00% | 9.78% | 5.22% |
| 4/14/1986 | 13.40% | 9.68% | 3.72% |
| 4/23/1986 | 15.00% | 9.57% | 5.43% |
| 5/16/1986 | 14.50% | 9.31% | 5.19% |
| 5/16/1986 | 14.50% | 9.31% | 5.19% |
| 5/29/1986 | 13.90% | 9.19% | 4.71% |
| 5/30/1986 | 15.10% | 9.17% | 5.93% |
| 6/2/1986 | 12.81% | 9.16% | 3.65% |
| 6/11/1986 | 14.00% | 9.06% | 4.94% |
| 6/24/1986 | 16.63% | 8.93% | 7.70% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 6/26/1986 | 12.00% | 8.90% | 3.10% |
| 6/26/1986 | 14.75% | 8.90% | 5.85% |
| 6/30/1986 | 13.00% | 8.86% | 4.14% |
| 7/10/1986 | 14.34% | 8.74% | 5.60% |
| 7/11/1986 | 12.75% | 8.72% | 4.03% |
| 7/14/1986 | 12.60% | 8.71% | 3.89% |
| 7/17/1986 | 12.40% | 8.65% | 3.75% |
| 7/25/1986 | 14.25% | 8.56% | 5.69% |
| 8/6/1986 | 13.50% | 8.43% | 5.07% |
| 8/14/1986 | 13.50% | 8.34% | 5.16% |
| 9/16/1986 | 12.75% | 8.06% | 4.69% |
| 9/19/1986 | 13.25% | 8.02% | 5.23% |
| 10/1/1986 | 14.00% | 7.94% | 6.06% |
| 10/3/1986 | 13.40% | 7.92% | 5.48% |
| 10/31/1986 | 13.50% | 7.77% | 5.73% |
| 11/5/1986 | 13.00% | 7.74% | 5.26% |
| 12/3/1986 | 12.90% | 7.58% | 5.32% |
| 12/4/1986 | 14.44% | 7.57% | 6.87% |
| 12/16/1986 | 13.60% | 7.52% | 6.08% |
| 12/22/1986 | 13.80% | 7.50% | 6.30% |
| 12/30/1986 | 13.00% | 7.49% | 5.51% |
| 1/2/1987 | 13.00% | 7.48% | 5.52% |
| 1/12/1987 | 12.40% | 7.46% | 4.94% |
| 1/27/1987 | 12.71% | 7.46% | 5.25% |
| 3/2/1987 | 12.47% | 7.47% | 5.00% |
| 3/3/1987 | 13.60% | 7.47% | 6.13% |
| 3/4/1987 | 12.38% | 7.47% | 4.91% |
| 3/10/1987 | 13.50% | 7.47% | 6.03% |
| 3/13/1987 | 13.00% | 7.47% | 5.53% |
| 3/31/1987 | 13.00% | 7.46% | 5.54% |
| 4/6/1987 | 13.00% | 7.47% | 5.53% |
| 4/14/1987 | 12.50% | 7.49% | 5.01% |
| 4/16/1987 | 14.50% | 7.50% | 7.00% |
| 4/27/1987 | 12.00% | 7.54% | 4.46% |
| 5/5/1987 | 12.85% | 7.58% | 5.27% |
| 5/12/1987 | 12.65% | 7.62% | 5.03% |
| 5/28/1987 | 13.50% | 7.70% | 5.80% |
| 6/15/1987 | 13.20% | 7.78% | 5.42% |
| 6/29/1987 | 15.00% | 7.84% | 7.16% |
| 6/30/1987 | 12.50% | 7.84% | 4.66% |
| 7/8/1987 | 12.00% | 7.86% | 4.14% |
| 7/10/1987 | 12.90% | 7.87% | 5.03% |
| 7/15/1987 | 13.50% | 7.88% | 5.62% |
| 7/16/1987 | 13.50% | 7.88% | 5.62% |
| 7/16/1987 | 15.00% | 7.88% | 7.12% |
| 7/27/1987 | 13.00% | 7.92% | 5.08% |
| 7/27/1987 | 13.40% | 7.92% | 5.48% |
| 7/27/1987 | 13.50% | 7.92% | 5.58% |
| 7/31/1987 | 12.98% | 7.95% | 5.03% |
| 8/26/1987 | 12.63% | 8.06% | 4.57% |
| 8/26/1987 | 12.75% | 8.06% | 4.69% |
| 8/27/1987 | 13.25% | 8.07% | 5.18% |
| 9/9/1987 | 13.00% | 8.14% | 4.86% |
| 9/30/1987 | 12.75% | 8.31% | 4.44% |
| 9/30/1987 | 13.00% | 8.31% | 4.69% |
| 10/2/1987 | 11.50% | 8.33% | 3.17% |
| 10/15/1987 | 13.00% | 8.44% | 4.56% |
| 11/2/1987 | 13.00% | 8.55% | 4.45% |
| 11/19/1987 | 13.00% | 8.64% | 4.36% |
| 11/30/1987 | 12.00% | 8.69% | 3.31% |
| 12/3/1987 | 14.20% | 8.71% | 5.49% |
| 12/15/1987 | 13.25% | 8.78% | 4.47% |
| 12/16/1987 | 13.50% | 8.79% | 4.71% |
| 12/16/1987 | 13.72% | 8.79% | 4.93% |
| 12/17/1987 | 11.75% | 8.80% | 2.95% |
| 12/18/1987 | 13.50% | 8.80% | 4.70% |
| 12/21/1987 | 12.01% | 8.81% | 3.20% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 12/22/1987 | 12.00% | 8.82% | 3.18% |
| 12/22/1987 | 12.00% | 8.82% | 3.18% |
| 12/22/1987 | 12.75% | 8.82% | 3.93% |
| 12/22/1987 | 13.00% | 8.82% | 4.18% |
| 1/20/1988 | 13.80% | 8.94% | 4.86% |
| 1/26/1988 | 13.90% | 8.96% | 4.94% |
| 1/29/1988 | 13.20% | 8.96% | 4.24% |
| 2/4/1988 | 12.60% | 8.96% | 3.64% |
| 3/1/1988 | 11.56% | 8.94% | 2.62% |
| 3/23/1988 | 12.87% | 8.92% | 3.95% |
| 3/24/1988 | 11.24% | 8.92% | 2.32% |
| 3/30/1988 | 12.72% | 8.92% | 3.80% |
| 4/1/1988 | 12.50% | 8.92% | 3.58% |
| 4/7/1988 | 13.25% | 8.93% | 4.32% |
| 4/25/1988 | 10.96% | 8.96% | 2.00% |
| 5/3/1988 | 12.91% | 8.98% | 3.93% |
| 5/11/1988 | 13.50% | 8.99% | 4.51% |
| 5/16/1988 | 13.00% | 8.99% | 4.01% |
| 6/30/1988 | 12.75% | 8.99% | 3.76% |
| 7/1/1988 | 12.75% | 8.99% | 3.76% |
| 7/20/1988 | 13.40% | 8.96% | 4.44% |
| 8/5/1988 | 12.75% | 8.91% | 3.84% |
| 8/23/1988 | 11.70% | 8.93% | 2.77% |
| 8/29/1988 | 12.75% | 8.94% | 3.81% |
| 8/30/1988 | 13.50% | 8.94% | 4.56% |
| 9/8/1988 | 12.60% | 8.95% | 3.65% |
| 10/13/1988 | 13.10% | 8.93% | 4.17% |
| 12/19/1988 | 13.00% | 9.02% | 3.98% |
| 12/20/1988 | 12.25% | 9.02% | 3.23% |
| 12/20/1988 | 13.00% | 9.02% | 3.98% |
| 12/21/1988 | 12.90% | 9.02% | 3.88% |
| 12/27/1988 | 13.00% | 9.03% | 3.97% |
| 12/28/1988 | 13.10% | 9.03% | 4.07% |
| 12/30/1988 | 13.40% | 9.04% | 4.36% |
| 1/27/1989 | 13.00% | 9.06% | 3.94% |
| 1/31/1989 | 13.00% | 9.06% | 3.94% |
| 2/17/1989 | 13.00% | 9.05% | 3.95% |
| 2/20/1989 | 12.40% | 9.05% | 3.35% |
| 3/1/1989 | 12.76% | 9.05% | 3.71% |
| 3/8/1989 | 13.00% | 9.05% | 3.95% |
| 3/30/1989 | 14.00% | 9.05% | 4.95% |
| 4/5/1989 | 14.20% | 9.05% | 5.15% |
| 4/18/1989 | 13.00% | 9.05% | 3.95% |
| 5/5/1989 | 12.40% | 9.05% | 3.35% |
| 6/2/1989 | 13.20% | 9.00% | 4.20% |
| 6/8/1989 | 13.50% | 8.98% | 4.52% |
| 6/27/1989 | 13.25% | 8.91% | 4.34% |
| 6/30/1989 | 13.00% | 8.90% | 4.10% |
| 8/14/1989 | 12.50% | 8.77% | 3.73% |
| 9/28/1989 | 12.25% | 8.63% | 3.62% |
| 10/24/1989 | 12.50% | 8.54% | 3.96% |
| 11/9/1989 | 13.00% | 8.48% | 4.52% |
| 12/15/1989 | 13.00% | 8.33% | 4.67% |
| 12/20/1989 | 12.90% | 8.31% | 4.59% |
| 12/21/1989 | 12.90% | 8.31% | 4.59% |
| 12/27/1989 | 12.50% | 8.29% | 4.21% |
| 12/27/1989 | 13.00% | 8.29% | 4.71% |
| 1/10/1990 | 12.80% | 8.24% | 4.56% |
| 1/11/1990 | 12.90% | 8.23% | 4.67% |
| 1/17/1990 | 12.80% | 8.22% | 4.58% |
| 1/26/1990 | 12.00% | 8.19% | 3.81% |
| 2/9/1990 | 12.10% | 8.17% | 3.93% |
| 2/24/1990 | 12.86% | 8.15% | 4.71% |
| 3/30/1990 | 12.90% | 8.16% | 4.74% |
| 4/4/1990 | 15.76% | 8.17% | 7.59% |
| 4/12/1990 | 12.52% | 8.18% | 4.34% |
| 4/19/1990 | 12.75% | 8.20% | 4.55% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 5/21/1990 | 12.10% | 8.28% | 3.82% |
| 5/29/1990 | 12.40% | 8.30% | 4.10% |
| 5/31/1990 | 12.00% | 8.30% | 3.70% |
| 6/4/1990 | 12.90% | 8.30% | 4.60% |
| 6/6/1990 | 12.25% | 8.31% | 3.94% |
| 6/15/1990 | 13.20% | 8.32% | 4.88% |
| 6/20/1990 | 12.92% | 8.32% | 4.60% |
| 6/27/1990 | 12.90% | 8.33% | 4.57% |
| 6/29/1990 | 12.50% | 8.34% | 4.16% |
| 7/6/1990 | 12.10% | 8.34% | 3.76% |
| 7/6/1990 | 12.35% | 8.34% | 4.01% |
| 8/10/1990 | 12.55% | 8.41% | 4.14% |
| 8/16/1990 | 13.21% | 8.43% | 4.78% |
| 8/22/1990 | 13.10% | 8.45% | 4.65% |
| 8/24/1990 | 13.00% | 8.46% | 4.54% |
| 9/26/1990 | 11.45% | 8.59% | 2.86% |
| 10/2/1990 | 13.00% | 8.61% | 4.39% |
| 10/5/1990 | 12.84% | 8.63% | 4.21% |
| 10/19/1990 | 13.00% | 8.67% | 4.33% |
| 10/25/1990 | 12.30% | 8.68% | 3.62% |
| 11/21/1990 | 12.70% | 8.69% | 4.01% |
| 12/13/1990 | 12.30% | 8.67% | 3.63% |
| 12/17/1990 | 12.87% | 8.67% | 4.20% |
| 12/18/1990 | 13.10% | 8.67% | 4.43% |
| 12/19/1990 | 12.00% | 8.66% | 3.34% |
| 12/20/1990 | 12.75% | 8.66% | 4.09% |
| 12/21/1990 | 12.50% | 8.66% | 3.84% |
| 12/27/1990 | 12.79% | 8.66% | 4.13% |
| 1/2/1991 | 13.10% | 8.66% | 4.44% |
| 1/4/1991 | 12.50% | 8.65% | 3.85% |
| 1/15/1991 | 12.75% | 8.65% | 4.10% |
| 1/25/1991 | 11.70% | 8.63% | 3.07% |
| 2/4/1991 | 12.50% | 8.60% | 3.90% |
| 2/7/1991 | 12.50% | 8.59% | 3.91% |
| 2/12/1991 | 13.00% | 8.57% | 4.43% |
| 2/14/1991 | 12.72% | 8.56% | 4.16% |
| 2/22/1991 | 12.80% | 8.55% | 4.25% |
| 3/6/1991 | 13.10% | 8.53% | 4.57% |
| 3/8/1991 | 12.30% | 8.52% | 3.78% |
| 3/8/1991 | 13.00% | 8.52% | 4.48% |
| 4/22/1991 | 13.00% | 8.49% | 4.51% |
| 5/7/1991 | 13.50% | 8.47% | 5.03% |
| 5/13/1991 | 13.25% | 8.47% | 4.78% |
| 5/30/1991 | 12.75% | 8.43% | 4.32% |
| 6/12/1991 | 12.00% | 8.41% | 3.59% |
| 6/25/1991 | 11.70% | 8.38% | 3.32% |
| 6/28/1991 | 12.50% | 8.38% | 4.12% |
| 7/1/1991 | 12.00% | 8.37% | 3.63% |
| 7/3/1991 | 12.50% | 8.36% | 4.14% |
| 7/19/1991 | 12.10% | 8.34% | 3.76% |
| 8/1/1991 | 12.90% | 8.32% | 4.58% |
| 8/16/1991 | 13.20% | 8.29% | 4.91% |
| 9/27/1991 | 12.50% | 8.23% | 4.27% |
| 9/30/1991 | 12.25% | 8.23% | 4.02% |
| 10/17/1991 | 13.00% | 8.20% | 4.80% |
| 10/23/1991 | 12.50% | 8.20% | 4.30% |
| 10/23/1991 | 12.55% | 8.20% | 4.35% |
| 10/31/1991 | 11.80% | 8.19% | 3.61% |
| 11/1/1991 | 12.00% | 8.19% | 3.81% |
| 11/5/1991 | 12.25% | 8.19% | 4.06% |
| 11/12/1991 | 12.50% | 8.18% | 4.32% |
| 11/12/1991 | 13.25% | 8.18% | 5.07% |
| 11/25/1991 | 12.40% | 8.18% | 4.22% |
| 11/26/1991 | 11.60% | 8.18% | 3.42% |
| 11/26/1991 | 12.50% | 8.18% | 4.32% |
| 11/27/1991 | 12.10% | 8.18% | 3.92% |
| 12/18/1991 | 12.25% | 8.15% | 4.10% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 12/19/1991 | 12.60% | 8.15% | 4.45% |
| 12/19/1991 | 12.80% | 8.15% | 4.65% |
| 12/20/1991 | 12.65% | 8.14% | 4.51% |
| 1/9/1992 | 12.80% | 8.09% | 4.71% |
| 1/16/1992 | 12.75% | 8.07% | 4.68% |
| 1/21/1992 | 12.00% | 8.06% | 3.94% |
| 1/22/1992 | 13.00% | 8.06% | 4.94% |
| 1/27/1992 | 12.65% | 8.05% | 4.60% |
| 1/31/1992 | 12.00% | 8.04% | 3.96% |
| 2/11/1992 | 12.40% | 8.03% | 4.37% |
| 2/25/1992 | 12.50% | 8.01% | 4.49% |
| 3/16/1992 | 11.43% | 7.98% | 3.45% |
| 3/18/1992 | 12.28% | 7.98% | 4.30% |
| 4/2/1992 | 12.10% | 7.95% | 4.15% |
| 4/9/1992 | 11.45% | 7.93% | 3.52% |
| 4/10/1992 | 11.50% | 7.93% | 3.57% |
| 4/14/1992 | 11.50% | 7.92% | 3.58% |
| 5/5/1992 | 11.50% | 7.89% | 3.61% |
| 5/12/1992 | 11.87% | 7.88% | 3.99% |
| 5/12/1992 | 12.46% | 7.88% | 4.58% |
| 6/1/1992 | 12.30% | 7.86% | 4.44% |
| 6/12/1992 | 10.90% | 7.85% | 3.05% |
| 6/26/1992 | 12.35% | 7.85% | 4.50% |
| 6/29/1992 | 11.00% | 7.85% | 3.15% |
| 6/30/1992 | 13.00% | 7.85% | 5.15% |
| 7/13/1992 | 11.90% | 7.84% | 4.06% |
| 7/13/1992 | 13.50% | 7.84% | 5.66% |
| 7/22/1992 | 11.20% | 7.83% | 3.37% |
| 8/3/1992 | 12.00% | 7.81% | 4.19% |
| 8/6/1992 | 12.50% | 7.80% | 4.70% |
| 9/22/1992 | 12.00% | 7.71% | 4.29% |
| 9/28/1992 | 11.40% | 7.71% | 3.69% |
| 9/30/1992 | 11.75% | 7.71% | 4.04% |
| 10/2/1992 | 13.00% | 7.70% | 5.30% |
| 10/12/1992 | 12.20% | 7.70% | 4.50% |
| 10/16/1992 | 13.16% | 7.71% | 5.45% |
| 10/30/1992 | 11.75% | 7.71% | 4.04% |
| 11/3/1992 | 12.00% | 7.71% | 4.29% |
| 12/3/1992 | 11.85% | 7.68% | 4.17% |
| 12/15/1992 | 11.00% | 7.66% | 3.34% |
| 12/16/1992 | 11.90% | 7.66% | 4.24% |
| 12/16/1992 | 12.40% | 7.66% | 4.74% |
| 12/17/1992 | 12.00% | 7.66% | 4.34% |
| 12/22/1992 | 12.30% | 7.65% | 4.65% |
| 12/22/1992 | 12.40% | 7.65% | 4.75% |
| 12/29/1992 | 12.25% | 7.63% | 4.62% |
| 12/30/1992 | 12.00% | 7.63% | 4.37% |
| 12/31/1992 | 11.90% | 7.62% | 4.28% |
| 1/12/1993 | 12.00% | 7.61% | 4.39% |
| 1/21/1993 | 11.25% | 7.59% | 3.66% |
| 2/2/1993 | 11.40% | 7.56% | 3.84% |
| 2/15/1993 | 12.30% | 7.52% | 4.78% |
| 2/24/1993 | 11.90% | 7.49% | 4.41% |
| 2/26/1993 | 11.80% | 7.48% | 4.32% |
| 2/26/1993 | 12.20% | 7.48% | 4.72% |
| 4/23/1993 | 11.75% | 7.29% | 4.46% |
| 5/11/1993 | 11.75% | 7.24% | 4.51% |
| 5/14/1993 | 11.50% | 7.24% | 4.26% |
| 5/25/1993 | 11.50% | 7.22% | 4.28% |
| 5/28/1993 | 11.00% | 7.22% | 3.78% |
| 6/3/1993 | 12.00% | 7.21% | 4.79% |
| 6/16/1993 | 11.50% | 7.19% | 4.31% |
| 6/18/1993 | 12.10% | 7.18% | 4.92% |
| 6/25/1993 | 11.67% | 7.17% | 4.50% |
| 7/21/1993 | 11.38% | 7.10% | 4.28% |
| 7/23/1993 | 10.46% | 7.09% | 3.37% |
| 8/24/1993 | 11.50% | 6.95% | 4.55% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 9/21/1993 | 10.50% | 6.80% | 3.70% |
| 9/29/1993 | 11.47% | 6.76% | 4.71% |
| 9/30/1993 | 11.60% | 6.76% | 4.84% |
| 11/2/1993 | 10.80% | 6.60% | 4.20% |
| 11/12/1993 | 12.00% | 6.56% | 5.44% |
| 11/26/1993 | 11.00% | 6.52% | 4.48% |
| 12/14/1993 | 10.55% | 6.48% | 4.07% |
| 12/16/1993 | 10.60% | 6.48% | 4.12% |
| 12/21/1993 | 11.30% | 6.47% | 4.83% |
| 1/4/1994 | 10.07% | 6.44% | 3.63% |
| 1/13/1994 | 11.00% | 6.42% | 4.58% |
| 1/21/1994 | 11.00% | 6.40% | 4.60% |
| 1/28/1994 | 11.35% | 6.39% | 4.96% |
| 2/3/1994 | 11.40% | 6.38% | 5.02% |
| 2/17/1994 | 10.60% | 6.36% | 4.24% |
| 2/25/1994 | 11.25% | 6.35% | 4.90% |
| 2/25/1994 | 12.00% | 6.35% | 5.65% |
| 3/1/1994 | 11.00% | 6.35% | 4.65% |
| 3/4/1994 | 11.00% | 6.34% | 4.66% |
| 4/25/1994 | 11.00% | 6.40% | 4.60% |
| 5/10/1994 | 11.75% | 6.44% | 5.31% |
| 5/13/1994 | 10.50% | 6.46% | 4.04% |
| 6/3/1994 | 11.00% | 6.54% | 4.46% |
| 6/27/1994 | 11.40% | 6.65% | 4.75% |
| 8/5/1994 | 12.75% | 6.88% | 5.87% |
| 10/31/1994 | 10.00% | 7.33% | 2.67% |
| 11/9/1994 | 10.85% | 7.40% | 3.45% |
| 11/9/1994 | 10.85% | 7.40% | 3.45% |
| 11/18/1994 | 11.20% | 7.46% | 3.74% |
| 11/22/1994 | 11.60% | 7.47% | 4.13% |
| 11/28/1994 | 11.06% | 7.50% | 3.56% |
| 12/8/1994 | 11.50% | 7.55% | 3.95% |
| 12/8/1994 | 11.70% | 7.55% | 4.15% |
| 12/14/1994 | 10.95% | 7.57% | 3.38% |
| 12/15/1994 | 11.50% | 7.57% | 3.93% |
| 12/19/1994 | 11.50% | 7.58% | 3.92% |
| 12/28/1994 | 12.15% | 7.61% | 4.54% |
| 1/9/1995 | 12.28% | 7.64% | 4.64% |
| 1/31/1995 | 11.00% | 7.69% | 3.31% |
| 2/10/1995 | 12.60% | 7.70% | 4.90% |
| 2/17/1995 | 11.90% | 7.70% | 4.20% |
| 3/9/1995 | 11.50% | 7.72% | 3.78% |
| 3/20/1995 | 12.00% | 7.72% | 4.28% |
| 3/23/1995 | 12.81% | 7.72% | 5.09% |
| 3/29/1995 | 11.60% | 7.72% | 3.88% |
| 4/6/1995 | 11.10% | 7.72% | 3.38% |
| 4/7/1995 | 11.00% | 7.71% | 3.29% |
| 4/19/1995 | 11.00% | 7.70% | 3.30% |
| 5/12/1995 | 11.63% | 7.68% | 3.95% |
| 5/25/1995 | 11.20% | 7.65% | 3.55% |
| 6/9/1995 | 11.25% | 7.60% | 3.65% |
| 6/21/1995 | 12.25% | 7.56% | 4.69% |
| 6/30/1995 | 11.10% | 7.51% | 3.59% |
| 9/11/1995 | 11.30% | 7.20% | 4.10% |
| 9/27/1995 | 11.30% | 7.12% | 4.18% |
| 9/27/1995 | 11.50% | 7.12% | 4.38% |
| 9/27/1995 | 11.75% | 7.12% | 4.63% |
| 9/29/1995 | 11.00% | 7.11% | 3.89% |
| 11/9/1995 | 11.38% | 6.89% | 4.49% |
| 11/9/1995 | 12.36% | 6.89% | 5.47% |
| 11/17/1995 | 11.00% | 6.85% | 4.15% |
| 12/4/1995 | 11.35% | 6.78% | 4.57% |
| 12/11/1995 | 11.40% | 6.74% | 4.66% |
| 12/20/1995 | 11.60% | 6.69% | 4.91% |
| 12/27/1995 | 12.00% | 6.66% | 5.34% |
| 2/5/1996 | 12.25% | 6.48% | 5.77% |
| 3/29/1996 | 10.67% | 6.42% | 4.25% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 4/8/1996 | 11.00% | 6.42% | 4.58% |
| 4/11/1996 | 12.59% | 6.43% | 6.16% |
| 4/11/1996 | 12.59% | 6.43% | 6.16% |
| 4/24/1996 | 11.25% | 6.43% | 4.82% |
| 4/30/1996 | 11.00% | 6.43% | 4.57% |
| 5/13/1996 | 11.00% | 6.44% | 4.56% |
| 5/23/1996 | 11.25% | 6.43% | 4.82% |
| 6/25/1996 | 11.25% | 6.48% | 4.77% |
| 6/27/1996 | 11.20% | 6.48% | 4.72% |
| 8/12/1996 | 10.40% | 6.57% | 3.83% |
| 9/27/1996 | 11.00% | 6.71% | 4.29% |
| 10/16/1996 | 12.25% | 6.76% | 5.49% |
| 11/5/1996 | 11.00% | 6.81% | 4.19% |
| 11/26/1996 | 11.30% | 6.83% | 4.47% |
| 12/18/1996 | 11.75% | 6.84% | 4.91% |
| 12/31/1996 | 11.50% | 6.83% | 4.67% |
| 1/3/1997 | 10.70% | 6.83% | 3.87% |
| 2/13/1997 | 11.80% | 6.82% | 4.98% |
| 2/20/1997 | 11.80% | 6.82% | 4.98% |
| 3/31/1997 | 10.02% | 6.80% | 3.22% |
| 4/2/1997 | 11.65% | 6.80% | 4.85% |
| 4/28/1997 | 11.50% | 6.81% | 4.69% |
| 4/29/1997 | 11.70% | 6.81% | 4.89% |
| 7/17/1997 | 12.00% | 6.77% | 5.23% |
| 12/12/1997 | 11.00% | 6.60% | 4.40% |
| 12/23/1997 | 11.12% | 6.57% | 4.55% |
| 2/2/1998 | 12.75% | 6.39% | 6.36% |
| 3/2/1998 | 11.25% | 6.28% | 4.97% |
| 3/6/1998 | 10.75% | 6.27% | 4.48% |
| 3/20/1998 | 10.50% | 6.22% | 4.28% |
| 4/30/1998 | 12.20% | 6.12% | 6.08% |
| 7/10/1998 | 11.40% | 5.94% | 5.46% |
| 9/15/1998 | 11.90% | 5.78% | 6.12% |
| 11/30/1998 | 12.60% | 5.58% | 7.02% |
| 12/10/1998 | 12.20% | 5.54% | 6.66% |
| 12/17/1998 | 12.10% | 5.52% | 6.58% |
| 2/5/1999 | 10.30% | 5.38% | 4.92% |
| 3/4/1999 | 10.50% | 5.34% | 5.16% |
| 4/6/1999 | 10.94% | 5.32% | 5.62% |
| 7/29/1999 | 10.75% | 5.52% | 5.23% |
| 9/23/1999 | 10.75% | 5.70% | 5.05% |
| 11/17/1999 | 11.10% | 5.90% | 5.20% |
| 1/7/2000 | 11.50% | 6.05% | 5.45% |
| 1/7/2000 | 11.50% | 6.05% | 5.45% |
| 2/17/2000 | 10.60% | 6.17% | 4.43% |
| 3/28/2000 | 11.25% | 6.20% | 5.05% |
| 5/24/2000 | 11.00% | 6.18% | 4.82% |
| 7/18/2000 | 12.20% | 6.16% | 6.04% |
| 9/29/2000 | 11.16% | 6.03% | 5.13% |
| 11/28/2000 | 12.90% | 5.89% | 7.01% |
| 11/30/2000 | 12.10% | 5.88% | 6.22% |
| 1/23/2001 | 11.25% | 5.79% | 5.46% |
| 2/8/2001 | 11.50% | 5.77% | 5.73% |
| 5/8/2001 | 10.75% | 5.62% | 5.13% |
| 6/26/2001 | 11.00% | 5.62% | 5.38% |
| 7/25/2001 | 11.02% | 5.60% | 5.42% |
| 7/25/2001 | 11.02% | 5.60% | 5.42% |
| 7/31/2001 | 11.00% | 5.59% | 5.41% |
| 8/31/2001 | 10.50% | 5.56% | 4.94% |
| 9/7/2001 | 10.75% | 5.55% | 5.20% |
| 9/10/2001 | 11.00% | 5.55% | 5.45% |
| 9/20/2001 | 10.00% | 5.55% | 4.45% |
| 10/24/2001 | 10.30% | 5.54% | 4.76% |
| 11/28/2001 | 10.60% | 5.49% | 5.11% |
| 12/3/2001 | 12.88% | 5.49% | 7.39% |
| 12/20/2001 | 12.50% | 5.50% | 7.00% |
| 1/22/2002 | 10.00% | 5.50% | 4.50% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 3/27/2002 | 10.10% | 5.45% | 4.65% |
| 4/22/2002 | 11.80% | 5.45% | 6.35% |
| 5/28/2002 | 10.17% | 5.46% | 4.71% |
| 6/10/2002 | 12.00% | 5.47% | 6.53% |
| 6/18/2002 | 11.16% | 5.48% | 5.68% |
| 6/20/2002 | 11.00% | 5.48% | 5.52% |
| 6/20/2002 | 12.30% | 5.48% | 6.82% |
| 7/15/2002 | 11.00% | 5.48% | 5.52% |
| 9/12/2002 | 12.30% | 5.45% | 6.85% |
| 9/26/2002 | 10.45% | 5.41% | 5.04% |
| 12/4/2002 | 11.55% | 5.29% | 6.26% |
| 12/13/2002 | 11.75% | 5.27% | 6.48% |
| 12/20/2002 | 11.40% | 5.25% | 6.15% |
| 1/8/2003 | 11.10% | 5.19% | 5.91% |
| 1/31/2003 | 12.45% | 5.13% | 7.32% |
| 2/28/2003 | 12.30% | 5.04% | 7.26% |
| 3/6/2003 | 10.75% | 5.02% | 5.73% |
| 3/7/2003 | 9.96% | 5.02% | 4.94% |
| 3/20/2003 | 12.00% | 4.98% | 7.02% |
| 4/3/2003 | 12.00% | 4.95% | 7.05% |
| 4/15/2003 | 11.15% | 4.93% | 6.22% |
| 6/25/2003 | 10.75% | 4.79% | 5.96% |
| 6/26/2003 | 10.75% | 4.79% | 5.96% |
| 7/9/2003 | 9.75% | 4.79% | 4.96% |
| 7/16/2003 | 9.75% | 4.79% | 4.96% |
| 7/25/2003 | 9.50% | 4.79% | 4.71% |
| 8/26/2003 | 10.50% | 4.83% | 5.67% |
| 12/17/2003 | 9.85% | 4.94% | 4.91% |
| 12/17/2003 | 10.70% | 4.94% | 5.76% |
| 12/18/2003 | 11.50% | 4.94% | 6.56% |
| 12/19/2003 | 12.00% | 4.94% | 7.06% |
| 12/19/2003 | 12.00% | 4.94% | 7.06% |
| 12/23/2003 | 10.50% | 4.94% | 5.56% |
| 1/13/2004 | 12.00% | 4.95% | 7.05% |
| 3/2/2004 | 10.75% | 4.99% | 5.76% |
| 3/26/2004 | 10.25% | 5.02% | 5.23% |
| 4/5/2004 | 11.25% | 5.03% | 6.22% |
| 5/18/2004 | 10.50% | 5.07% | 5.43% |
| 5/25/2004 | 10.25% | 5.07% | 5.18% |
| 5/27/2004 | 10.25% | 5.08% | 5.17% |
| 6/2/2004 | 11.22% | 5.08% | 6.14% |
| 6/30/2004 | 10.50% | 5.10% | 5.40% |
| 6/30/2004 | 10.50% | 5.10% | 5.40% |
| 7/16/2004 | 11.60% | 5.11% | 6.49% |
| 8/25/2004 | 10.25% | 5.10% | 5.15% |
| 9/9/2004 | 10.40% | 5.10% | 5.30% |
| 11/9/2004 | 10.50% | 5.07% | 5.43% |
| 11/23/2004 | 11.00% | 5.06% | 5.94% |
| 12/14/2004 | 10.97% | 5.07% | 5.90% |
| 12/21/2004 | 11.25% | 5.07% | 6.18% |
| 12/21/2004 | 11.50% | 5.07% | 6.43% |
| 12/22/2004 | 10.70% | 5.07% | 5.63% |
| 12/22/2004 | 11.50% | 5.07% | 6.43% |
| 12/29/2004 | 9.85% | 5.08% | 4.77% |
| 1/6/2005 | 10.70% | 5.08% | 5.62% |
| 2/18/2005 | 10.30% | 4.98% | 5.32% |
| 2/25/2005 | 10.50% | 4.96% | 5.54% |
| 3/10/2005 | 11.00% | 4.93% | 6.07% |
| 3/24/2005 | 10.30% | 4.89% | 5.41% |
| 4/4/2005 | 10.00% | 4.87% | 5.13% |
| 4/7/2005 | 10.25% | 4.87% | 5.38% |
| 5/18/2005 | 10.25% | 4.78% | 5.47% |
| 5/25/2005 | 10.75% | 4.76% | 5.99% |
| 5/26/2005 | 9.75% | 4.76% | 4.99% |
| 6/1/2005 | 9.75% | 4.75% | 5.00% |
| 7/19/2005 | 11.50% | 4.64% | 6.86% |
| 8/5/2005 | 11.75% | 4.62% | 7.13% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 8/15/2005 | 10.13% | 4.61% | 5.52% |
| 9/28/2005 | 10.00% | 4.54% | 5.46% |
| 10/4/2005 | 10.75% | 4.53% | 6.22% |
| 12/12/2005 | 11.00% | 4.55% | 6.45% |
| 12/13/2005 | 10.75% | 4.55% | 6.20% |
| 12/21/2005 | 10.29% | 4.54% | 5.75% |
| 12/21/2005 | 10.40% | 4.54% | 5.86% |
| 12/22/2005 | 11.00% | 4.54% | 6.46% |
| 12/22/2005 | 11.15% | 4.54% | 6.61% |
| 12/28/2005 | 10.00% | 4.54% | 5.46% |
| 12/28/2005 | 10.00% | 4.54% | 5.46% |
| 1/5/2006 | 11.00% | 4.53% | 6.47% |
| 1/27/2006 | 9.75% | 4.52% | 5.23% |
| 3/3/2006 | 10.39% | 4.53% | 5.86% |
| 4/17/2006 | 10.20% | 4.62% | 5.58% |
| 4/26/2006 | 10.60% | 4.64% | 5.96% |
| 5/17/2006 | 11.60% | 4.69% | 6.91% |
| 6/6/2006 | 10.00% | 4.75% | 5.25% |
| 6/27/2006 | 10.75% | 4.80% | 5.95% |
| 7/6/2006 | 10.20% | 4.83% | 5.37% |
| 7/24/2006 | 9.60% | 4.86% | 4.74% |
| 7/26/2006 | 10.50% | 4.86% | 5.64% |
| 7/28/2006 | 10.05% | 4.87% | 5.18% |
| 8/23/2006 | 9.55% | 4.89% | 4.66% |
| 9/1/2006 | 10.54% | 4.90% | 5.64% |
| 9/14/2006 | 10.00% | 4.91% | 5.09% |
| 10/6/2006 | 9.67% | 4.92% | 4.75% |
| 11/21/2006 | 10.08% | 4.95% | 5.13% |
| 11/21/2006 | 10.08% | 4.95% | 5.13% |
| 11/21/2006 | 10.12% | 4.95% | 5.17% |
| 12/1/2006 | 10.25% | 4.96% | 5.29% |
| 12/1/2006 | 10.50% | 4.96% | 5.54% |
| 12/7/2006 | 10.75% | 4.96% | 5.79% |
| 12/21/2006 | 10.90% | 4.95% | 5.95% |
| 12/21/2006 | 11.25% | 4.95% | 6.30% |
| 12/22/2006 | 10.25% | 4.95% | 5.30% |
| 1/5/2007 | 10.00% | 4.95% | 5.05% |
| 1/11/2007 | 10.10% | 4.95% | 5.15% |
| 1/11/2007 | 10.10% | 4.95% | 5.15% |
| 1/11/2007 | 10.90% | 4.95% | 5.95% |
| 1/12/2007 | 10.10% | 4.95% | 5.15% |
| 1/13/2007 | 10.40% | 4.95% | 5.45% |
| 1/19/2007 | 10.80% | 4.94% | 5.86% |
| 3/21/2007 | 11.35% | 4.86% | 6.49% |
| 3/22/2007 | 9.75% | 4.86% | 4.89% |
| 5/15/2007 | 10.00% | 4.81% | 5.19% |
| 5/17/2007 | 10.25% | 4.80% | 5.45% |
| 5/17/2007 | 10.25% | 4.80% | 5.45% |
| 5/22/2007 | 10.20% | 4.80% | 5.40% |
| 5/22/2007 | 10.50% | 4.80% | 5.70% |
| 5/23/2007 | 10.70% | 4.80% | 5.90% |
| 5/25/2007 | 9.67% | 4.80% | 4.87% |
| 6/15/2007 | 9.90% | 4.82% | 5.08% |
| 6/21/2007 | 10.20% | 4.83% | 5.37% |
| 6/22/2007 | 10.50% | 4.83% | 5.67% |
| 6/28/2007 | 10.75% | 4.84% | 5.91% |
| 7/12/2007 | 9.67% | 4.86% | 4.81% |
| 7/19/2007 | 10.00% | 4.87% | 5.13% |
| 7/19/2007 | 10.00% | 4.87% | 5.13% |
| 8/15/2007 | 10.40% | 4.88% | 5.52% |
| 10/9/2007 | 10.00% | 4.91% | 5.09% |
| 10/17/2007 | 9.10% | 4.91% | 4.19% |
| 10/31/2007 | 9.96% | 4.90% | 5.06% |
| 11/29/2007 | 10.90% | 4.87% | 6.03% |
| 12/6/2007 | 10.75% | 4.86% | 5.89% |
| 12/13/2007 | 9.96% | 4.86% | 5.10% |
| 12/14/2007 | 10.70% | 4.86% | 5.84% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 12/14/2007 | 10.80% | 4.86% | 5.94% |
| 12/19/2007 | 10.20% | 4.86% | 5.34% |
| 12/20/2007 | 10.20% | 4.86% | 5.34% |
| 12/20/2007 | 11.00% | 4.86% | 6.14% |
| 12/28/2007 | 10.25% | 4.85% | 5.40% |
| 12/31/2007 | 11.25% | 4.85% | 6.40% |
| 1/8/2008 | 10.75% | 4.83% | 5.92% |
| 1/17/2008 | 10.75% | 4.81% | 5.94% |
| 1/28/2008 | 9.40% | 4.80% | 4.60% |
| 1/30/2008 | 10.00% | 4.79% | 5.21% |
| 1/31/2008 | 10.71% | 4.79% | 5.92% |
| 2/29/2008 | 10.25% | 4.75% | 5.50% |
| 3/12/2008 | 10.25% | 4.73% | 5.52% |
| 3/25/2008 | 9.10% | 4.68% | 4.42% |
| 4/22/2008 | 10.25% | 4.60% | 5.65% |
| 4/24/2008 | 10.10% | 4.60% | 5.50% |
| 5/1/2008 | 10.70% | 4.58% | 6.12% |
| 5/19/2008 | 11.00% | 4.56% | 6.44% |
| 5/27/2008 | 10.00% | 4.55% | 5.45% |
| 6/10/2008 | 10.70% | 4.54% | 6.16% |
| 6/27/2008 | 10.50% | 4.54% | 5.96% |
| 6/27/2008 | 11.04% | 4.54% | 6.50% |
| 7/10/2008 | 10.43% | 4.52% | 5.91% |
| 7/16/2008 | 9.40% | 4.51% | 4.89% |
| 7/30/2008 | 10.80% | 4.51% | 6.29% |
| 7/31/2008 | 10.70% | 4.51% | 6.19% |
| 8/11/2008 | 10.25% | 4.50% | 5.75% |
| 8/26/2008 | 10.18% | 4.50% | 5.68% |
| 9/10/2008 | 10.30% | 4.50% | 5.80% |
| 9/24/2008 | 10.65% | 4.48% | 6.17% |
| 9/24/2008 | 10.65% | 4.48% | 6.17% |
| 9/24/2008 | 10.65% | 4.48% | 6.17% |
| 9/30/2008 | 10.20% | 4.47% | 5.73% |
| 10/8/2008 | 10.15% | 4.46% | 5.69% |
| 11/13/2008 | 10.55% | 4.45% | 6.10% |
| 11/17/2008 | 10.20% | 4.44% | 5.76% |
| 12/1/2008 | 10.25% | 4.39% | 5.86% |
| 12/23/2008 | 11.00% | 4.27% | 6.73% |
| 12/29/2008 | 10.00% | 4.24% | 5.76% |
| 12/29/2008 | 10.20% | 4.24% | 5.96% |
| 12/31/2008 | 10.75% | 4.22% | 6.53% |
| 1/14/2009 | 10.50% | 4.15% | 6.35% |
| 1/21/2009 | 10.50% | 4.11% | 6.39% |
| 1/21/2009 | 10.50% | 4.11% | 6.39% |
| 1/21/2009 | 10.50% | 4.11% | 6.39% |
| 1/27/2009 | 10.76% | 4.09% | 6.67% |
| 1/30/2009 | 10.50% | 4.07% | 6.43% |
| 2/4/2009 | 8.75% | 4.06% | 4.69% |
| 3/4/2009 | 10.50% | 3.96% | 6.54% |
| 3/12/2009 | 11.50% | 3.93% | 7.57% |
| 4/2/2009 | 11.10% | 3.85% | 7.25% |
| 4/21/2009 | 10.61% | 3.80% | 6.81% |
| 4/24/2009 | 10.00% | 3.78% | 6.22% |
| 4/30/2009 | 11.25% | 3.77% | 7.48% |
| 5/4/2009 | 10.74% | 3.77% | 6.97% |
| 5/20/2009 | 10.25% | 3.74% | 6.51% |
| 5/28/2009 | 10.50% | 3.74% | 6.76% |
| 6/22/2009 | 10.00% | 3.76% | 6.24% |
| 6/24/2009 | 10.80% | 3.76% | 7.04% |
| 7/8/2009 | 10.63% | 3.76% | 6.87% |
| 7/17/2009 | 10.50% | 3.77% | 6.73% |
| 8/31/2009 | 10.25% | 3.82% | 6.43% |
| 10/14/2009 | 10.70% | 4.02% | 6.68% |
| 10/23/2009 | 10.88% | 4.06% | 6.82% |
| 11/2/2009 | 10.70% | 4.10% | 6.60% |
| 11/3/2009 | 10.70% | 4.10% | 6.60% |
| 11/24/2009 | 10.25% | 4.16% | 6.09% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 11/25/2009 | 10.75% | 4.16% | 6.59% |
| 11/30/2009 | 10.35% | 4.17% | 6.18% |
| 12/3/2009 | 10.50% | 4.18% | 6.32% |
| 12/7/2009 | 10.70% | 4.19% | 6.51% |
| 12/16/2009 | 10.90% | 4.22% | 6.68% |
| 12/16/2009 | 11.00% | 4.22% | 6.78% |
| 12/18/2009 | 10.40% | 4.22% | 6.18% |
| 12/18/2009 | 10.40% | 4.22% | 6.18% |
| 12/22/2009 | 10.20% | 4.23% | 5.97% |
| 12/22/2009 | 10.40% | 4.23% | 6.17% |
| 12/22/2009 | 10.40% | 4.23% | 6.17% |
| 12/30/2009 | 10.00% | 4.26% | 5.74% |
| 1/4/2010 | 10.80% | 4.28% | 6.52% |
| 1/11/2010 | 11.00% | 4.31% | 6.69% |
| 1/26/2010 | 10.13% | 4.35% | 5.78% |
| 1/27/2010 | 10.40% | 4.36% | 6.04% |
| 1/27/2010 | 10.40% | 4.36% | 6.04% |
| 1/27/2010 | 10.70% | 4.36% | 6.34% |
| 2/9/2010 | 9.80% | 4.38% | 5.42% |
| 2/18/2010 | 10.60% | 4.40% | 6.20% |
| 2/24/2010 | 10.18% | 4.41% | 5.77% |
| 3/2/2010 | 9.63% | 4.41% | 5.22% |
| 3/4/2010 | 10.50% | 4.41% | 6.09% |
| 3/5/2010 | 10.50% | 4.41% | 6.09% |
| 3/11/2010 | 11.90% | 4.42% | 7.48% |
| 3/17/2010 | 10.00% | 4.41% | 5.59% |
| 3/25/2010 | 10.15% | 4.42% | 5.73% |
| 4/2/2010 | 10.10% | 4.43% | 5.67% |
| 4/27/2010 | 10.00% | 4.46% | 5.54% |
| 4/29/2010 | 9.90% | 4.46% | 5.44% |
| 4/29/2010 | 10.06% | 4.46% | 5.60% |
| 4/29/2010 | 10.26% | 4.46% | 5.80% |
| 5/12/2010 | 10.30% | 4.45% | 5.85% |
| 5/12/2010 | 10.30% | 4.45% | 5.85% |
| 5/28/2010 | 10.10% | 4.44% | 5.66% |
| 5/28/2010 | 10.20% | 4.44% | 5.76% |
| 6/7/2010 | 10.30% | 4.44% | 5.86% |
| 6/16/2010 | 10.00% | 4.44% | 5.56% |
| 6/28/2010 | 9.67% | 4.43% | 5.24% |
| 6/28/2010 | 10.50% | 4.43% | 6.07% |
| 6/30/2010 | 9.40% | 4.43% | 4.97% |
| 7/1/2010 | 10.25% | 4.43% | 5.82% |
| 7/15/2010 | 10.53% | 4.43% | 6.10% |
| 7/15/2010 | 10.70% | 4.43% | 6.27% |
| 7/30/2010 | 10.70% | 4.41% | 6.29% |
| 8/4/2010 | 10.50% | 4.41% | 6.09% |
| 8/6/2010 | 9.83% | 4.41% | 5.42% |
| 8/25/2010 | 9.90% | 4.37% | 5.53% |
| 9/3/2010 | 10.60% | 4.35% | 6.25% |
| 9/14/2010 | 10.70% | 4.33% | 6.37% |
| 9/16/2010 | 10.00% | 4.32% | 5.68% |
| 9/16/2010 | 10.00% | 4.32% | 5.68% |
| 9/30/2010 | 9.75% | 4.28% | 5.47% |
| 10/14/2010 | 10.35% | 4.24% | 6.11% |
| 10/28/2010 | 10.70% | 4.21% | 6.49% |
| 11/2/2010 | 10.38% | 4.20% | 6.18% |
| 11/4/2010 | 10.70% | 4.19% | 6.51% |
| 11/19/2010 | 10.20% | 4.17% | 6.03% |
| 11/22/2010 | 10.00% | 4.17% | 5.83% |
| 12/1/2010 | 10.13% | 4.16% | 5.97% |
| 12/6/2010 | 9.86% | 4.15% | 5.71% |
| 12/9/2010 | 10.25% | 4.15% | 6.10% |
| 12/13/2010 | 10.70% | 4.15% | 6.55% |
| 12/14/2010 | 10.13% | 4.15% | 5.98% |
| 12/15/2010 | 10.44% | 4.15% | 6.29% |
| 12/17/2010 | 10.00% | 4.14% | 5.86% |
| 12/20/2010 | 10.60% | 4.14% | 6.46% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 12/21/2010 | 10.30% | 4.14% | 6.16% |
| 12/27/2010 | 9.90% | 4.14% | 5.76% |
| 12/29/2010 | 11.15% | 4.14% | 7.01% |
| 1/5/2011 | 10.15% | 4.13% | 6.02% |
| 1/12/2011 | 10.30% | 4.12% | 6.18% |
| 1/13/2011 | 10.30% | 4.12% | 6.18% |
| 1/18/2011 | 10.00% | 4.12% | 5.88% |
| 1/20/2011 | 9.30% | 4.12% | 5.18% |
| 1/20/2011 | 10.13% | 4.12% | 6.01% |
| 1/31/2011 | 9.60% | 4.11% | 5.49% |
| 2/3/2011 | 10.00% | 4.11% | 5.89% |
| 2/25/2011 | 10.00% | 4.14% | 5.86% |
| 3/25/2011 | 9.80% | 4.18% | 5.62% |
| 3/30/2011 | 10.00% | 4.18% | 5.82% |
| 4/12/2011 | 10.00% | 4.21% | 5.79% |
| 4/25/2011 | 10.74% | 4.23% | 6.51% |
| 4/26/2011 | 9.67% | 4.24% | 5.43% |
| 4/27/2011 | 10.40% | 4.24% | 6.16% |
| 5/4/2011 | 10.00% | 4.25% | 5.75% |
| 5/4/2011 | 10.00% | 4.25% | 5.75% |
| 5/24/2011 | 10.50% | 4.27% | 6.23% |
| 6/8/2011 | 10.75% | 4.30% | 6.45% |
| 6/16/2011 | 9.20% | 4.32% | 4.88% |
| 6/17/2011 | 9.95% | 4.32% | 5.63% |
| 7/13/2011 | 10.20% | 4.37% | 5.83% |
| 8/1/2011 | 9.20% | 4.39% | 4.81% |
| 8/8/2011 | 10.00% | 4.38% | 5.62% |
| 8/11/2011 | 10.00% | 4.38% | 5.62% |
| 8/12/2011 | 10.35% | 4.38% | 5.97% |
| 8/19/2011 | 10.25% | 4.36% | 5.89% |
| 9/2/2011 | 12.88% | 4.32% | 8.56% |
| 9/22/2011 | 10.00% | 4.24% | 5.76% |
| 10/12/2011 | 10.30% | 4.14% | 6.16% |
| 10/20/2011 | 10.50% | 4.10% | 6.40% |
| 11/30/2011 | 10.90% | 3.87% | 7.03% |
| 11/30/2011 | 10.90% | 3.87% | 7.03% |
| 12/14/2011 | 10.00% | 3.79% | 6.21% |
| 12/14/2011 | 10.30% | 3.79% | 6.51% |
| 12/20/2011 | 10.20% | 3.76% | 6.44% |
| 12/21/2011 | 10.20% | 3.75% | 6.45% |
| 12/22/2011 | 9.90% | 3.75% | 6.15% |
| 12/22/2011 | 10.40% | 3.75% | 6.65% |
| 12/23/2011 | 10.19% | 3.74% | 6.45% |
| 1/25/2012 | 10.50% | 3.57% | 6.93% |
| 1/27/2012 | 10.50% | 3.55% | 6.95% |
| 2/15/2012 | 10.20% | 3.47% | 6.73% |
| 2/23/2012 | 9.90% | 3.43% | 6.47% |
| 2/27/2012 | 10.25% | 3.42% | 6.83% |
| 2/29/2012 | 10.40% | 3.41% | 6.99% |
| 3/29/2012 | 10.37% | 3.31% | 7.06% |
| 4/4/2012 | 10.00% | 3.29% | 6.71% |
| 4/26/2012 | 10.00% | 3.20% | 6.80% |
| 5/2/2012 | 10.00% | 3.18% | 6.82% |
| 5/7/2012 | 9.80% | 3.16% | 6.64% |
| 5/15/2012 | 10.00% | 3.14% | 6.86% |
| 5/29/2012 | 10.05% | 3.11% | 6.94% |
| 6/7/2012 | 10.30% | 3.07% | 7.23% |
| 6/14/2012 | 9.40% | 3.06% | 6.34% |
| 6/15/2012 | 10.40% | 3.06% | 7.34% |
| 6/18/2012 | 9.60% | 3.05% | 6.55% |
| 6/19/2012 | 9.25% | 3.05% | 6.20% |
| 6/26/2012 | 10.10% | 3.04% | 7.06% |
| 6/29/2012 | 10.00% | 3.04% | 6.96% |
| 7/9/2012 | 10.20% | 3.03% | 7.17% |
| 7/16/2012 | 9.80% | 3.02% | 6.78% |
| 7/20/2012 | 9.31% | 3.01% | 6.30% |
| 7/20/2012 | 9.81% | 3.01% | 6.80% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 9/13/2012 | 9.80% | 2.94% | 6.86% |
| 9/19/2012 | 9.80% | 2.94% | 6.86% |
| 9/19/2012 | 10.05% | 2.94% | 7.11% |
| 9/26/2012 | 9.50% | 2.94% | 6.56% |
| 10/12/2012 | 9.60% | 2.93% | 6.67% |
| 10/23/2012 | 9.75% | 2.93% | 6.82% |
| 10/24/2012 | 10.30% | 2.93% | 7.37% |
| 11/9/2012 | 10.30% | 2.92% | 7.38% |
| 11/28/2012 | 10.40% | 2.90% | 7.50% |
| 11/29/2012 | 9.75% | 2.89% | 6.86% |
| 11/29/2012 | 9.88% | 2.89% | 6.99% |
| 12/5/2012 | 9.71% | 2.89% | 6.82% |
| 12/5/2012 | 10.40% | 2.89% | 7.51% |
| 12/12/2012 | 9.80% | 2.88% | 6.92% |
| 12/13/2012 | 9.50% | 2.88% | 6.62% |
| 12/13/2012 | 10.50% | 2.88% | 7.62% |
| 12/14/2012 | 10.40% | 2.88% | 7.52% |
| 12/19/2012 | 9.71% | 2.87% | 6.84% |
| 12/19/2012 | 10.25% | 2.87% | 7.38% |
| 12/20/2012 | 9.50% | 2.87% | 6.63% |
| 12/20/2012 | 9.80% | 2.87% | 6.93% |
| 12/20/2012 | 10.25% | 2.87% | 7.38% |
| 12/20/2012 | 10.25% | 2.87% | 7.38% |
| 12/20/2012 | 10.30% | 2.87% | 7.43% |
| 12/20/2012 | 10.40% | 2.87% | 7.53% |
| 12/20/2012 | 10.45% | 2.87% | 7.58% |
| 12/21/2012 | 10.20% | 2.87% | 7.33% |
| 12/26/2012 | 9.80% | 2.86% | 6.94% |
| 1/9/2013 | 9.70% | 2.84% | 6.86% |
| 1/9/2013 | 9.70% | 2.84% | 6.86% |
| 1/9/2013 | 9.70% | 2.84% | 6.86% |
| 1/16/2013 | 9.60% | 2.84% | 6.76% |
| 1/16/2013 | 9.60% | 2.84% | 6.76% |
| 2/13/2013 | 10.20% | 2.84% | 7.36% |
| 2/22/2013 | 9.75% | 2.85% | 6.90% |
| 2/27/2013 | 10.00% | 2.86% | 7.14% |
| 3/14/2013 | 9.30% | 2.88% | 6.42% |
| 3/27/2013 | 9.80% | 2.90% | 6.90% |
| 5/1/2013 | 9.84% | 2.94% | 6.90% |
| 5/15/2013 | 10.30% | 2.96% | 7.34% |
| 5/30/2013 | 10.20% | 2.98% | 7.22% |
| 5/31/2013 | 9.00% | 2.98% | 6.02% |
| 6/11/2013 | 10.00% | 3.00% | 7.00% |
| 6/21/2013 | 9.75% | 3.02% | 6.73% |
| 6/25/2013 | 9.80% | 3.03% | 6.77% |
| 7/12/2013 | 9.36% | 3.08% | 6.28% |
| 8/8/2013 | 9.83% | 3.14% | 6.69% |
| 8/14/2013 | 9.15% | 3.16% | 5.99% |
| 9/11/2013 | 10.20% | 3.27% | 6.93% |
| 9/11/2013 | 10.25% | 3.27% | 6.98% |
| 9/24/2013 | 10.20% | 3.31% | 6.89% |
| 10/3/2013 | 9.65% | 3.33% | 6.32% |
| 11/6/2013 | 10.20% | 3.41% | 6.79% |
| 11/21/2013 | 10.00% | 3.44% | 6.56% |
| 11/26/2013 | 10.00% | 3.45% | 6.55% |
| 12/3/2013 | 10.25% | 3.47% | 6.78% |
| 12/4/2013 | 9.50% | 3.47% | 6.03% |
| 12/5/2013 | 10.20% | 3.48% | 6.72% |
| 12/9/2013 | 8.72% | 3.49% | 5.23% |
| 12/9/2013 | 9.75% | 3.49% | 6.26% |
| 12/13/2013 | 9.75% | 3.50% | 6.25% |
| 12/16/2013 | 9.95% | 3.50% | 6.45% |
| 12/16/2013 | 9.95% | 3.50% | 6.45% |
| 12/16/2013 | 10.12% | 3.50% | 6.62% |
| 12/17/2013 | 9.50% | 3.51% | 5.99% |
| 12/17/2013 | 10.95% | 3.51% | 7.44% |
| 12/18/2013 | 8.72% | 3.51% | 5.21% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 12/18/2013 | 9.80% | 3.51% | 6.29% |
| 12/19/2013 | 10.15% | 3.51% | 6.64% |
| 12/30/2013 | 9.50% | 3.54% | 5.96% |
| 2/20/2014 | 9.20% | 3.69% | 5.51% |
| 2/26/2014 | 9.75% | 3.70% | 6.05% |
| 3/17/2014 | 9.55% | 3.72% | 5.83% |
| 3/26/2014 | 9.40% | 3.73% | 5.67% |
| 3/26/2014 | 9.96% | 3.73% | 6.23% |
| 4/2/2014 | 9.70% | 3.73% | 5.97% |
| 5/16/2014 | 9.80% | 3.70% | 6.10% |
| 5/30/2014 | 9.70% | 3.68% | 6.02% |
| 6/6/2014 | 10.40% | 3.67% | 6.73% |
| 6/30/2014 | 9.55% | 3.64% | 5.91% |
| 7/2/2014 | 9.62% | 3.64% | 5.98% |
| 7/10/2014 | 9.95% | 3.63% | 6.32% |
| 7/23/2014 | 9.75% | 3.61% | 6.14% |
| 7/29/2014 | 9.45% | 3.60% | 5.85% |
| 7/31/2014 | 9.90% | 3.60% | 6.30% |
| 8/20/2014 | 9.75% | 3.56% | 6.19% |
| 8/25/2014 | 9.60% | 3.56% | 6.04% |
| 8/29/2014 | 9.80% | 3.54% | 6.26% |
| 9/11/2014 | 9.60% | 3.51% | 6.09% |
| 9/15/2014 | 10.25% | 3.51% | 6.74% |
| 10/9/2014 | 9.80% | 3.44% | 6.36% |
| 11/6/2014 | 9.56% | 3.37% | 6.19% |
| 11/6/2014 | 10.20% | 3.37% | 6.83% |
| 11/14/2014 | 10.20% | 3.35% | 6.85% |
| 11/26/2014 | 9.70% | 3.32% | 6.38% |
| 11/26/2014 | 10.20% | 3.32% | 6.88% |
| 12/4/2014 | 9.68% | 3.30% | 6.38% |
| 12/10/2014 | 9.25% | 3.29% | 5.96% |
| 12/10/2014 | 9.25% | 3.29% | 5.96% |
| 12/11/2014 | 10.07% | 3.28% | 6.79% |
| 12/12/2014 | 10.20% | 3.28% | 6.92% |
| 12/17/2014 | 9.17% | 3.27% | 5.90% |
| 12/18/2014 | 9.83% | 3.26% | 6.57% |
| 1/23/2015 | 9.50% | 3.14% | 6.36% |
| 2/24/2015 | 9.83% | 3.04% | 6.79% |
| 3/18/2015 | 9.75% | 2.98% | 6.77% |
| 3/25/2015 | 9.50% | 2.95% | 6.55% |
| 3/26/2015 | 9.72% | 2.95% | 6.77% |
| 4/23/2015 | 10.20% | 2.87% | 7.33% |
| 4/29/2015 | 9.53% | 2.86% | 6.67% |
| 5/1/2015 | 9.60% | 2.85% | 6.75% |
| 5/26/2015 | 9.75% | 2.83% | 6.92% |
| 6/17/2015 | 9.00% | 2.82% | 6.18% |
| 6/17/2015 | 9.00% | 2.82% | 6.18% |
| 9/2/2015 | 9.50% | 2.79% | 6.71% |
| 9/10/2015 | 9.30% | 2.79% | 6.51% |
| 10/15/2015 | 9.00% | 2.81% | 6.19% |
| 11/19/2015 | 10.00% | 2.88% | 7.12% |
| 11/19/2015 | 10.30% | 2.88% | 7.42% |
| 12/3/2015 | 10.00% | 2.90% | 7.10% |
| 12/9/2015 | 9.14% | 2.90% | 6.24% |
| 12/9/2015 | 9.14% | 2.90% | 6.24% |
| 12/11/2015 | 10.30% | 2.90% | 7.40% |
| 12/15/2015 | 9.60% | 2.91% | 6.69% |
| 12/17/2015 | 9.70% | 2.91% | 6.79% |
| 12/18/2015 | 9.50% | 2.91% | 6.59% |
| 12/30/2015 | 9.50% | 2.93% | 6.57% |
| 1/6/2016 | 9.50% | 2.94% | 6.56% |
| 2/23/2016 | 9.75% | 2.94% | 6.81% |
| 3/16/2016 | 9.85% | 2.91% | 6.94% |
| 4/29/2016 | 9.80% | 2.83% | 6.97% |
| 6/3/2016 | 9.75% | 2.80% | 6.95% |
| 6/8/2016 | 9.48% | 2.80% | 6.68% |
| 6/15/2016 | 9.00% | 2.78% | 6.22% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 6/15/2016 | 9.00% | 2.78% | 6.22% |
| 7/18/2016 | 9.98% | 2.71% | 7.27% |
| 8/9/2016 | 9.85% | 2.66% | 7.19% |
| 8/18/2016 | 9.50% | 2.63% | 6.87% |
| 8/24/2016 | 9.75% | 2.61% | 7.14% |
| 9/1/2016 | 9.50% | 2.59% | 6.91% |
| 9/8/2016 | 10.00% | 2.57% | 7.43% |
| 9/28/2016 | 9.58% | 2.53% | 7.05% |
| 9/30/2016 | 9.90% | 2.53% | 7.37% |
| 11/9/2016 | 9.80% | 2.48% | 7.32% |
| 11/10/2016 | 9.50% | 2.48% | 7.02% |
| 11/15/2016 | 9.55% | 2.49% | 7.06% |
| 11/18/2016 | 10.00% | 2.50% | 7.50% |
| 11/29/2016 | 10.55% | 2.51% | 8.04% |
| 12/1/2016 | 10.00% | 2.51% | 7.49% |
| 12/6/2016 | 8.64% | 2.52% | 6.12% |
| 12/6/2016 | 8.64% | 2.52% | 6.12% |
| 12/7/2016 | 10.10% | 2.52% | 7.58% |
| 12/12/2016 | 9.60% | 2.53% | 7.07% |
| 12/14/2016 | 9.10% | 2.53% | 6.57% |
| 12/19/2016 | 9.00% | 2.54% | 6.46% |
| 12/19/2016 | 9.37% | 2.54% | 6.83% |
| 12/22/2016 | 9.60% | 2.55% | 7.05% |
| 12/22/2016 | 9.90% | 2.55% | 7.35% |
| 12/28/2016 | 9.50% | 2.55% | 6.95% |
| 1/12/2017 | 9.60% | 2.58% | 7.02% |
| 1/18/2017 | 9.45% | 2.58% | 6.87% |
| 1/24/2017 | 9.00% | 2.59% | 6.41% |
| 1/31/2017 | 10.10% | 2.60% | 7.50% |
| 2/15/2017 | 9.60% | 2.62% | 6.98% |
| 2/22/2017 | 9.60% | 2.64% | 6.96% |
| 2/24/2017 | 9.75% | 2.64% | 7.11% |
| 2/28/2017 | 10.10% | 2.64% | 7.46% |
| 3/2/2017 | 9.41% | 2.65% | 6.76% |
| 3/20/2017 | 9.50% | 2.68% | 6.82% |
| 4/4/2017 | 10.25% | 2.72% | 7.53% |
| 4/12/2017 | 9.40% | 2.74% | 6.66% |
| 4/20/2017 | 9.50% | 2.76% | 6.74% |
| 5/3/2017 | 9.50% | 2.79% | 6.71% |
| 5/11/2017 | 9.20% | 2.81% | 6.39% |
| 5/18/2017 | 9.50% | 2.83% | 6.67% |
| 5/23/2017 | 9.70% | 2.84% | 6.86% |
| 6/16/2017 | 9.65% | 2.89% | 6.76% |
| 6/22/2017 | 9.70% | 2.90% | 6.80% |
| 6/22/2017 | 9.70% | 2.90% | 6.80% |
| 7/24/2017 | 9.50% | 2.95% | 6.55% |
| 8/15/2017 | 10.00% | 2.97% | 7.03% |
| 9/22/2017 | 9.60% | 2.93% | 6.67% |
| 9/28/2017 | 9.80% | 2.92% | 6.88% |
| 10/20/2017 | 9.50% | 2.91% | 6.59% |
| 10/26/2017 | 10.20% | 2.91% | 7.29% |
| 10/26/2017 | 10.25% | 2.91% | 7.34% |
| 10/26/2017 | 10.30% | 2.91% | 7.39% |
| 11/6/2017 | 10.25% | 2.90% | 7.35% |
| 11/15/2017 | 11.95% | 2.89% | 9.06% |
| 11/30/2017 | 10.00% | 2.88% | 7.12% |
| 11/30/2017 | 10.00% | 2.88% | 7.12% |
| 12/5/2017 | 9.50% | 2.88% | 6.62% |
| 12/6/2017 | 8.40% | 2.87% | 5.53% |
| 12/6/2017 | 8.40% | 2.87% | 5.53% |
| 12/7/2017 | 9.80% | 2.87% | 6.93% |
| 12/14/2017 | 9.60% | 2.86% | 6.74% |
| 12/14/2017 | 9.65% | 2.86% | 6.79% |
| 12/18/2017 | 9.50% | 2.86% | 6.64% |
| 12/20/2017 | 9.58% | 2.85% | 6.73% |
| 12/21/2017 | 9.10% | 2.85% | 6.25% |
| 12/28/2017 | 9.50% | 2.85% | 6.65% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 12/29/2017 | 9.51% | 2.85% | 6.66% |
| 1/18/2018 | 9.70% | 2.84% | 6.86% |
| 1/31/2018 | 9.30% | 2.84% | 6.46% |
| 2/2/2018 | 9.98% | 2.84% | 7.14% |
| 2/23/2018 | 9.90% | 2.85% | 7.05% |
| 3/12/2018 | 9.25% | 2.86% | 6.39% |
| 3/15/2018 | 9.00% | 2.87% | 6.13% |
| 3/29/2018 | 10.00% | 2.88% | 7.12% |
| 4/12/2018 | 9.90% | 2.89% | 7.01% |
| 4/13/2018 | 9.73% | 2.89% | 6.84% |
| 4/18/2018 | 9.25% | 2.89% | 6.36% |
| 4/18/2018 | 10.00% | 2.89% | 7.11% |
| 4/26/2018 | 9.50% | 2.90% | 6.60% |
| 5/30/2018 | 9.95% | 2.94% | 7.01% |
| 5/31/2018 | 9.50% | 2.94% | 6.56% |
| 6/14/2018 | 8.80% | 2.96% | 5.84% |
| 6/22/2018 | 9.50% | 2.97% | 6.53% |
| 6/22/2018 | 9.90% | 2.97% | 6.93% |
| 6/28/2018 | 9.35% | 2.97% | 6.38% |
| 6/29/2018 | 9.50% | 2.97% | 6.53% |
| 8/8/2018 | 9.53% | 2.99% | 6.54% |
| 8/21/2018 | 9.70% | 3.00% | 6.70% |
| 8/24/2018 | 9.28% | 3.01% | 6.27% |
| 9/5/2018 | 9.56% | 3.02% | 6.54% |
| 9/14/2018 | 10.00% | 3.03% | 6.97% |
| 9/20/2018 | 9.80% | 3.04% | 6.76% |
| 9/26/2018 | 9.77% | 3.05% | 6.72% |
| 9/26/2018 | 10.00% | 3.05% | 6.95% |
| 9/27/2018 | 9.30% | 3.05% | 6.25% |
| 10/4/2018 | 9.85% | 3.06% | 6.79% |
| 10/29/2018 | 9.60% | 3.10% | 6.50% |
| 10/31/2018 | 9.99% | 3.11% | 6.88% |
| 11/1/2018 | 8.69% | 3.11% | 5.58% |
| 12/4/2018 | 8.69% | 3.14% | 5.55% |
| 12/13/2018 | 9.30% | 3.14% | 6.16% |
| 12/14/2018 | 9.50% | 3.14% | 6.36% |
| 12/19/2018 | 9.84% | 3.14% | 6.70% |
| 12/20/2018 | 9.65% | 3.14% | 6.51% |
| 12/21/2018 | 9.30% | 3.14% | 6.16% |
| 1/9/2019 | 10.00% | 3.14% | 6.86% |
| 2/27/2019 | 9.75% | 3.12% | 6.63% |
| 3/13/2019 | 9.60% | 3.12% | 6.48% |
| 3/14/2019 | 9.00% | 3.12% | 5.88% |
| 3/14/2019 | 9.40% | 3.12% | 6.28% |
| 3/22/2019 | 9.65% | 3.12% | 6.53% |
| 4/30/2019 | 9.73% | 3.11% | 6.62% |
| 4/30/2019 | 9.73% | 3.11% | 6.62% |
| 5/1/2019 | 9.50% | 3.11% | 6.39% |
| 5/2/2019 | 10.00% | 3.11% | 6.89% |
| 5/8/2019 | 9.50% | 3.10% | 6.40% |
| 5/14/2019 | 8.75% | 3.10% | 5.65% |
| 5/16/2019 | 9.50% | 3.09% | 6.41% |
| 5/23/2019 | 9.90% | 3.09% | 6.81% |
| 8/12/2019 | 9.60% | 2.89% | 6.71% |
| 8/29/2019 | 9.06% | 2.81% | 6.25% |
| 9/4/2019 | 10.00% | 2.78% | 7.22% |
| 9/30/2019 | 9.60% | 2.70% | 6.90% |
| 10/31/2019 | 10.00% | 2.60% | 7.40% |
| 10/31/2019 | 10.00% | 2.60% | 7.40% |
| 11/7/2019 | 9.35% | 2.58% | 6.77% |
| 11/29/2019 | 9.50% | 2.52% | 6.98% |
| 12/4/2019 | 8.91% | 2.51% | 6.40% |
| 12/4/2019 | 9.75% | 2.51% | 7.24% |
| 12/16/2019 | 8.91% | 2.48% | 6.43% |
| 12/17/2019 | 9.70% | 2.47% | 7.23% |
| 12/17/2019 | 10.50% | 2.47% | 8.03% |
| 12/19/2019 | 10.20% | 2.47% | 7.73% |

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 12/19/2019 | 10.25% | 2.47% | 7.78% |
| 12/19/2019 | 10.30% | 2.47% | 7.83% |
| 12/20/2019 | 9.45% | 2.46% | 6.99% |
| 12/20/2019 | 9.65% | 2.46% | 7.19% |
| 12/24/2019 | 9.50% | 2.46% | 7.04% |
| 1/8/2020 | 10.02% | 2.43% | 7.59% |
| 1/16/2020 | 8.80% | 2.41% | 6.39% |
| 1/22/2020 | 9.50% | 2.39% | 7.11% |
| 1/23/2020 | 9.86% | 2.39% | 7.47% |
| | | # of Cases: | 1,617 |
| | | Average: | 4.71% |

Expected Earnings Analysis

| | | [1] | [2] | [3] | [4] | [5] | [6] |
|---|---|---|---|---|---|---|---|
| | | Expected ROE | Shares Outstanding | | | Adjustment | Adjusted |
| Company | Ticker | 2022-24 | 2020 | 2022-24 | % Increase | Factor | ROE |
| ALLETE, Inc. | ALE | 9.0% | 52.00 | 52.75 | 0.48% | 1.002 | 9.02% |
| Alliant Energy Corporation | LNT | 10.0% | 242.00 | 250.00 | 1.09% | 1.005 | 10.05% |
| Ameren Corporation | AEE | 10.5% | 254.50 | 259.00 | 0.59% | 1.003 | 10.53% |
| American Electric Power Company, Inc. | AEP | 10.5% | 496.00 | 525.50 | 1.94% | 1.010 | 10.60% |
| Avangrid, Inc. | AGR | 5.5% | 309.00 | 309.00 | 0.00% | 1.000 | 5.50% |
| Avista | AVA | 8.0% | 68.00 | 71.00 | 1.45% | 1.007 | 8.06% |
| CMS Energy Corporation | CMS | 13.5% | 287.00 | 296.00 | 1.03% | 1.005 | 13.57% |
| DTE Energy Company | DTE | 9.5% | 198.00 | 212.00 | 2.30% | 1.011 | 9.61% |
| Evergy, Inc | EVRG | 8.5% | 212.00 | 212.00 | 0.00% | 1.000 | 8.50% |
| Hawaiian Electric Industries, Inc. | HE | 9.0% | 110.00 | 113.00 | 0.90% | 1.004 | 9.04% |
| NextEra Energy, Inc. | NEE | 12.5% | 489.00 | 495.00 | 0.41% | 1.002 | 12.53% |
| NorthWestern Corporation | NWE | 9.0% | 50.90 | 51.60 | 0.46% | 1.002 | 9.02% |
| OGE Energy Corp. | OGE | 11.5% | 200.00 | 200.00 | 0.00% | 1.000 | 11.50% |
| Otter Tail Corporation | OTTR | 11.0% | 41.50 | 41.80 | 0.24% | 1.001 | 11.01% |
| Pinnacle West Capital Corporation | PNW | 10.0% | 113.50 | 118.00 | 1.30% | 1.006 | 10.06% |
| PNM Resources, Inc. | PNM | 9.0% | 79.65 | 90.00 | 4.16% | 1.020 | 9.18% |
| Portland General Electric Company | POR | 9.0% | 89.55 | 90.00 | 0.17% | 1.001 | 9.01% |
| Southern Company | SO | 12.5% | 1050.00 | 1080.00 | 0.94% | 1.005 | 12.56% |
| WEC Energy Group, Inc. | WEC | 12.0% | 315.50 | 315.50 | 0.00% | 1.000 | 12.00% |
| Xcel Energy Inc. | XEL | 10.5% | 539.00 | 546.00 | 0.43% | 1.002 | 10.52% |
| | | | | | | Median | 10.06% |
| | | | | | | Average | 10.09% |

Notes:

[1] Source: Value Line
[2] Source: Value Line
[3] Source: Value Line
[4] Equals =([3] / [2])^(1/3)-1
[5] Equals (2 x (1 + [4])) / (2 + [4])
[6] Equals [1] x [5]

Proxy Group Capital Structure

| | | % Common Equity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE, Inc. | ALE | 58.68% | 59.66% | 59.53% | 59.12% | 58.50% | 58.84% | 63.09% | 62.51% | 59.99% |
| Alliant Energy Corporation | LNT | 51.73% | 50.38% | 53.18% | 53.11% | 51.13% | 51.00% | 49.74% | 49.77% | 51.26% |
| Ameren Corporation | AEE | 53.67% | 53.03% | 52.81% | 52.69% | 53.22% | 52.01% | 53.04% | 52.65% | 52.89% |
| American Electric Power Company, Inc. | AEP | 49.91% | 48.80% | 49.62% | 49.40% | 48.68% | 48.52% | 48.60% | 48.91% | 49.06% |
| Avangrid, Inc. | AGR | 54.38% | 56.33% | 56.51% | 55.72% | 56.13% | 54.93% | 56.55% | 55.69% | 55.78% |
| Avista Corporation | AVA | 55.80% | 56.32% | 56.10% | 55.09% | 55.75% | 55.76% | 56.34% | 55.76% | 55.86% |
| CMS Energy Corporation | CMS | 51.70% | 53.64% | 52.52% | 50.27% | 53.01% | 52.86% | 53.13% | 52.25% | 52.42% |
| DTE Energy Company | DTE | 49.40% | 48.76% | 48.69% | 50.96% | 49.97% | 49.23% | 51.12% | 51.02% | 49.89% |
| Evergy, Inc. | EVRG | 60.28% | 60.51% | 58.16% | 59.56% | 59.86% | 58.51% | 58.73% | 58.62% | 59.28% |
| Hawaiian Electric Industries, Inc. | HE | 58.43% | 58.17% | 58.06% | 57.98% | 56.09% | 55.78% | 57.44% | 57.42% | 57.42% |
| NextEra Energy, Inc. | NEE | 56.15% | 61.22% | 61.05% | 64.37% | 64.78% | 60.84% | 61.23% | 59.93% | 61.20% |
| NorthWestern Corporation | NWE | 47.80% | 48.07% | 48.74% | 47.88% | 48.36% | 48.41% | 47.48% | 49.89% | 48.33% |
| OGE Energy Corp. | OGE | 54.96% | 53.47% | 55.38% | 53.20% | 53.05% | 54.25% | 53.59% | 53.36% | 53.91% |
| Otter Tail Corporation | OTTR | 55.43% | 53.75% | 53.90% | 53.58% | 53.49% | 53.11% | 52.67% | 57.34% | 54.16% |
| Pinnacle West Capital Corporation | PNW | 54.25% | 54.41% | 54.48% | 54.36% | 53.68% | 53.71% | 53.18% | 53.14% | 53.90% |
| PNM Resources, Inc. | PNM | 45.33% | 43.86% | 43.45% | 45.63% | 48.01% | 46.68% | 46.20% | 46.06% | 45.65% |
| Portland General Electric Company | POR | 51.78% | 51.56% | 50.60% | 50.19% | 50.51% | 50.29% | 50.14% | 49.80% | 50.61% |
| Southern Company | SO | 52.36% | 52.93% | 52.80% | 54.21% | 51.50% | 50.31% | 49.98% | 47.67% | 51.47% |
| Wisconsin Energy Corporation | WEC | 55.79% | 56.71% | 55.73% | 53.46% | 58.30% | 57.72% | 61.62% | 54.62% | 56.74% |
| Xcel Energy Inc. | XEL | 53.98% | 54.70% | 54.51% | 54.22% | 53.37% | 53.63% | 54.15% | 53.95% | 54.06% |
| Mean | | 53.59% | 53.81% | 53.79% | 53.75% | 53.87% | 53.32% | 53.90% | 53.52% | 53.69% |
| | | | | | | | | | | 45.65% |
| | | | | | | | | | | 61.20% |

Operating Company Capital Structure

| | | % Common Equity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Operating Company | Parent | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE (Minnesota Power) | ALE | 59.33% | 60.94% | 60.87% | 61.39% | 60.43% | 60.33% | 60.38% | 60.04% | 60.46% |
| Superior Water, Light and Power Company | ALE | 58.03% | 58.38% | 58.19% | 56.86% | 56.58% | 57.34% | 65.80% | 64.99% | 59.52% |
| Interstate Power and Light Company | LNT | 50.06% | 51.76% | 53.33% | 53.52% | 49.64% | 50.47% | 49.92% | 50.31% | 51.13% |
| Wisconsin Power and Light Company | LNT | 53.40% | 49.01% | 53.03% | 52.69% | 52.62% | 51.52% | 49.57% | 49.23% | 51.38% |
| Ameren Illinois Company | AEE | 54.46% | 54.05% | 53.65% | 52.86% | 53.18% | 52.74% | 54.24% | 53.38% | 53.57% |
| Union Electric Company | AEE | 52.88% | 52.00% | 51.96% | 52.52% | 53.26% | 51.28% | 51.84% | 51.92% | 52.21% |
| AEP Texas Inc. | AEP | 46.97% | 46.32% | 47.54% | 45.38% | 43.80% | 43.20% | 46.75% | 45.14% | 45.64% |
| Appalachian Power Company | AEP | 48.74% | 48.19% | 47.77% | 49.51% | 49.30% | 48.93% | 49.35% | 48.72% | 48.81% |
| Indiana Michigan Power Company | AEP | 46.51% | 45.83% | 45.43% | 44.62% | 44.53% | 44.15% | 46.64% | 46.33% | 45.50% |
| Kentucky Power Company | AEP | 46.94% | 46.50% | 46.42% | 45.72% | 45.28% | 44.89% | 44.40% | 43.52% | 45.46% |
| Kingsport Power Company | AEP | 54.24% | 50.18% | 51.54% | 50.79% | 50.71% | 47.69% | 47.28% | 46.53% | 49.87% |
| Ohio Power Company | AEP | 53.63% | 52.92% | 58.86% | 57.80% | 56.85% | 57.11% | 52.91% | 58.63% | 56.09% |
| Public Service Company of Oklahoma | AEP | 49.89% | 48.02% | 47.19% | 49.16% | 49.55% | 48.59% | 48.10% | 48.50% | 48.62% |
| Southwestern Electric Power Company | AEP | 48.63% | 47.45% | 47.59% | 46.97% | 43.43% | 47.91% | 47.72% | 48.52% | 47.28% |
| Wheeling Power Company | AEP | 53.66% | 53.83% | 54.27% | 54.62% | 54.70% | 54.19% | 54.27% | 54.26% | 54.23% |
| Central Maine Power Company | AGR | 62.19% | 61.96% | 63.51% | 63.21% | 64.17% | 63.53% | 64.18% | 63.82% | 63.32% |
| New York State Electric & Gas Corporation | AGR | 48.79% | 55.84% | 55.93% | 54.30% | 53.95% | 50.99% | 54.51% | 53.30% | 53.45% |
| Rochester Gas and Electric Corporation | AGR | 50.50% | 50.25% | 49.96% | 48.89% | 48.16% | 47.77% | 50.80% | 49.63% | 49.50% |
| United Illuminating Company | AGR | 56.05% | 57.26% | 56.65% | 56.46% | 58.23% | 57.43% | 56.70% | 56.00% | 56.85% |
| Alaska Electric Light and Power Company | AVA | 61.28% | 61.24% | 61.02% | 60.29% | 61.94% | 61.78% | 61.53% | 60.77% | 61.23% |
| Avista Corporation | AVA | 50.33% | 51.40% | 51.18% | 49.89% | 49.55% | 49.74% | 51.16% | 50.75% | 50.50% |
| Consumers Energy Company | CMS | 51.70% | 53.64% | 52.52% | 50.27% | 53.01% | 52.86% | 53.13% | 52.25% | 52.42% |
| DTE Electric Company | DTE | 49.40% | 48.76% | 48.69% | 50.96% | 49.97% | 49.23% | 51.12% | 51.02% | 49.89% |
| Evergy Kansas South, Inc. | EVRG | 81.84% | 81.49% | 75.13% | 74.97% | 74.91% | 74.45% | 74.29% | 74.18% | 76.41% |
| Evergy Metro, Inc. | EVRG | 50.43% | 49.62% | 46.04% | 49.49% | 49.50% | 48.88% | 49.25% | 49.15% | 49.05% |
| Evergy Missouri West, Inc. | EVRG | 51.18% | 51.74% | 52.68% | 54.71% | 55.70% | 52.03% | 52.63% | 52.40% | 52.88% |
| Westar Energy (KPL) | EVRG | 57.66% | 59.18% | 58.80% | 59.08% | 59.34% | 58.68% | 58.75% | 58.74% | 58.78% |
| Hawaii Electric Light Company, Inc. | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hawaiian Electric Company, Inc. | HE | 58.43% | 58.17% | 58.06% | 57.98% | 56.09% | 55.78% | 57.44% | 57.42% | 57.42% |
| Maui Electric Company, Limited | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Florida Power & Light Company | NEE | 59.78% | 61.30% | 64.03% | 64.37% | 64.78% | 60.84% | 61.23% | 59.93% | 62.03% |
| Gulf Power Company | NEE | 52.52% | 61.15% | 58.06% | NA | NA | NA | NA | NA | 57.24% |
| NorthWestern Corporation | NWE | 47.80% | 48.07% | 48.74% | 47.88% | 48.36% | 48.41% | 47.48% | 49.89% | 48.33% |
| Oklahoma Gas and Electric Company | OGE | 54.96% | 53.47% | 55.38% | 53.20% | 53.05% | 54.25% | 53.59% | 53.36% | 53.91% |
| Otter Tail Power Company | OTTR | 55.43% | 53.75% | 53.90% | 53.58% | 53.49% | 53.11% | 52.67% | 57.34% | 54.16% |
| Arizona Public Service Company | PNW | 54.25% | 54.41% | 54.48% | 54.36% | 53.68% | 53.71% | 53.18% | 53.14% | 53.90% |
| Public Service Company of New Mexico | PNM | 45.33% | 43.86% | 43.45% | 45.63% | 48.01% | 46.68% | 46.20% | 46.06% | 45.65% |
| Portland General Electric Company | POR | 51.78% | 51.56% | 50.60% | 50.19% | 50.51% | 50.29% | 50.14% | 49.80% | 50.61% |
| Alabama Power Company | SO | 51.45% | 52.54% | 52.23% | 47.77% | 48.13% | 47.51% | 48.86% | 47.07% | 49.44% |
| Georgia Power Company | SO | 55.38% | 56.39% | 56.43% | 59.02% | 57.27% | 54.97% | 53.81% | 50.06% | 55.42% |
| Gulf Power Company | SO | NA | NA | NA | 59.73% | 55.34% | 54.90% | 54.27% | 54.19% | 55.69% |
| Mississippi Power Company | SO | 50.23% | 49.87% | 49.73% | 50.35% | 45.28% | 43.87% | 43.00% | 39.34% | 46.46% |
| Upper Michigan Energy Resources Corporation | WEC | 56.09% | 54.45% | 52.54% | 47.01% | 55.08% | 54.53% | 70.04% | 49.85% | 54.95% |
| Wisconsin Electric Power Company | WEC | 56.92% | 56.64% | 55.78% | 56.03% | 59.25% | 59.09% | 56.47% | 55.94% | 57.01% |
| Wisconsin Public Service Corporation | WEC | 54.37% | 59.04% | 58.88% | 57.33% | 60.59% | 59.53% | 58.35% | 58.06% | 58.27% |
| Northern States Power Company - MN | XEL | 51.79% | 53.66% | 53.64% | 52.81% | 52.64% | 52.61% | 52.59% | 52.38% | 52.77% |
| Northern States Power Company - WI | XEL | 53.56% | 53.49% | 53.59% | 53.60% | 48.45% | 53.85% | 53.79% | 53.36% | 52.96% |
| Public Service Company of Colorado | XEL | 56.35% | 57.53% | 56.68% | 56.31% | 56.08% | 54.17% | 56.67% | 56.50% | 56.29% |
| Southwestern Public Service Company | XEL | 54.21% | 54.14% | 54.13% | 54.17% | 56.29% | 53.88% | 53.54% | 53.55% | 54.24% |
| Mean | | 53.68% | 53.94% | 53.92% | 53.66% | 53.58% | 53.04% | 53.71% | 53.03% | 53.63% |
| | | | | | | | | | | 45.46% |
| Source: S&P Global Market Intelligence | | | | | | | | | | 76.41% |

Proxy Group Capital Structure

| | | % Long-Term Debt | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE, Inc. | ALE | 41.32% | 40.34% | 40.47% | 40.88% | 41.50% | 41.16% | 36.91% | 37.49% | 40.01% |
| Alliant Energy Corporation | LNT | 48.27% | 49.62% | 46.82% | 46.89% | 48.87% | 49.00% | 50.26% | 50.23% | 48.74% |
| Ameren Corporation | AEE | 46.33% | 46.97% | 47.19% | 47.31% | 46.78% | 47.99% | 46.96% | 47.35% | 47.11% |
| American Electric Power Company, Inc. | AEP | 50.09% | 51.20% | 50.38% | 50.60% | 51.32% | 51.48% | 51.40% | 51.09% | 50.94% |
| Avangrid, Inc. | AGR | 45.62% | 43.67% | 43.49% | 44.28% | 43.87% | 45.07% | 43.45% | 44.31% | 44.22% |
| Avista Corporation | AVA | 44.20% | 43.68% | 43.90% | 44.91% | 44.25% | 44.24% | 43.66% | 44.24% | 44.14% |
| CMS Energy Corporation | CMS | 48.30% | 46.36% | 47.48% | 49.73% | 46.99% | 47.14% | 46.87% | 47.75% | 47.58% |
| DTE Energy Company | DTE | 50.60% | 51.24% | 51.31% | 49.04% | 50.03% | 50.77% | 48.88% | 48.98% | 50.11% |
| Evergy, Inc. | EVRG | 39.72% | 39.49% | 41.84% | 40.44% | 40.14% | 41.49% | 41.27% | 41.38% | 40.72% |
| Hawaiian Electric Industries, Inc. | HE | 41.57% | 41.83% | 41.94% | 42.02% | 43.91% | 44.22% | 42.56% | 42.58% | 42.58% |
| NextEra Energy, Inc. | NEE | 43.85% | 38.78% | 38.95% | 35.63% | 35.22% | 39.16% | 38.77% | 40.07% | 38.80% |
| NorthWestern Corporation | NWE | 52.20% | 51.93% | 51.26% | 52.12% | 51.64% | 51.59% | 52.52% | 50.11% | 51.67% |
| OGE Energy Corp. | OGE | 45.04% | 46.53% | 44.62% | 46.80% | 46.95% | 45.75% | 46.41% | 46.64% | 46.09% |
| Otter Tail Corporation | OTTR | 44.57% | 46.25% | 46.10% | 46.42% | 46.51% | 46.89% | 47.33% | 42.66% | 45.84% |
| Pinnacle West Capital Corporation | PNW | 45.75% | 45.59% | 45.52% | 45.64% | 46.32% | 46.29% | 46.82% | 46.86% | 46.10% |
| PNM Resources, Inc. | PNM | 54.67% | 56.14% | 56.55% | 54.37% | 51.99% | 53.32% | 53.80% | 53.94% | 54.35% |
| Portland General Electric Company | POR | 48.22% | 48.44% | 49.40% | 49.81% | 49.49% | 49.71% | 49.86% | 50.20% | 49.39% |
| Southern Company | SO | 47.64% | 47.07% | 47.20% | 45.79% | 48.50% | 49.69% | 50.02% | 52.33% | 48.53% |
| Wisconsin Energy Corporation | WEC | 44.21% | 43.29% | 44.27% | 46.54% | 41.70% | 42.28% | 38.38% | 45.38% | 43.26% |
| Xcel Energy Inc. | XEL | 46.02% | 45.30% | 45.49% | 45.78% | 46.63% | 46.37% | 45.85% | 46.05% | 45.94% |
| Mean | | 46.41% | 46.19% | 46.21% | 46.25% | 46.13% | 46.68% | 46.10% | 46.48% | 46.31% |

Operating Company Capital Structure

| | | % Long-Term Debt | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Operating Company | Parent | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE (Minnesota Power) | ALE | 40.67% | 39.06% | 39.13% | 38.61% | 39.57% | 39.67% | 39.62% | 39.96% | 39.54% |
| Superior Water, Light and Power Company | ALE | 41.97% | 41.62% | 41.81% | 43.14% | 43.42% | 42.66% | 34.20% | 35.01% | 40.48% |
| Interstate Power and Light Company | LNT | 49.94% | 48.24% | 46.67% | 46.48% | 50.36% | 49.53% | 50.08% | 49.69% | 48.87% |
| Wisconsin Power and Light Company | LNT | 46.60% | 50.99% | 46.97% | 47.31% | 47.38% | 48.48% | 50.43% | 50.77% | 48.62% |
| Ameren Illinois Company | AEE | 45.54% | 45.95% | 46.35% | 47.14% | 46.82% | 47.26% | 45.76% | 46.62% | 46.43% |
| Union Electric Company | AEE | 47.12% | 48.00% | 48.04% | 47.48% | 46.74% | 48.72% | 48.16% | 48.08% | 47.79% |
| AEP Texas Inc. | AEP | 53.03% | 53.68% | 52.46% | 54.62% | 56.20% | 56.80% | 53.25% | 54.86% | 54.36% |
| Appalachian Power Company | AEP | 51.26% | 51.81% | 52.23% | 50.49% | 50.70% | 51.07% | 50.65% | 51.28% | 51.19% |
| Indiana Michigan Power Company | AEP | 53.49% | 54.17% | 54.57% | 55.38% | 55.47% | 55.85% | 53.36% | 53.67% | 54.50% |
| Kentucky Power Company | AEP | 53.06% | 53.50% | 53.58% | 54.28% | 54.72% | 55.11% | 55.60% | 56.48% | 54.54% |
| Kingsport Power Company | AEP | 45.76% | 49.82% | 48.46% | 49.21% | 49.29% | 52.31% | 52.72% | 53.47% | 50.13% |
| Ohio Power Company | AEP | 46.37% | 47.08% | 41.14% | 42.20% | 43.15% | 42.89% | 47.09% | 41.37% | 43.91% |
| Public Service Company of Oklahoma | AEP | 50.11% | 51.98% | 52.81% | 50.84% | 50.45% | 51.41% | 51.90% | 51.50% | 51.38% |
| Southwestern Electric Power Company | AEP | 51.37% | 52.55% | 52.41% | 53.03% | 56.57% | 52.09% | 52.28% | 51.48% | 52.72% |
| Wheeling Power Company | AEP | 46.34% | 46.17% | 45.73% | 45.38% | 45.30% | 45.81% | 45.73% | 45.74% | 45.77% |
| Central Maine Power Company | AGR | 37.81% | 38.04% | 36.49% | 36.79% | 35.83% | 36.47% | 35.82% | 36.18% | 36.68% |
| New York State Electric & Gas Corporation | AGR | 51.21% | 44.16% | 44.07% | 45.70% | 46.05% | 49.01% | 45.49% | 46.70% | 46.55% |
| Rochester Gas and Electric Corporation | AGR | 49.50% | 49.75% | 50.04% | 51.11% | 51.84% | 52.23% | 49.20% | 50.37% | 50.50% |
| United Illuminating Company | AGR | 43.95% | 42.74% | 43.35% | 43.54% | 41.77% | 42.57% | 43.30% | 44.00% | 43.15% |
| Alaska Electric Light and Power Company | AVA | 38.72% | 38.76% | 38.98% | 39.71% | 38.06% | 38.22% | 38.47% | 39.23% | 38.77% |
| Avista Corporation | AVA | 49.67% | 48.60% | 48.82% | 50.11% | 50.45% | 50.26% | 48.84% | 49.25% | 49.50% |
| Consumers Energy Company | CMS | 48.30% | 46.36% | 47.48% | 49.73% | 46.99% | 47.14% | 46.87% | 47.75% | 47.58% |
| DTE Electric Company | DTE | 50.60% | 51.24% | 51.31% | 49.04% | 50.03% | 50.77% | 48.88% | 48.98% | 50.11% |
| Evergy Kansas South, Inc. | EVRG | 18.16% | 18.51% | 24.87% | 25.03% | 25.09% | 25.55% | 25.71% | 25.82% | 23.59% |
| Evergy Metro, Inc. | EVRG | 49.57% | 50.38% | 53.96% | 50.51% | 50.50% | 51.12% | 50.75% | 50.85% | 50.95% |
| Evergy Missouri West, Inc. | EVRG | 48.82% | 48.26% | 47.32% | 45.29% | 44.30% | 47.97% | 47.37% | 47.60% | 47.12% |
| Westar Energy (KPL) | EVRG | 42.34% | 40.82% | 41.20% | 40.92% | 40.66% | 41.32% | 41.25% | 41.26% | 41.22% |
| Hawaii Electric Light Company, Inc. | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hawaiian Electric Company, Inc. | HE | 41.57% | 41.83% | 41.94% | 42.02% | 43.91% | 44.22% | 42.56% | 42.58% | 42.58% |
| Maui Electric Company, Limited | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Florida Power & Light Company | NEE | 40.22% | 38.70% | 35.97% | 35.63% | 35.22% | 39.16% | 38.77% | 40.07% | 37.97% |
| Gulf Power Company | NEE | 47.48% | 38.85% | 41.94% | NA | NA | NA | NA | NA | 42.76% |
| NorthWestern Corporation | NWE | 52.20% | 51.93% | 51.26% | 52.12% | 51.64% | 51.59% | 52.52% | 50.11% | 51.67% |
| Oklahoma Gas and Electric Company | OGE | 45.04% | 46.53% | 44.62% | 46.80% | 46.95% | 45.75% | 46.41% | 46.64% | 46.09% |
| Otter Tail Power Company | OTTR | 44.57% | 46.25% | 46.10% | 46.42% | 46.51% | 46.89% | 47.33% | 42.66% | 45.84% |
| Arizona Public Service Company | PNW | 45.75% | 45.59% | 45.52% | 45.64% | 46.32% | 46.29% | 46.82% | 46.86% | 46.10% |
| Public Service Company of New Mexico | PNM | 54.67% | 56.14% | 56.55% | 54.37% | 51.99% | 53.32% | 53.80% | 53.94% | 54.35% |
| Portland General Electric Company | POR | 48.22% | 48.44% | 49.40% | 49.81% | 49.49% | 49.71% | 49.86% | 50.20% | 49.39% |
| Alabama Power Company | SO | 48.55% | 47.46% | 47.77% | 52.23% | 51.87% | 52.49% | 51.14% | 52.93% | 50.56% |
| Georgia Power Company | SO | 44.62% | 43.61% | 43.57% | 40.98% | 42.73% | 45.03% | 46.19% | 49.94% | 44.58% |
| Gulf Power Company | SO | NA | NA | NA | 40.27% | 44.66% | 45.10% | 45.73% | 45.81% | 44.31% |
| Mississippi Power Company | SO | 49.77% | 50.13% | 50.27% | 49.65% | 54.72% | 56.13% | 57.00% | 60.66% | 53.54% |
| Upper Michigan Energy Resources Corporation | WEC | 43.91% | 45.55% | 47.46% | 52.99% | 44.92% | 45.47% | 29.96% | 50.15% | 45.05% |
| Wisconsin Electric Power Company | WEC | 43.08% | 43.36% | 44.22% | 43.97% | 40.75% | 40.91% | 43.53% | 44.06% | 42.99% |
| Wisconsin Public Service Corporation | WEC | 45.63% | 40.96% | 41.12% | 42.67% | 39.41% | 40.47% | 41.65% | 41.94% | 41.73% |
| Northern States Power Company - MN | XEL | 48.21% | 46.34% | 46.36% | 47.19% | 47.36% | 47.39% | 47.41% | 47.62% | 47.23% |
| Northern States Power Company - WI | XEL | 46.44% | 46.51% | 46.41% | 46.40% | 51.55% | 46.15% | 46.21% | 46.64% | 47.04% |
| Public Service Company of Colorado | XEL | 43.65% | 42.47% | 43.32% | 43.69% | 43.92% | 45.83% | 43.33% | 43.50% | 43.71% |
| Southwestern Public Service Company | XEL | 45.79% | 45.86% | 45.87% | 45.83% | 43.71% | 46.12% | 46.46% | 46.45% | 45.76% |
| Mean | | 46.32% | 46.06% | 46.08% | 46.34% | 46.42% | 46.96% | 46.29% | 46.97% | 46.37% |

2015-2020 Authorized Returns on Equity, Vertically Integrated Electric Utitlity Rate Cases

| State | Utility | Parent Company Ticker | Case Identification | Date Authorized | Authorized ROE |
|---|---|---|---|---|---|
| Wyoming | PacifiCorp | BRK.A | D-20000-446-ER-14 | 1/23/2015 | 9.50 |
| Colorado | Public Service Co. of CO | XEL | D-14AL-0660E | 2/24/2015 | 9.83 |
| Washington | PacifiCorp | BRK.A | D-UE-140762 | 3/25/2015 | 9.50 |
| Minnesota | Northern States Power Co. - MN | XEL | D-E-002/GR-13-868 | 3/26/2015 | 9.72 |
| Michigan | Wisconsin Public Service Corp. | WEC | C-U-17669 | 4/23/2015 | 10.20 |
| Missouri | Union Electric Co. | AEE | C-ER-2014-0258 | 4/29/2015 | 9.53 |
| West Virginia | Appalachian Power Co. | AEP | C-14-1152-E-42T | 5/26/2015 | 9.75 |
| Missouri | Kansas City Power & Light | GXP | C-ER-2014-0370 | 9/2/2015 | 9.50 |
| Kansas | Kansas City Power & Light | GXP | D-15-KCPE-116-RTS | 9/10/2015 | 9.30 |
| Wisconsin | Wisconsin Public Service Corp. | WEC | D-6690-UR-124 (Elec) | 11/19/2015 | 10.00 |
| Michigan | Consumers Energy Co. | CMS | C-U-17735 | 11/19/2015 | 10.30 |
| Wisconsin | Northern States Power Co - WI | XEL | D-4220-UR-121 (Elec) | 12/3/2015 | 10.00 |
| Michigan | DTE Electric Co. | DTE | C-U-17767 | 12/11/2015 | 10.30 |
| Oregon | Portland General Electric Co. | POR | D-UE-294 | 12/15/2015 | 9.60 |
| Texas | Southwestern Public Service Co | XEL | D-43695 | 12/17/2015 | 9.70 |
| Idaho | Avista Corp. | AVA | C-AVU-E-15-05 | 12/18/2015 | 9.50 |
| Wyoming | PacifiCorp | BRK.A | D-20000-469-ER-15 | 12/30/2015 | 9.50 |
| Washington | Avista Corp. | AVA | D-UE-150204 | 1/6/2016 | 9.50 |
| Arkansas | Entergy Arkansas Inc. | ETR | D-15-015-U | 2/23/2016 | 9.75 |
| Indiana | Indianapolis Power & Light Co. | AES | Ca-44576 | 3/16/2016 | 9.85 |
| New Mexico | El Paso Electric Co. | EE | C-15-00127-UT | 6/8/2016 | 9.48 |
| Indiana | Northern IN Public Svc Co. | NI | Ca-44688 | 7/18/2016 | 9.98 |
| Tennessee | Kingsport Power Company | AEP | D-16-00001 | 8/9/2016 | 9.85 |
| Arizona | UNS Electric Inc. | FTS | D-E-04204A-15-0142 | 8/18/2016 | 9.50 |
| Washington | PacifiCorp | BRK.A | D-UE-152253 | 9/1/2016 | 9.50 |
| Michigan | Upper Peninsula Power Co. | - | C-U-17895 | 9/8/2016 | 10.00 |
| New Mexico | Public Service Co. of NM | PNM | C-15-00261-UT | 9/28/2016 | 9.58 |
| Wisconsin | Madison Gas and Electric Co. | MGEE | D-3270-UR-121 (Elec) | 11/9/2016 | 9.80 |
| Oklahoma | Public Service Co. of OK | AEP | Ca-PUD201500208 | 11/10/2016 | 9.50 |
| Wisconsin | Wisconsin Power and Light Co | LNT | D-6680-UR-120 (Elec) | 11/18/2016 | 10.00 |
| Florida | Florida Power & Light Co. | NEE | D-160021-EI | 11/29/2016 | 10.55 |
| California | Liberty Utilities CalPeco Ele | AQN | A-15-05-008 | 12/1/2016 | 10.00 |
| South Carolina | Duke Energy Progress LLC | DUK | D-2016-227-E | 12/7/2016 | 10.10 |
| Colorado | Black Hills Colorado Electric | BKH | D-16AL-0326E | 12/19/2016 | 9.37 |
| North Carolina | Virginia Electric & Power Co. | D | D-E-22, Sub 532 | 12/22/2016 | 9.90 |
| Nevada | Sierra Pacific Power Co. | BRK.A | D-16-06006 | 12/22/2016 | 9.60 |
| Idaho | Avista Corp. | AVA | C-AVU-E-16-03 | 12/28/2016 | 9.50 |

| State | Utility | Parent Company Ticker | Case Identification | Date Authorized | Authorized ROE |
|---|---|---|---|---|---|
| Wyoming | MDU Resources Group Inc. | MDU | D-2004-117-ER-16 | 1/18/2017 | 9.45 |
| Michigan | DTE Electric Co. | DTE | C-U-18014 | 1/31/2017 | 10.10 |
| Arizona | Tucson Electric Power Co. | FTS | D-E-01933A-15-0322 | 2/24/2017 | 9.75 |
| Michigan | Consumers Energy Co. | CMS | C-U-17990 | 2/28/2017 | 10.10 |
| Minnesota | Otter Tail Power Co. | OTTR | D-E-017/GR-15-1033 | 3/2/2017 | 9.41 |
| Oklahoma | Oklahoma Gas and Electric Co. | OGE | Ca-PUD201500273 | 3/20/2017 | 9.50 |
| Florida | Gulf Power Co. | SO | D-160186-EI | 4/4/2017 | 10.25 |
| Missouri | Kansas City Power & Light | GXP | C-ER-2016-0285 | 5/3/2017 | 9.50 |
| Minnesota | Northern States Power Co. - MN | XEL | D-E-002/GR-15-826 | 5/11/2017 | 9.20 |
| Arkansas | Oklahoma Gas and Electric Co. | OGE | D-16-052-U | 5/18/2017 | 9.50 |
| North Dakota | MDU Resources Group Inc. | MDU | C-PU-16-666 | 6/16/2017 | 9.65 |
| Kentucky | Kentucky Utilities Co. | PPL | C-2016-00370 | 6/22/2017 | 9.70 |
| Kentucky | Louisville Gas & Electric Co. | PPL | C-2016-00371 (elec.) | 6/22/2017 | 9.70 |
| Arizona | Arizona Public Service Co. | PNW | D-E-01345A-16-0036 | 8/15/2017 | 10.00 |
| California | San Diego Gas & Electric Co. | SRE | Advice No. 3120-E | 10/26/2017 | 10.20 |
| California | Pacific Gas and Electric Co. | PCG | Advise No. 3887-G/5148-E | 10/26/2017 | 10.25 |
| California | Southern California Edison Co. | EIX | Advice No. 3665-E | 10/26/2017 | 10.30 |
| Florida | Tampa Electric Co. | EMA | D-20170210-EI | 11/6/2017 | 10.25 |
| Alaska | Alaska Electric Light Power | AVA | D-U-16-086 | 11/15/2017 | 11.95 |
| Washington | Puget Sound Energy Inc. | | D-UE-170033 | 12/5/2017 | 9.50 |
| Wisconsin | Northern States Power Co - WI | XEL | D-4220-UR-123 (Elec) | 12/7/2017 | 9.80 |
| Texas | Southwestern Electric Power Co | AEP | D-46449 | 12/14/2017 | 9.60 |
| Texas | El Paso Electric Co. | EE | D-46831 | 12/14/2017 | 9.65 |
| Oregon | Portland General Electric Co. | POR | D-UE-319 | 12/18/2017 | 9.50 |
| New Mexico | Public Service Co. of NM | PNM | C-16-00276-UT | 12/20/2017 | 9.58 |
| Vermont | Green Mountain Power Corp. | | C-17-3112-INV | 12/21/2017 | 9.10 |
| Idaho | Avista Corp. | AVA | D-AVU-E-17-01 | 12/28/2017 | 9.50 |
| Nevada | Nevada Power Co. | BRK.A | D-17-06003 | 12/29/2017 | 9.40 |
| Kentucky | Kentucky Power Co. | AEP | C-2017-00179 | 1/18/2018 | 9.70 |
| Oklahoma | Public Service Co. of OK | AEP | Ca-PUD201700151 | 1/31/2018 | 9.30 |
| Iowa | Interstate Power & Light Co. | LNT | D-RPU-2017-0001 | 2/2/2018 | 9.98 |
| North Carolina | Duke Energy Progress LLC | DUK | D-E-2, Sub 1142 | 2/23/2018 | 9.90 |
| Minnesota | ALLETE (Minnesota Power) | ALE | D-E-015/GR-16-664 | 3/12/2018 | 9.25 |
| Michigan | Consumers Energy Co. | CMS | C-U-18322 | 3/29/2018 | 10.00 |
| Michigan | Indiana Michigan Power Co. | AEP | C-U-18370 | 4/12/2018 | 9.90 |
| Kentucky | Duke Energy Kentucky Inc. | DUK | C-2017-00321 | 4/13/2018 | 9.73 |
| Michigan | DTE Electric Co. | DTE | C-U-18255 | 4/18/2018 | 10.00 |
| Washington | Avista Corp. | AVA | D-UE-170485 | 4/26/2018 | 9.50 |
| Indiana | Indiana Michigan Power Co. | AEP | Ca-44967 | 5/30/2018 | 9.95 |
| Hawaii | Hawaiian Electric Co. | HE | D-2016-0328 | 6/22/2018 | 9.50 |
| North Carolina | Duke Energy Carolinas LLC | DUK | D-E-7, Sub 1146 | 6/22/2018 | 9.90 |
| Hawaii | Hawaii Electric Light Co | HE | D-2015-0170 | 6/29/2018 | 9.50 |
| New Mexico | Southwestern Public Service Co | XEL | C-17-00255-UT | 9/5/2018 | 9.56 |
| Wisconsin | Wisconsin Power and Light Co | LNT | D-6680-UR-121 (Elec) | 9/14/2018 | 10.00 |
| Wisconsin | Madison Gas and Electric Co. | MGEE | D-3270-UR-122 (Elec) | 9/20/2018 | 9.80 |
| North Dakota | Otter Tail Power Co. | OTTR | C-PU-17-398 | 9/26/2018 | 9.77 |
| Kansas | Evergy Kansas Central Inc. | EVRG | D-18-WSEE-328-RTS | 9/27/2018 | 9.30 |
| Indiana | Indianapolis Power & Light Co. | AES | Ca-45029 | 10/31/2018 | 9.99 |
| Kansas | Evergy Metro Inc | EVRG | D-18-KCPE-480-RTS | 12/13/2018 | 9.30 |
| Oregon | Portland General Electric Co. | POR | D-UE-335 | 12/14/2018 | 9.50 |
| Vermont | Green Mountain Power Corp. | | C-18-0974-TF | 12/21/2018 | 9.30 |

| State | Utility | Parent Company Ticker | Case Identification | Date Authorized | Authorized ROE |
|---|---|---|---|---|---|
| Michigan | Consumers Energy Co. | CMS | C-U-20134 | 1/9/2019 | 10.00 |
| West Virginia | Appalachian Power Co. | AEP | C-18-0646-E-42T | 2/27/2019 | 9.75 |
| Oklahoma | Public Service Co. of OK | AEP | Ca-PUD201800097 | 3/14/2019 | 9.40 |
| Kentucky | Kentucky Utilities Co. | PPL | C-2018-00294 | 4/30/2019 | 9.73 |
| Kentucky | Louisville Gas & Electric Co. | PPL | C-2018-00295 (elec.) | 4/30/2019 | 9.73 |
| South Carolina | Duke Energy Carolinas LLC | DUK | D-2018-319-E | 5/1/2019 | 9.50 |
| Michigan | DTE Electric Co. | DTE | C-U-20162 | 5/2/2019 | 10.00 |
| South Carolina | Duke Energy Progress LLC | DUK | D-2018-318-E | 5/8/2019 | 9.50 |
| South Dakota | Otter Tail Power Co. | OTTR | D-EL18-021 | 5/14/2019 | 8.75 |
| Hawaii | Maui Electric Company Ltd | HE | D-2017-0150 | 5/16/2019 | 9.50 |
| Michigan | Upper Peninsula Power Co. | | C-U-20276 | 5/23/2019 | 9.90 |
| Vermont | Green Mountain Power Corp. | | C-19-1932-TF | 8/29/2019 | 9.06 |
| Wisconsin | Northern States Power Co - WI | XEL | D- 4220-UR-124 (Elec) | 9/4/2019 | 10.00 |
| Wisconsin | Wisconsin Electric Power Co. | WEC | D-05-UR-109 (WEP-Elec) | 10/31/2019 | 10.00 |
| Wisconsin | Wisconsin Public Service Corp. | WEC | D-6690-UR-126 (Elec) | 10/31/2019 | 10.00 |
| Louisiana | Entergy New Orleans LLC | ETR | D-UD-18-07 (elec.) | 11/7/2019 | 9.35 |
| Idaho | Avista Corp. | AVA | C-AVU-E-1904 | 11/29/2019 | 9.50 |
| Indiana | Northern IN Public Svc Co. | NI | Ca-45159 | 12/4/2019 | 9.75 |
| Georgia | Georgia Power Co. | SO | D-42516 | 12/17/2019 | 10.50 |
| California | San Diego Gas & Electric Co. | SRE | A-19-04-017 (Elec) | 12/19/2019 | 10.20 |
| California | Pacific Gas and Electric Co. | PCG | A-19-04-015 | 12/19/2019 | 10.25 |
| California | Southern California Edison Co. | EIX | A-19-04-014 | 12/19/2019 | 10.30 |
| Arkansas | Southwestern Electric Power Co | AEP | D-19-008-U | 12/20/2019 | 9.45 |
| Montana | NorthWestern Corp. | NWE | D2018.2.12 | 12/20/2019 | 9.65 |
| Nevada | Sierra Pacific Power Co. | BRK.A | D-19-06002 | 12/24/2019 | 9.50 |
| Iowa | Interstate Power & Light Co. | LNT | D-RPU-2019-0001 | 1/8/2020 | 10.02 |
| Michigan | Indiana Michigan Power Co. | AEP | C-U-20359 | 1/23/2020 | 9.86 |

| | |
|---|---|
| Average | 9.75 |
| Median | 9.72 |
| Minimum | 8.75 |
| Maximum | 11.95 |
| Count >=10% 2017-2020 | 22 |
| Count >=10% 2019-2020 | 10 |

Source: Regulatory Research Associates

Proof Concept: Earnings, Dividends, Book Value and
Stock Price Growth Rate Equivalence in Constant Growth DCF

| Line Description | IMPLIED GROWTH RATE AT ALLOWED ROE: | | |
|---|---|---|---|
| Input | Dividend Yield | 4.00% | [1] |
| Assumes g = Allowed ROE - Div. Yield | Assumed Growth Rate | 6.50% | |
| Input | Total Return | 10.50% | [1] |
| | | | |
| Input | Payout Ratio | 65.00% | [2] |
| Input | Book Value/Share | 20 | [2] |

| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 250 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BV/S Escalates at Constant Growth g | Book Value/Share | $ 20.00 | $ 21.30 | $ 22.68 | $ 24.16 | $ 25.73 | $ 27.40 | $ 29.18 | $ 31.08 | $ 33.10 | $ 35.25 | $ 37.54 | $ 137,540,924.55 |
| Demonstrating Constant BV/S growth | | | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% |
| Earnings based on ROE applied to BV/S | Earnings/share | $ 2.10 | $ 2.24 | $ 2.38 | $ 2.54 | $ 2.70 | $ 2.88 | $ 3.06 | $ 3.26 | $ 3.48 | $ 3.70 | $ 3.94 | $ 14,441,797.08 |
| Demonstrating Constant EPS growth | | | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% |
| Demonstrating Constant Return Earned based on BV/S and EPS | Allowed ROE | 10.50% | 10.50% | 10.50% | 10.50% | 10.50% | 10.50% | 10.50% | 10.50% | 10.50% | 10.50% | 10.50% | 10.50% |
| Div/S based on EPS and Constant Payout ratio | Dividends/Share | $ 1.37 | $ 1.45 | $ 1.55 | $ 1.65 | $ 1.76 | $ 1.87 | $ 1.99 | $ 2.12 | $ 2.26 | $ 2.41 | $ 2.56 | $ 9,387,168.10 |
| Demonstrating Constant Div/S growth | | | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% |
| Retained Earnings based on difference between EPS and Div/S | Earnings retained to book value | $ 0.74 | $ 0.78 | $ 0.83 | $ 0.89 | $ 0.95 | $ 1.01 | $ 1.07 | $ 1.14 | $ 1.22 | $ 1.30 | $ 1.38 | $ 5,054,628.98 |
| Demonstrating Constant growth in Retained Earnings | | | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% | 6.50% |
| Demonstrating Constant Market/Book ratio | Market/Book Ratio | 1.817 | 1.817 | 1.817 | 1.817 | 1.817 | 1.817 | 1.817 | 1.817 | 1.817 | 1.817 | 1.817 | 1.817 |
| DCF calculation of market price = [Div/S]*[1+g]/[ROE-g] | Market Price | $ 36.34 | $ 38.71 | $ 41.22 | $ 43.90 | $ 46.75 | $ 49.79 | $ 53.03 | $ 56.48 | $ 60.15 | $ 64.06 | $ 68.22 | $ 249,933,350.68 |
| | | | | | | | | | | | | | |
| Demonstrating Price Appreciation equals Long Term Growth Rate | Price Appreciation | 6.50% | OK | <== Price appreciation should equal long term growth rate | | | | | | | | | |
| Demonstrating Constant Price/Earnings Ratio | Price/Earnings | 17.31 | 17.31 | 17.31 | 17.31 | 17.31 | 17.31 | 17.31 | 17.31 | 17.31 | 17.31 | 17.31 | 17.31 |
| | | | | | | | | | | | | | |
| Present Value Factor calculated based upon the current period and the Constant ROE | Present Value Factor | | 0.9050 | 0.8190 | 0.7412 | 0.6707 | 0.6070 | 0.5493 | 0.4971 | 0.4499 | 0.4071 | 0.3684 | 0.00 |

| CASE 1 | DIVIDENDS IN PERPETUITY | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Present value of Div/S obtained by multiplying nominal Div/S by the Present Value Factor for the period | Present Value Dividend | 1.3156 | 1.2680 | 1.2221 | 1.1778 | 1.1352 | 1.0941 | 1.0545 | 1.0163 | 0.9795 | 0.9441 | 0.00 |
| Total Value of investment sum of all Present Value Dividends in perpetuity (250 instances for demonstration purposes) | Value of Investment | $ 36.34 | | | | | | | | | | |

| CASE 2 | 10-YEAR HOLDING PERIOD | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Present value of Div/S obtained by multiplying nominal Div/S by the Present Value Factor for the period | Present Value of Dividend | $ 1.32 | $ 1.27 | $ 1.22 | $ 1.18 | $ 1.14 | $ 1.09 | $ 1.05 | $ 1.02 | $ 0.98 | $ 0.94 |
| Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 10th Period (Terminal Value) | Present Value of Stock Price | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25.14 |
| Value of dividends = sum of all Present Value Dividends for periods 1-10 | Value of Dividends | $ 11.21 | | | | | | | | | |
| Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 10th Period (Terminal Value) | Value of Stock Price | $ 25.14 | | | | | | | | | |
| Total Value of investment sum of all Present Value Dividends for periods 1-10 and Present Value of Stock in period 10 (Terminal Value) | Value of Investment | $ 36.34 | | | | | | | | | |

| CASE 3 | 5-YEAR HOLDING PERIOD | | | | | |
|---|---|---|---|---|---|---|
| Present value of Div/S obtained by multiplying nominal Div/S by the Present Value Factor for the period | Present Value of Dividend | $ 1.32 | $ 1.27 | $ 1.22 | $ 1.18 | $ 1.14 |
| Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 5th Period (Terminal Value) | Present Value of Stock Price | -- | -- | -- | -- | 30.22 |
| Value of dividends = sum of all Present Value Dividends for periods 1-5 | Value of Dividends | $ 6.12 | | | | |
| Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 5th Period (Terminal Value) | Value of Stock Price | $ 30.22 | | | | |
| Total Value of investment sum of all Present Value Dividends for periods 1-5 and Present Value of Stock in period 5 (Terminal Value) | Value of Investment | $ 36.34 | | | | |

[1] Note, for purposes of this exhibit, these data are illustrative only.
[2] Note: Illustrative only.

Growth Rate Regression Analysis

| Company | Ticker | Median P/E | Past 10 Year Earnings Growth Rate | Past 10 Year Dividend Growth Rate | Past 10 Year Book Value Growth Rate | Past 5 Year Earnings Growth Rate | Past 5 Year Dividend Growth Rate | Past 5 Year Book Value Growth Rate | Proj. Earnings Growth Rate | Proj. Dividend Growth Rate | Proj. Book Value Growth Rate | BxR Sustainable Growth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Atmos Energy Corporation | ATO | 16.00 | 6.50% | 3.50% | 5.50% | 10.00% | 5.50% | 7.00% | 7.50% | 7.50% | 7.00% | 5.00% |
| Chesapeake Utilities Corporation | CPK | 17.00 | 9.00% | 5.00% | 10.00% | 8.00% | 6.00% | 10.50% | 9.00% | 9.00% | 10.50% | 5.42% |
| Spire Inc | SR | 17.00 | 4.00% | 4.00% | 7.50% | 7.50% | 5.00% | 8.00% | 5.50% | 4.00% | 4.50% | 4.23% |
| New Jersey Resources Corporation | NJR | 16.00 | 7.00% | 7.50% | 7.00% | 5.50% | 6.50% | 8.00% | 2.50% | 6.00% | 6.50% | 4.07% |
| NiSource Inc. | NI | 20.00 | -3.00% | -2.50% | -3.50% | -7.50% | -5.50% | -6.50% | 12.50% | 9.00% | 7.50% | 2.97% |
| Northwest Natural Gas Company | NWN | 21.00 | -10.50% | 2.50% | 2.00% | -18.00% | 1.00% | - | 27.00% | 2.50% | 1.00% | 4.49% |
| ONE Gas, Inc. | OGS | NMF | - | - | - | - | - | - | 8.00% | 8.50% | 4.50% | 4.40% |
| South Jersey Industries, Inc. | SJI | 18.00 | 1.50% | 8.00% | 6.50% | -2.50% | 6.00% | 6.00% | 10.50% | 4.00% | 3.50% | 5.00% |
| Southwest Gas Corporation | SWX | 17.00 | 7.00% | 8.50% | 5.50% | 4.50% | 10.50% | 6.00% | 9.00% | 5.00% | 7.00% | 5.40% |
| UGI Corporation | UGI | 16.00 | 7.00% | 7.50% | 9.00% | 11.50% | 6.50% | 7.00% | 10.50% | 6.50% | 13.00% | 6.72% |
| ALLETE, Inc. | ALE | 17.00 | 1.00% | 3.00% | 5.50% | 4.00% | 3.00% | 5.50% | 5.00% | 5.00% | 3.00% | 3.06% |
| Alliant Energy Corporation | LNT | 16.00 | 4.50% | 7.50% | 4.00% | 4.50% | 7.00% | 4.50% | 6.50% | 5.50% | 7.50% | 3.80% |
| Ameren Corporation | AEE | 16.00 | 0.50% | -3.50% | -0.50% | 4.50% | 2.50% | 0.50% | 6.50% | 4.50% | 5.50% | 4.62% |
| American Electric Power Company, Inc. | AEP | 15.00 | 3.00% | 4.50% | 4.00% | 5.00% | 5.00% | 3.50% | 4.00% | 5.50% | 4.50% | 3.36% |
| Avangrid, Inc. | AGR | NMF | - | - | - | - | - | - | 8.50% | 3.00% | 1.00% | 1.65% |
| Avista Corporation | AVA | 17.00 | 5.50% | 8.50% | 4.00% | 5.00% | 4.50% | 4.50% | 3.50% | 3.50% | 3.50% | 2.56% |
| Black Hills Corporation | BKH | 18.00 | 6.50% | 3.00% | 2.50% | 11.00% | 4.00% | 3.00% | 5.00% | 6.50% | 5.50% | 3.80% |
| CenterPoint Energy, Inc. | CNP | 17.00 | -1.50% | 5.50% | 6.50% | -3.00% | 7.50% | 1.00% | 10.50% | 2.50% | 12.50% | 3.14% |
| CMS Energy Corporation | CMS | 17.00 | 10.00% | 21.50% | 4.50% | 7.00% | 7.00% | 5.50% | 7.00% | 7.00% | 7.00% | 5.13% |
| Consolidated Edison, Inc. | ED | 15.00 | 2.50% | 2.00% | 4.00% | 2.00% | 2.50% | 4.00% | 3.00% | 3.50% | 3.50% | 2.81% |
| Dominion Energy Inc. | D | 20.00 | 3.00% | 7.50% | 4.50% | 3.50% | 7.50% | 6.50% | 6.50% | 5.00% | 7.00% | 2.73% |
| DTE Energy Company | DTE | 16.00 | 8.00% | 4.50% | 4.00% | 8.00% | 6.50% | 4.50% | 4.50% | 7.00% | 6.00% | 3.14% |
| Duke Energy Corporation | DUK | 18.00 | 2.50% | 7.00% | 1.00% | 0.50% | 3.00% | 1.50% | 6.00% | 2.50% | 2.50% | 2.55% |
| Edison International | EIX | 13.00 | -3.50% | 6.50% | 3.00% | -9.00% | 11.00% | 3.00% | NMF | 4.50% | 5.50% | 4.51% |
| El Paso Electric Company | EE | 16.00 | 4.00% | - | 7.00% | - | 8.00% | 5.50% | 3.00% | 6.50% | 3.50% | 2.40% |
| Entergy Corporation | ETR | 12.00 | 0.50% | 3.00% | 1.00% | -0.50% | 1.00% | -2.50% | 2.00% | 3.50% | 4.50% | 4.14% |
| Evergy, Inc. | EVRG | NMF | - | - | - | - | - | - | NMF | NMF | NMF | 2.98% |
| Exelon Corporation | EXC | 14.00 | -5.50% | -3.50% | 7.00% | -3.50% | -7.00% | 4.50% | 9.00% | 5.50% | 5.00% | 4.68% |
| FirstEnergy Corp. | FE | 17.00 | -7.00% | -2.50% | -8.00% | -2.50% | -5.00% | -17.50% | 6.50% | 3.50% | 7.00% | 5.76% |
| Hawaiian Electric Industries, Inc. | HE | 18.00 | 5.00% | - | 3.00% | 4.00% | - | 3.50% | 2.50% | 3.00% | 3.50% | 2.88% |
| IDACORP, Inc. | IDA | 14.00 | 7.00% | 6.50% | 5.50% | 4.00% | 10.00% | 5.00% | 3.50% | 7.00% | 4.00% | 3.52% |
| MGE Energy, Inc. | MGEE | 18.00 | 4.50% | 3.00% | 5.50% | 3.50% | 4.00% | 6.00% | 6.00% | 5.00% | 5.00% | 4.83% |
| NextEra Energy, Inc. | NEE | 16.00 | 6.00% | 9.00% | 8.50% | 6.00% | 10.50% | 9.50% | 10.50% | 10.00% | 7.50% | 5.00% |
| Eversource Energy | ES | 18.00 | 8.00% | 9.50% | 6.50% | 7.00% | 8.00% | 5.00% | 5.50% | 5.50% | 4.50% | 3.42% |
| NorthWestern Corporation | NWE | 16.00 | 8.50% | 5.00% | 5.50% | 7.00% | 7.00% | 8.00% | 2.00% | 4.50% | 3.50% | 2.79% |
| OGE Energy Corp. | OGE | 17.00 | 4.00% | 6.50% | 7.50% | 1.00% | 9.50% | 6.00% | 6.50% | 6.50% | 4.00% | 3.80% |
| Otter Tail Corporation | OTTR | 22.00 | 2.00% | 1.00% | - | 14.00% | 1.50% | 3.50% | 5.00% | 4.00% | 4.50% | 3.74% |
| Pinnacle West Capital Corporation | PNW | 15.00 | 4.50% | 2.50% | 2.50% | 5.00% | 3.00% | 4.50% | 4.00% | 6.00% | 3.50% | 3.20% |
| PNM Resources, Inc. | PNM | 18.00 | 7.00% | 2.50% | - | 6.00% | 11.00% | 1.00% | 7.00% | 7.00% | 5.00% | 3.78% |
| Portland General Electric Company | POR | 16.00 | 3.50% | 4.50% | 2.50% | 4.00% | 4.50% | 3.50% | 4.50% | 6.50% | 3.00% | 3.06% |
| PPL Corporation | PPL | 13.00 | - | 2.50% | 1.00% | -0.50% | 2.00% | -4.00% | 1.50% | 2.00% | 5.50% | 4.68% |
| Public Service Enterprise Group Incorporated | PEG | 13.00 | 1.50% | 3.50% | 6.50% | 1.00% | 4.00% | 5.00% | 6.00% | 5.00% | 5.00% | 4.73% |
| Sempra Energy | SRE | 19.00 | 1.00% | 10.00% | 5.50% | 2.00% | 7.50% | 4.00% | 11.00% | 8.00% | 7.00% | 4.83% |
| Southern Company | SO | 16.00 | 3.00% | 3.50% | 4.00% | 2.50% | 3.50% | 3.00% | 3.50% | 3.00% | 3.50% | 3.38% |
| WEC Energy Group, Inc. | WEC | 17.00 | 8.50% | 15.50% | 8.50% | 6.00% | 11.00% | 10.50% | 6.00% | 6.00% | 3.50% | 3.96% |
| Xcel Energy Inc. | XEL | 15.00 | 5.50% | 4.50% | 4.50% | 5.00% | 6.00% | 4.50% | 5.50% | 6.00% | 5.50% | 3.78% |

Notes:
Source: Value Line Reports as of January 31, 2020

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.49272 |
| R Square | 0.24277 |
| Adjusted R Square | 0.22384 |
| Standard Error | 1.77981 |
| Observations | 42 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 40.62382 | 40.62382 | 12.82424 | 0.00092 |
| Residual | 40 | 126.70951 | 3.16774 | | |
| Total | 41 | 167.33333 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 15.14474 | 0.50600 | 29.93014 | 0.00000 | 14.12207 | 16.16741 |
| Proj.EarningsGrowth Rate | 23.41430 | 6.53831 | 3.58109 | 0.00092 | 10.19989 | 36.62872 |

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.04457 |
| R Square | 0.00199 |
| Adjusted R Square | -0.02235 |
| Standard Error | 2.09591 |
| Observations | 43 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0.35857 | 0.35857 | 0.08163 | 0.77654 |
| Residual | 41 | 180.10655 | 4.39284 | | |
| Total | 42 | 180.46512 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 16.31791 | 0.97605 | 16.71825 | 0.00000 | 14.34673 | 18.28909 |
| Proj.DividendGrowth Rate | 4.92603 | 17.24183 | 0.28570 | 0.77654 | -29.89456 | 39.74662 |

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.01609944 |
| R Square | 0.000259192 |
| Adjusted R Square | -0.02412473 |
| Standard Error | 2.097724325 |
| Observations | 43 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0.046775108 | 0.046775108 | 0.010629626 | 0.918386192 |
| Residual | 41 | 180.4183412 | 4.400447346 | | |
| Total | 42 | 180.4651163 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 16.65597834 | 0.790979826 | 21.05739967 | 1.33752E-23 | 15.05856217 | 18.2533945 |
| Proj. Book Value Growth Rate | -1.382357133 | 13.40791581 | -0.103100076 | 0.918386192 | -28.46019244 | 25.69547818 |

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.09830 |
| R Square | 0.00966 |
| Adjusted R Square | -0.01509 |
| Standard Error | 2.03541 |
| Observations | 42 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 1.61704 | 1.61704 | 0.39031 | 0.53568 |
| Residual | 40 | 165.71630 | 4.14291 | | |
| Total | 41 | 167.33333 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 16.81783 | 0.39647 | 42.41937 | 0.00000 | 16.01654 | 17.61912 |
| Past 10 YearEarningsGrowth Rate | -4.47107 | 7.15655 | -0.62475 | 0.53568 | -18.93500 | 9.99287 |

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.06269 |
| R Square | 0.00393 |
| Adjusted R Square | -0.02161 |
| Standard Error | 2.13276 |
| Observations | 41 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0.69997 | 0.69997 | 0.15388 | 0.69699 |
| Residual | 39 | 177.39759 | 4.54866 | | |
| Total | 40 | 178.09756 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 16.41494 | 0.49952 | 32.86131 | 0.00000 | 15.40457 | 17.42532 |
| Past 10 YearDividendGrowth Rate | 2.87851 | 7.33786 | 0.39228 | 0.69699 | -11.96372 | 17.72074 |

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.07123 |
| R Square | 0.00507 |
| Adjusted R Square | -0.02044 |
| Standard Error | 1.94277 |
| Observations | 41 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0.75073 | 0.75073 | 0.19890 | 0.65807 |
| Residual | 39 | 147.20049 | 3.77437 | | |
| Total | 40 | 147.95122 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 16.59483 | 0.50528 | 32.84299 | 0.00000 | 15.57281 | 17.61685 |
| Past 10 YearBook ValueGrowth Rate | -4.09307 | 9.17762 | -0.44598 | 0.65807 | -22.65656 | 14.47042 |

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.02190 |
| R Square | 0.00048 |
| Adjusted R Square | -0.02451 |
| Standard Error | 2.12151 |
| Observations | 42 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0.08637 | 0.08637 | 0.01919 | 0.89052 |
| Residual | 40 | 180.03268 | 4.50082 | | |
| Total | 41 | 180.11905 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 16.56999 | 0.37467 | 44.22566 | 0.00000 | 15.81276 | 17.32723 |
| Past 5 YearEarningsGrowth Rate | 0.79725 | 5.75523 | 0.13853 | 0.89052 | -10.83450 | 12.42900 |

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.05161 |
| R Square | 0.00266 |
| Adjusted R Square | -0.02227 |
| Standard Error | 2.10909 |
| Observations | 42 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0.47517 | 0.47517 | 0.10682 | 0.74549 |
| Residual | 40 | 177.92959 | 4.44824 | | |
| Total | 41 | 178.40476 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 16.67850 | 0.51601 | 32.32199 | 0.00000 | 15.63560 | 17.72140 |
| Past 5 YearDividendGrowth Rate | -2.58682 | 7.91469 | -0.32684 | 0.74549 | -18.58301 | 13.40937 |

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.026771763 |
| R Square | 0.000716727 |
| Adjusted R Square | -0.024265354 |
| Standard Error | 2.002256058 |
| Observations | 42 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0.11501767 | 0.11501767 | 0.028689655 | 0.866351296 |
| Residual | 40 | 160.3611728 | 4.00902932 | | |
| Total | 41 | 160.4761905 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 16.43335631 | 0.399255874 | 41.15996125 | 2.30422E-34 | 15.62643009 | 17.24028253 |
| Past 5 YearBook ValueGrowth Rate | 1.110515432 | 6.556347017 | 0.16938021 | 0.866351296 | -12.14035617 | 14.36138704 |

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.116023492 |
| R Square | 0.013461451 |
| Adjusted R Square | -0.010600465 |
| Standard Error | 2.083827353 |
| Observations | 43 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 2.42932228 | 2.42932228 | 0.559450497 | 0.458750721 |
| Residual | 41 | 178.035794 | 4.342336439 | | |
| Total | 42 | 180.4651163 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 17.54125733 | 1.322059625 | 13.26812875 | 1.99027E-16 | 14.87130375 | 20.2112109 |
| BxR Sustainable Growth | -24.16089973 | 32.30221258 | -0.747964235 | 0.458750721 | -89.39654147 | 41.07474201 |

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.748562859 |
| R Square | 0.560346353 |
| Adjusted R Square | 0.384484895 |
| Standard Error | 1.332008527 |
| Observations | 36 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 10 | 56.53272099 | 5.653272099 | 3.186294244 | 0.009062744 |
| Residual | 25 | 44.3561679 | 1.774246716 | | |
| Total | 35 | 100.8888889 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 16.98268641 | 1.065469549 | 15.93915699 | 1.31988E-14 | 14.7883108 | 19.17706202 |
| Past 10 YearEarningsGrowth Rate | 8.159157225 | 17.84182259 | 0.457305143 | 0.651401031 | -28.58676425 | 44.9050787 |
| Past 10 YearDividendGrowth Rate | 6.854393677 | 8.036053791 | 0.852955176 | 0.401782509 | -9.696168918 | 23.40495627 |
| Past 10 YearBook ValueGrowth Rate | -20.07636098 | 23.02960726 | -0.871763064 | 0.391633055 | -67.50672499 | 27.35400302 |
| Past 5 YearEarningsGrowth Rate | 16.82718561 | 11.91068235 | 1.41278099 | 0.170049431 | -7.703323881 | 41.35769509 |
| Past 5 YearDividendGrowth Rate | -1.506977664 | 10.56977991 | -0.142574176 | 0.887769352 | -23.27584688 | 20.26189156 |
| Past 5 YearBook ValueGrowth Rate | -0.226215047 | 19.05041108 | -0.011874549 | 0.990619958 | -39.46127111 | 39.00884102 |
| Proj.EarningsGrowth Rate | 69.52486402 | 16.69329139 | 4.16483858 | 0.00032412 | 35.14438683 | 103.9053412 |
| Proj.DividendGrowth Rate | -20.66089038 | 17.0184553 | -1.214028536 | 0.236081248 | -55.71105517 | 14.38927441 |
| Proj. Book Value Growth Rate | -12.58594719 | 15.49360334 | -0.812331832 | 0.424269388 | -44.49562059 | 19.32372621 |
| BxR Sustainable Growth | -84.21749433 | 31.63689195 | -2.66200278 | 0.013382066 | -149.374893 | -19.06009567 |

## Bond Yield Plus Risk Premium - Settled Cases

| | [1] Constant | [2] Slope | [3] 30-Year Treasury Yield | [4] Risk Premium | [5] Return on Equity |
|---|---|---|---|---|---|
| Current | -1.65% | -2.41% | 2.25% | 7.48% | 9.73% |
| Near-Term Projected | -1.65% | -2.41% | 2.42% | 7.31% | 9.73% |
| Long-Term Projected | -1.65% | -2.41% | 3.45% | 6.45% | 9.90% |

Notes:

[1] Constant of regression equation
[2] Slope of regression equation
[3] Rebuttal Exhibit DWD-5
[4] Equals [1] + ln([3]) x [2]
[5] Equals [3] + [4]

## Bond Yield Plus Risk Premium - Fully Litigated Cases

| | [1] Constant | [2] Slope | [3] 30-Year Treasury Yield | [4] Risk Premium | [5] Return on Equity |
|---|---|---|---|---|---|
| Current | -2.67% | -2.75% | 2.25% | 7.78% | 10.03% |
| Near Term Projected | -2.67% | -2.75% | 2.42% | 7.58% | 10.00% |
| Long-Term Projected | -2.67% | -2.75% | 3.45% | 6.60% | 10.05% |

Notes:

[1] Constant of regression equation
[2] Slope of regression equation
[3] Rebuttal Exhibit DWD-5
[4] Equals [1] + ln([3]) x [2]
[5] Equals [3] + [4]

| | Litigated | Settled | Difference |
|---|---|---|---|
| Authorized ROEs from January 2015 - Present | 9.55% | 9.67% | 0.12% |

Source: Regulatory Research Associates

Implied Return on Equity with M/B Ratio at Unity

| Institution Name | Ticker | 2018 ROACE (%) | Price/ Book (%) Value |
|---|---|---|---|
| ALLETE, Inc. | ALE | 8.26 | 182.1 |
| Alliant Energy Corporation | LNT | 11.68 | 217.5 |
| Ameren Corporation | AEE | 10.98 | 209.0 |
| American Electric Power Company, Inc. | AEP | 10.28 | 193.7 |
| Atmos Energy Corporation | ATO | 13.11 | 219.1 |
| Avangrid, Inc. | AGR | 3.93 | 102.5 |
| Avista Corporation | AVA | 7.77 | 157.4 |
| Black Hills Corporation | BKH | 13.98 | 172.7 |
| CenterPoint Energy, Inc. | CNP | 6.74 | 223.9 |
| Chesapeake Utilities Corporation | CPK | 11.18 | 255.3 |
| CMS Energy Corporation | CMS | 14.12 | 295.9 |
| Consolidated Edison, Inc. | ED | 8.74 | 146.7 |
| Dominion Energy, Inc. | D | 13.44 | 242.0 |
| DTE Energy Company | DTE | 11.25 | 196.0 |
| Duke Energy Corporation | DUK | 6.27 | 143.2 |
| Edison International | EIX | -3.63 | 176.8 |
| El Paso Electric Company | EE | 7.29 | 175.2 |
| Entergy Corporation | ETR | 10.34 | 184.0 |
| Evergy, Inc. | EVRG | 7.69 | 144.5 |
| Eversource Energy | ES | 9.15 | 179.4 |
| Exelon Corporation | EXC | 6.57 | 141.94 |
| FirstEnergy Corp. | FE | 14.59 | 285.1 |
| Hawaiian Electric Industries, Inc. | HE | 9.54 | 184.4 |
| IDACORP, Inc. | IDA | 9.83 | 197.8 |
| MGE Energy, Inc. | MGEE | 10.56 | 254.5 |
| New Jersey Resources Corporation | NJR | 16.70 | 286.8 |
| NextEra Energy, Inc. | NEE | 20.24 | 243.3 |
| NiSource Inc. | NI | -1.31 | 164.1 |
| Northwest Natural Holding Company | NWN | 8.55 | 229.0 |
| NorthWestern Corporation | NWE | 10.50 | 154.0 |
| OGE Energy Corp. | OGE | 10.85 | 195.4 |
| ONE Gas, Inc. | OGS | 8.55 | 204.8 |
| Otter Tail Corporation | OTTR | 11.51 | 270.1 |
| Pinnacle West Capital Corporation | PNW | 9.96 | 182.9 |
| PNM Resources, Inc. | PNM | 4.99 | 193.9 |
| Portland General Electric Company | POR | 8.60 | 163.3 |
| PPL Corporation | PPL | 16.08 | 175.1 |
| Public Service Enterprise Group Incorporated | PEG | 10.14 | 182.5 |
| Sempra Energy | SRE | 6.49 | 199.1 |
| South Jersey Industries, Inc. | SJI | 1.40 | 187.6 |
| Southern Company | SO | 9.12 | 183.7 |
| Southwest Gas Holdings, Inc. | SWX | 9.36 | 180.1 |
| Spire Inc. | SR | 9.87 | 165.2 |
| UGI Corporation | UGI | 19.95 | 261.8 |
| WEC Energy Group, Inc. | WEC | 10.92 | 223.2 |
| Xcel Energy Inc. | XEL | 10.68 | 207.2 |

Source: S&P Global Market Intelligence

Implied Return on Equity with M/B Ratio at Unity

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.567047382 |
| R Square | 0.321542734 |
| Adjusted R Square | 0.30612325 |
| Standard Error | 35.16044363 |
| Observations | 46 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 25779.68286 | 25779.68286 | 20.85301609 | 3.97667E-05 |
| Residual | 44 | 54395.29903 | 1236.256796 | | |
| Total | 45 | 80174.98188 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 146.5197539 | 12.52101627 | 11.70190588 | 4.22424E-15 | 121.2853037 | 171.7542041 |
| ROACE | 5.358258852 | 1.173381539 | 4.566510274 | 3.97667E-05 | 2.993463747 | 7.723053958 |

| ROE (%) | PRICE/BOOK |
|---|---|
| -8.68 | 100.00 |
| -6.82 | 110.00 |

Constant Growth Discounted Cash Flow Model and Credit Ratings
30 Day Dividend Yield

| | | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | Dividend Yield | Expected Dividend Yield | Yahoo Earnings Growth | Zacks Earnings Growth | Average Earnings Growth | Mean ROE | S&P Issuer Credit Rating | Numeric Credit Score |
| ALLETE, Inc. | ALE | 2.92% | 3.03% | 7.00% | 7.20% | 7.10% | 10.13% | BBB+ | 5 |
| Alliant Energy Corporation | LNT | 2.64% | 2.71% | 5.40% | 5.49% | 5.45% | 8.16% | A- | 4 |
| Ameren Corporation | AEE | 2.62% | 2.69% | 6.05% | 5.65% | 5.85% | 8.54% | BBB+ | 5 |
| American Electric Power Company, Inc. | AEP | 3.01% | 3.09% | 4.60% | 6.24% | 5.42% | 8.51% | A- | 4 |
| Avangrid, Inc. | AGR | 3.51% | 3.57% | 3.50% | 3.36% | 3.43% | 7.00% | BBB+ | 5 |
| Avista Corporation | AVA | 3.25% | 3.36% | 6.20% | 7.39% | 6.80% | 10.16% | BBB | 6 |
| CMS Energy Corporation | CMS | 2.47% | 2.55% | 7.50% | 6.42% | 6.96% | 9.51% | BBB+ | 5 |
| Consolidated Edison, Inc. | ED | 3.35% | 3.39% | 2.37% | 2.00% | 2.19% | 5.57% | A- [7] | 4 |
| Dominion Energy, Inc. | D | 4.50% | 4.60% | 4.41% | 4.78% | 4.60% | 9.19% | BBB+ | 5 |
| Duke Energy Corporation | DUK | 4.20% | 4.30% | 4.40% | 4.84% | 4.62% | 8.92% | A- | 4 |
| Edison International | EIX | 3.46% | 3.54% | 3.90% | 5.42% | 4.66% | 8.20% | BBB | 6 |
| Entergy Corporation | ETR | 3.13% | 3.17% | -1.50% | 7.00% | 2.75% | 5.92% | BBB+ | 5 |
| Evergy, Inc. | EVRG | 3.18% | 3.28% | 6.70% | 6.57% | 6.64% | 9.92% | A- | 4 |
| Eversource Energy | ES | 2.58% | 2.65% | 5.45% | 5.63% | 5.54% | 8.19% | A- | 4 |
| Exelon Corporation | EXC | 3.21% | 3.25% | 0.46% | 4.19% | 2.33% | 5.58% | BBB+ | 5 |
| FirstEnergy Corp. | FE | 3.24% | 3.24% | -6.60% | 6.00% | -0.30% | 2.94% | BBB | 6 |
| Hawaiian Electric Industries, Inc. | HE | 2.80% | 2.86% | 3.40% | 4.22% | 3.81% | 6.67% | BBB- | 7 |
| IDACORP, Inc. | IDA | 2.53% | 2.57% | 2.50% | 3.85% | 3.18% | 5.75% | BBB | 6 |
| MGE Energy, Inc. | MGEE | 1.81% | 1.84% | 4.00% | N/A | 4.00% | 5.84% | AA- | 1 |
| NextEra Energy, Inc. | NEE | 2.09% | 2.18% | 7.99% | 7.98% | 7.99% | 10.16% | A- | 4 |
| NorthWestern Corporation | NWE | 3.23% | 3.28% | 3.23% | 2.75% | 2.99% | 6.27% | BBB | 6 |
| OGE Energy Corp. | OGE | 3.55% | 3.62% | 3.50% | 4.26% | 3.88% | 7.50% | BBB+ | 5 |
| Pinnacle West Capital Corporation | PNW | 3.56% | 3.64% | 4.11% | 4.91% | 4.51% | 8.15% | A- | 4 |
| PNM Resources, Inc. | PNM | 2.47% | 2.54% | 6.25% | 5.40% | 5.83% | 8.36% | BBB+ | 5 |
| Portland General Electric Company | POR | 2.78% | 2.84% | 4.80% | 4.78% | 4.79% | 7.63% | BBB+ | 5 |
| PPL Corporation | PPL | 4.70% | 4.71% | 0.50% | N/A | 0.50% | 5.21% | A- | 4 |
| Sempra Energy | SRE | 2.60% | 2.72% | 10.05% | 7.73% | 8.89% | 11.61% | BBB+ | 5 |
| Southern Company | SO | 4.00% | 4.06% | 1.53% | 4.50% | 3.02% | 7.08% | A- | 4 |
| WEC Energy Group, Inc. | WEC | 2.80% | 2.89% | 6.05% | 6.14% | 6.10% | 8.98% | A- | 4 |
| Xcel Energy Inc. | XEL | 2.60% | 2.67% | 6.10% | 5.42% | 5.76% | 8.43% | A- | 4 |
| PROXY GROUP MEAN | | 3.09% | 3.16% | 4.13% | 5.36% | 4.64% | 7.80% | BBB+ | 4.70 |
| PROXY GROUP MEDIAN | | 3.07% | 3.13% | 4.41% | 5.42% | 4.64% | 8.17% | BBB+ | 5.00 |

Regression Output

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.064115 |
| R Square | 0.004111 |
| Adjusted R Square | -0.031457 |
| Standard Error | 0.019057 |
| Observations | 30 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 4.19745E-05 | 4.1974E-05 | 0.1155765 | 0.73641974 |
| Residual | 28 | 0.0101689 | 0.00036317 | | |
| Total | 29 | 0.010210874 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 0.083222 | 0.015684355 | 5.30608033 | 1.202E-05 | 0.0510945 | 0.1153504 |
| Credit Score | -0.001106 | 0.00325395 | -0.33996543 | 0.7364197 | -0.00777165 | 0.0055592 |

Notes:
[1] Source: Exhibit JRW-7
[2] Equals [1] x (1 + 0.5 x [6])
[3] Source: Exhibit JRW-7
[4] Source: Exhibit JRW-7
[5] Equals Average([3], [4])
[6] Equals [2] + [5]
[7] Source: Exhibit JRW-2. Note: Exh. JRW-2 incorrectly denotes ED as being rated BBB+
[8] AA- = 1; A+ = 2; A = 3; A- = 4; BBB+ = 5; BBB = 6; BBB- = 7

Constant Growth Discounted Cash Flow Model and Credit Ratings
90 Day Dividend Yield

| Company | Ticker | [1] Dividend Yield | [2] Expected Dividend Yield | [3] Yahoo Earnings Growth | [4] Zacks Earnings Growth | [5] Average Earnings Growth | [6] Mean ROE | [7] S&P Issuer Credit Rating | [8] Numeric Credit Score |
|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | 2.82% | 2.92% | 7.00% | 7.20% | 7.10% | 10.02% | BBB+ | 5 |
| Alliant Energy Corporation | LNT | 2.67% | 2.74% | 5.40% | 5.49% | 5.45% | 8.19% | A- | 4 |
| Ameren Corporation | AEE | 2.59% | 2.67% | 6.05% | 5.65% | 5.85% | 8.52% | BBB+ | 5 |
| American Electric Power Company, Inc. | AEP | 3.02% | 3.11% | 4.60% | 6.24% | 5.42% | 8.53% | A- | 4 |
| Avangrid, Inc. | AGR | 3.51% | 3.57% | 3.50% | 3.36% | 3.43% | 7.00% | BBB+ | 5 |
| Avista Corporation | AVA | 3.25% | 3.36% | 6.20% | 7.39% | 6.80% | 10.16% | BBB | 6 |
| CMS Energy Corporation | CMS | 2.45% | 2.54% | 7.50% | 6.42% | 6.96% | 9.50% | BBB+ | 5 |
| Consolidated Edison, Inc. | ED | 3.29% | 3.33% | 2.37% | 2.00% | 2.19% | 5.52% | A- [7] | 4 |
| Dominion Energy, Inc. | D | 4.51% | 4.61% | 4.41% | 4.78% | 4.60% | 9.21% | BBB+ | 5 |
| Duke Energy Corporation | DUK | 4.10% | 4.20% | 4.40% | 4.84% | 4.62% | 8.82% | A- | 4 |
| Edison International | EIX | 3.56% | 3.64% | 3.90% | 5.42% | 4.66% | 8.30% | BBB | 6 |
| Entergy Corporation | ETR | 3.17% | 3.21% | -1.50% | 7.00% | 2.75% | 5.96% | BBB+ | 5 |
| Evergy, Inc. | EVRG | 3.15% | 3.26% | 6.70% | 6.57% | 6.64% | 9.89% | A- | 4 |
| Eversource Energy | ES | 2.57% | 2.64% | 5.45% | 5.63% | 5.54% | 8.18% | A- | 4 |
| Exelon Corporation | EXC | 3.16% | 3.19% | 0.46% | 4.19% | 2.33% | 5.52% | BBB+ | 5 |
| FirstEnergy Corp. | FE | 3.26% | 3.26% | -6.60% | 6.00% | -0.30% | 2.96% | BBB | 6 |
| Hawaiian Electric Industries, Inc. | HE | 2.85% | 2.91% | 3.40% | 4.22% | 3.81% | 6.72% | BBB- | 7 |
| IDACORP, Inc. | IDA | 2.50% | 2.54% | 2.50% | 3.85% | 3.18% | 5.71% | BBB | 6 |
| MGE Energy, Inc. | MGEE | 1.83% | 1.87% | 4.00% | N/A | 4.00% | 5.87% | AA- | 1 |
| NextEra Energy, Inc. | NEE | 2.15% | 2.23% | 7.99% | 7.98% | 7.99% | 10.22% | A- | 4 |
| NorthWestern Corporation | NWE | 3.18% | 3.23% | 3.23% | 2.75% | 2.99% | 6.22% | BBB | 6 |
| OGE Energy Corp. | OGE | 3.56% | 3.63% | 3.50% | 4.26% | 3.88% | 7.51% | BBB+ | 5 |
| Pinnacle West Capital Corporation | PNW | 3.44% | 3.52% | 4.11% | 4.91% | 4.51% | 8.03% | A- | 4 |
| PNM Resources, Inc. | PNM | 2.45% | 2.52% | 6.25% | 5.40% | 5.83% | 8.34% | BBB+ | 5 |
| Portland General Electric Company | POR | 2.76% | 2.82% | 4.80% | 4.78% | 4.79% | 7.61% | BBB+ | 5 |
| PPL Corporation | PPL | 4.96% | 4.97% | 0.50% | N/A | 0.50% | 5.47% | A- | 4 |
| Sempra Energy | SRE | 2.64% | 2.76% | 10.05% | 7.73% | 8.89% | 11.65% | BBB+ | 5 |
| Southern Company | SO | 4.01% | 4.07% | 1.53% | 4.50% | 3.02% | 7.08% | A- | 4 |
| WEC Energy Group, Inc. | WEC | 2.76% | 2.85% | 6.05% | 6.14% | 6.10% | 8.94% | A- | 4 |
| Xcel Energy Inc. | XEL | 2.58% | 2.65% | 6.10% | 5.42% | 5.76% | 8.41% | A- | 4 |
| PROXY GROUP MEAN | | 3.09% | 3.16% | 4.13% | 5.36% | 4.64% | 7.80% | BBB+ | 4.70 |
| PROXY GROUP MEDIAN | | 3.09% | 3.15% | 4.41% | 5.42% | 4.64% | 8.19% | BBB+ | 5.00 |

Regression Output

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.063948 |
| R Square | 0.004089 |
| Adjusted R Square | -0.031479 |
| Standard Error | 0.018936 |
| Observations | 30 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 4.1224E-05 | 4.1224E-05 | 0.1149725 | 0.73708242 |
| Residual | 28 | 0.010039539 | 0.00035855 | | |
| Total | 29 | 0.010080763 | | | |

| | Coefficients | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 0.083173 | 0.015584274 | 5.3369657 | 1.105E-05 | 0.0512498 | 0.1150957 |
| Credit Score | -0.001096 | 0.003233187 | -0.339076 | 0.7370824 | -0.00771918 | 0.0055266 |

Notes:
[1] Source: Exhibit JRW-7
[2] Equals [1] x (1 + 0.5 x [6])
[3] Source: Exhibit JRW-7
[4] Source: Exhibit JRW-7
[5] Equals Average([3], [4])
[6] Equals [2] + [5]
[7] Source: Exhibit JRW-2. Note: Exh. JRW-2 incorrectly denotes ED as being rated BBB+
[8] AA- = 1; A+ = 2; A = 3; A- = 4; BBB+ = 5; BBB = 6; BBB- = 7

Constant Growth Discounted Cash Flow Model and Credit Ratings
180 Day Dividend Yield

| | | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | Dividend Yield | Expected Dividend Yield | Yahoo Earnings Growth | Zacks Earnings Growth | Average Earnings Growth | Mean ROE | S&P Issuer Credit Rating | Numeric Credit Score |
| ALLETE, Inc. | ALE | 2.80% | 2.90% | 7.00% | 7.20% | 7.10% | 10.00% | BBB+ | 5 |
| Alliant Energy Corporation | LNT | 2.76% | 2.83% | 5.40% | 5.49% | 5.45% | 8.28% | A- | 4 |
| Ameren Corporation | AEE | 2.60% | 2.68% | 6.05% | 5.65% | 5.85% | 8.53% | BBB+ | 5 |
| American Electric Power Company, Inc. | AEP | 3.08% | 3.17% | 4.60% | 6.24% | 5.42% | 8.59% | A- | 4 |
| Avangrid, Inc. | AGR | 3.51% | 3.57% | 3.50% | 3.36% | 3.43% | 7.00% | BBB+ | 5 |
| Avista Corporation | AVA | 3.36% | 3.47% | 6.20% | 7.39% | 6.80% | 10.27% | BBB | 6 |
| CMS Energy Corporation | CMS | 2.53% | 2.61% | 7.50% | 6.42% | 6.96% | 9.57% | BBB+ | 5 |
| Consolidated Edison, Inc. | ED | 3.34% | 3.37% | 2.37% | 2.00% | 2.19% | 5.56% | A- [7] | 4 |
| Dominion Energy, Inc. | D | 4.65% | 4.76% | 4.41% | 4.78% | 4.60% | 9.35% | BBB+ | 5 |
| Duke Energy Corporation | DUK | 4.18% | 4.28% | 4.40% | 4.84% | 4.62% | 8.90% | A- | 4 |
| Edison International | EIX | 3.68% | 3.76% | 3.90% | 5.42% | 4.66% | 8.42% | BBB | 6 |
| Entergy Corporation | ETR | 3.36% | 3.41% | -1.50% | 7.00% | 2.75% | 6.16% | BBB+ | 5 |
| Evergy, Inc. | EVRG | 3.23% | 3.33% | 6.70% | 6.57% | 6.64% | 9.97% | A- | 4 |
| Eversource Energy | ES | 2.68% | 2.75% | 5.45% | 5.63% | 5.54% | 8.29% | A- | 4 |
| Exelon Corporation | EXC | 3.09% | 3.13% | 0.46% | 4.19% | 2.33% | 5.45% | BBB+ | 5 |
| FirstEnergy Corp. | FE | 3.41% | 3.41% | -6.60% | 6.00% | -0.30% | 3.11% | BBB | 6 |
| Hawaiian Electric Industries, Inc. | HE | 2.89% | 2.95% | 3.40% | 4.22% | 3.81% | 6.76% | BBB- | 7 |
| IDACORP, Inc. | IDA | 2.53% | 2.57% | 2.50% | 3.85% | 3.18% | 5.75% | BBB | 6 |
| MGE Energy, Inc. | MGEE | 1.89% | 1.93% | 4.00% | N/A | 4.00% | 5.93% | AA- | 1 |
| NextEra Energy, Inc. | NEE | 2.27% | 2.36% | 7.99% | 7.98% | 7.99% | 10.34% | A- | 4 |
| NorthWestern Corporation | NWE | 3.19% | 3.24% | 3.23% | 2.75% | 2.99% | 6.23% | BBB | 6 |
| OGE Energy Corp. | OGE | 3.59% | 3.66% | 3.50% | 4.26% | 3.88% | 7.54% | BBB+ | 5 |
| Pinnacle West Capital Corporation | PNW | 3.37% | 3.45% | 4.11% | 4.91% | 4.51% | 7.96% | A- | 4 |
| PNM Resources, Inc. | PNM | 2.46% | 2.53% | 6.25% | 5.40% | 5.83% | 8.36% | BBB+ | 5 |
| Portland General Electric Company | POR | 2.78% | 2.85% | 4.80% | 4.78% | 4.79% | 7.64% | BBB+ | 5 |
| PPL Corporation | PPL | 5.19% | 5.20% | 0.50% | N/A | 0.50% | 5.70% | A- | 4 |
| Sempra Energy | SRE | 2.74% | 2.86% | 10.05% | 7.73% | 8.89% | 11.75% | BBB+ | 5 |
| Southern Company | SO | 4.21% | 4.28% | 1.53% | 4.50% | 3.02% | 7.29% | A- | 4 |
| WEC Energy Group, Inc. | WEC | 2.85% | 2.94% | 6.05% | 6.14% | 6.10% | 9.03% | A- | 4 |
| Xcel Energy Inc. | XEL | 2.63% | 2.71% | 6.10% | 5.42% | 5.76% | 8.47% | A- | 4 |
| PROXY GROUP MEAN | | 3.16% | 3.23% | 4.13% | 5.36% | 4.64% | 7.87% | BBB+ | 4.70 |
| PROXY GROUP MEDIAN | | 3.09% | 3.15% | 4.41% | 5.42% | 4.64% | 8.29% | BBB+ | 5.00 |

Regression Output

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.066915 |
| R Square | 0.004478 |
| Adjusted R Square | -0.031077 |
| Standard Error | 0.018901 |
| Observations | 30 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 4.49899E-05 | 4.499E-05 | 0.125937 | 0.72534159 |
| Residual | 28 | 0.010002762 | 0.00035724 | | |
| Total | 29 | 0.010047752 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 0.084115 | 0.015555703 | 5.40731525 | 9.118E-06 | 0.05225018 | 0.115979 |
| Credit Score | -0.001145 | 0.00322726 | -0.35487603 | 0.7253416 | -0.00775602 | 0.0054655 |

Notes:
[1] Source: Exhibit JRW-7
[2] Equals [1] x (1 + 0.5 x [6])
[3] Source: Exhibit JRW-7
[4] Source: Exhibit JRW-7
[5] Equals Average([3], [4])
[6] Equals [2] + [5]
[7] Source: Exhibit JRW-2. Note: Exh. JRW-2 incorrectly denotes ED as being rated BBB+
[8] AA- = 1; A+ = 2; A = 3; A- = 4; BBB+ = 5; BBB = 6; BBB- = 7

Credit Ratings - Dr. Woolridge's Proxy Group

| Company | Ticker | Moody's Long-Term Issuer | Moody's Corporate Long-Term | S&P Long-Term Issuer | S&P Corporate Long-Term |
|---|---|---|---|---|---|
| **ALLETE, Inc.** | **ALE** | **Baa1** | **Baa1** | **BBB+** | **BBB+** |
| Superior Water, Light and Power Company | | A3 | | | |
| **Alliant Energy Corporation** | **LNT** | **Baa1** | **Baa2** | **A-** | **A-** |
| Interstate Power and Light Company | | Baa1 | Baa1 | A- | A- |
| Wisconsin Power and Light Company | | A3 | A3 | A | A |
| **Ameren Corporation** | **AEE** | **Baa1** | **Baa1** | **BBB+** | **BBB+** |
| Ameren Illinois Company | | A3 | A3 | BBB+ | BBB+ |
| Union Electric Company | | Baa1 | Baa1 | BBB+ | BBB+ |
| **American Electric Power Company, Inc.** | **AEP** | | **Baa1** | **A-** | **A-** |
| AEP Texas Inc. | | Baa1 | Baa1 | A- | A- |
| Appalachian Power Company | | Baa1 | Baa1 | A- | A- |
| Indiana Michigan Power Company | | A3 | A3 | A- | A- |
| Kentucky Power Company | | Baa3 | Baa3 | A- | A- |
| Ohio Power Company | | A2 | A2 | A- | A- |
| Public Service Company of Oklahoma | | A3 | A3 | A- | A- |
| Southwestern Electric Power Company | | Baa2 | Baa2 | A- | A- |
| **Avangrid, Inc.** | **AGR** | **Baa1** | **Baa1** | **BBB+** | **BBB+** |
| New York State Electric & Gas Corporation | | A3 | A3 | A- | A- |
| United Illuminating Company | | Baa1 | Baa1 | A- | A- |
| Rochester Gas and Electric Corporation | | A3 | A3 | A- | A- |
| Central Maine Power Company | | A2 | A2 | A | A |
| **Avista Corporation** | **AVA** | **Baa2** | | **BBB** | |
| Alaska Electric Light and Power | | Baa3 | | | |
| **CMS Energy Corporation** | **CMS** | | **Baa1** | **BBB+** | **BBB+** |
| Consumers Energy Company | | | (P)A2 | A- | A- |
| **Consolidated Edison, Inc.** | **ED** | **Baa1** | **Baa1** | **A-** | **A-** |
| Consolidated Edison Company of New York, Inc. | | A3 | A3 | A- | A- |
| Orange and Rockland Utilities, Inc. | | Baa1 | Baa1 | A- | A- |
| Rockland Electric | | | | A- | A- |
| **Dominion Energy, Inc.** | **D** | | **Baa2** | **BBB+** | **BBB+** |
| Dominion Energy South Carolina, Inc. | | Baa3 | Baa3 | BBB+ | BBB+ |
| Virginia Electric and Power Company | | A2 | A2 | BBB+ | BBB+ |
| **Edison International** | **EIX** | **Baa3** | **Baa3** | **BBB** | **BBB** |
| Southern California Edison Company | | Baa2 | Baa2 | BBB | BBB |
| **Entergy Corporation** | **ETR** | **Baa2** | **Baa2** | **BBB+** | **BBB+** |
| Entergy Arkansas, LLC | | Baa1 | Baa1 | A- | A- |
| Entergy Louisiana, LLC | | Baa1 | Baa1 | A- | A- |
| Entergy Mississippi, LLC | | Baa1 | Baa1 | A- | A- |
| Entergy New Orleans, LLC | | Ba1 | Ba1 | BBB+ | BBB+ |
| Entergy Texas, Inc. | | Baa3 | Baa3 | BBB+ | BBB+ |
| **Evergy, Inc.** | **EVRG** | **Baa2** | **Baa2** | **A-** | **A-** |
| Evergy Kansas Central, Inc. | | Baa1 | Baa1 | A- | A- |
| Evergy Kansas South, Inc. | | Baa1 | Baa1 | A- | A- |
| Evergy Metro, Inc. | | Baa1 | Baa1 | A- | A- |
| Evergy Missouri West, Inc. | | Baa2 | Baa2 | A- | A- |
| **Eversource Energy** | **ES** | **Baa1** | **Baa1** | **A-** | **A-** |
| Connecticut Light and Power Company | | A3 | A3 | A | A |
| NSTAR Electric Company | | A1 | A1 | A | A |
| Public Service Company of New Hampshire | | A3 | A3 | A | A |
| **Exelon Corporation** | **EXC** | **Baa2** | **Baa2** | **BBB+** | **BBB+** |
| Atlantic City Electric Company | | Baa1 | Baa1 | A- | A- |
| Baltimore Gas and Electric Company | | A3 | A3 | A | A |
| Commonwealth Edison Company | | A3 | A3 | A- | A- |
| Delmarva Power & Light Company | | Baa1 | Baa1 | A- | A- |
| PECO Energy Co. | | A2 | A2 | BBB+ | BBB+ |
| Potomac Electric Power Company | | Baa1 | Baa1 | A- | A- |

Credit Ratings - Dr. Woolridge's Proxy Group

| Company | Ticker | Moody's Long-Term Issuer | Moody's Corporate Long-Term | S&P Long-Term Issuer | S&P Corporate Long-Term |
|---|---|---|---|---|---|
| **FirstEnergy Corp.** | **FE** | **Baa3** | **Baa3** | **BBB** | **BBB** |
| Cleveland Electric Illuminating Company | | Baa2 | Baa2 | BBB | BBB |
| Jersey Central Power & Light Company | | Baa1 | Baa1 | BBB | BBB |
| Metropolitan Edison Company | | A3 | A3 | BBB | BBB |
| Monongahela Power Company | | Baa2 | Baa2 | BBB | BBB |
| Ohio Edison Company | | A3 | A3 | BBB | BBB |
| Pennsylvania Electric Company | | Baa1 | Baa1 | BBB | BBB |
| Pennsylvania Power Company | | A3 | A3 | BBB | BBB |
| Potomac Edison Company | | Baa2 | Baa2 | BBB | BBB |
| Toledo Edison Company | | Baa1 | Baa1 | BBB | BBB |
| West Penn Power Company | | A3 | A3 | BBB | BBB |
| **Hawaiian Electric Industries, Inc.** | **HE** | | | **BBB-** | **BBB-** |
| Hawaiian Electric Company, Inc. | | Baa2 | Baa2 | BBB- | BBB- |
| Hawaii Electric Light Company | | | | BBB- | BBB- |
| Maui Electric Company, Ltd | | | | BBB- | BBB- |
| **IDACORP, Inc.** | **IDA** | **Baa1** | **Baa1** | **BBB** | **BBB** |
| Idaho Power Company | | A3 | A3 | BBB | BBB |
| **MGE Energy, Inc.** | **MGEE** | | | | |
| Madison Gas and Electric Company | | A1 | A1 | AA- | AA- |
| **NextEra Energy, Inc.** | **NEE** | **Baa1** | **Baa1** | **A-** | **A-** |
| Florida Power & Light Company | | A1 | A1 | A | A |
| Gulf Power Company | | A2 | A2 | A | A |
| **NorthWestern Corporation** | **NWE** | | **Baa2** | **BBB** | **BBB** |
| **OGE Energy Corp.** | **OGE** | | **(P)Baa1** | **BBB+** | **BBB+** |
| Oklahoma Gas and Electric Company | | A3 | A3 | A- | A- |
| **Pinnacle West Capital Corporation** | **PNW** | **A2** | **A2** | **A-** | **A-** |
| Arizona Public Service Company | | A3 | A3 | A- | A- |
| **PNM Resources, Inc.** | **PNM** | **Baa3** | **Baa3** | **BBB+** | **BBB+** |
| Public Service Company of New Mexico | | Baa2 | Baa2 | BBB+ | BBB+ |
| Texas-New Mexico Power Company | | A3 | A3 | A- | A- |
| **Portland General Electric Company** | **POR** | **A3** | **A3** | **BBB+** | **BBB+** |
| **PPL Corporation** | **PPL** | **Baa2** | **Baa2** | **A-** | **A-** |
| Kentucky Utilities Company | | A3 | A3 | A- | A- |
| LG&E and KU Energy LLC | | Baa1 | Baa1 | A- | A- |
| Louisville Gas and Electric Company | | A3 | A3 | A- | A- |
| PPL Electric Utilities Corporation | | A3 | A3 | A- | A- |
| **Sempra Energy** | **SRE** | **Baa1** | **Baa1** | **BBB+** | **BBB+** |
| Oncor Electric Delivery Company LLC | | | A2 | A | A |
| San Diego Gas & Electric Company | | Baa1 | Baa1 | BBB+ | BBB+ |
| **Southern Company** | **SO** | | **Baa2** | **A-** | **A-** |
| Alabama Power Company | | A1 | A1 | A | A |
| Georgia Power Company | | Baa1 | Baa1 | A- | A- |
| Mississippi Power Company | | Baa2 | Baa2 | A- | A- |
| **WEC Energy Group, Inc.** | **WEC** | **Baa1** | **Baa1** | **A-** | **A-** |
| Wisconsin Electric Power Company | | A2 | A2 | A- | A- |
| Wisconsin Public Service Corporation | | A2 | A2 | A- | A- |
| **Xcel Energy Inc.** | **XEL** | **Baa1** | **Baa1** | **A-** | **A-** |
| Northern States Power Company - MN | | A2 | A2 | A- | A- |
| Northern States Power Company - WI | | | (P)A2 | A- | A- |
| Public Service Company of Colorado | | A3 | A3 | A- | A- |
| Southwestern Public Service Company | | Baa2 | Baa2 | A- | A- |
| | | | | | |
| **Duke Energy Corporation** | **DUK** | **Baa1** | **Baa1** | **A-** | **A-** |
| Duke Energy Carolinas, LLC | | A1 | A1 | A- | A- |
| Duke Energy Florida, LLC | | A3 | A3 | A- | A- |
| Duke Energy Indiana, LLC | | A2 | A2 | A- | A- |
| Duke Energy Kentucky, Inc. | | | Baa1 | A- | A- |
| Duke Energy Ohio, Inc. | | Baa1 | Baa1 | A- | A- |
| Duke Energy Progress, LLC | | A2 | A2 | A- | A- |

Source: S&P Global Market Intelligence

Hypothetical Example: Flotation Cost Recovery

| | |
|---|---|
| Return on Equity | 10.50% |
| Flotation Costs | 2.69% |
| Market Value | $ 25.00 |
| Dividend Yield | 4.25% |
| Growth Rate | 6.25% |
| Adjusted ROE | 10.62% |
| **Flotation Cost Recovery:** | **No** |
| **DCF Estimate** | **10.38%** |

| | Common Stock | Retained Earnings | Book Value | Market Price | Market/ Book Value | Earnings Per Share | Dividends Per Share | Payout Ratio |
|---|---|---|---|---|---|---|---|---|
| 1 | $ 24.33 | | $ 24.33 | $ 25.00 | 1.0277 | $ 2.55 | $ 1.06 | 41.60% |
| 2 | $ 24.33 | $ 1.49 | $ 25.82 | $ 26.53 | 1.0277 | $ 2.71 | $ 1.13 | 41.60% |
| 3 | $ 24.33 | $ 3.08 | $ 27.40 | $ 28.16 | 1.0277 | $ 2.88 | $ 1.20 | 41.60% |
| 4 | $ 24.33 | $ 4.76 | $ 29.08 | $ 29.89 | 1.0277 | $ 3.05 | $ 1.27 | 41.60% |
| 5 | $ 24.33 | $ 6.54 | $ 30.87 | $ 31.72 | 1.0277 | $ 3.24 | $ 1.35 | 41.60% |
| 6 | $ 24.33 | $ 8.43 | $ 32.76 | $ 33.67 | 1.0277 | $ 3.44 | $ 1.43 | 41.60% |
| 7 | $ 24.33 | $ 10.44 | $ 34.77 | $ 35.73 | 1.0277 | $ 3.65 | $ 1.52 | 41.60% |
| 8 | $ 24.33 | $ 12.57 | $ 36.90 | $ 37.92 | 1.0277 | $ 3.87 | $ 1.61 | 41.60% |
| 9 | $ 24.33 | $ 14.84 | $ 39.16 | $ 40.25 | 1.0277 | $ 4.11 | $ 1.71 | 41.60% |
| 10 | $ 24.33 | $ 17.24 | $ 41.56 | $ 42.71 | 1.0277 | $ 4.36 | $ 1.82 | 41.60% |
| Growth Rate | | | 6.13% | 6.13% | | 6.13% | 6.13% | |

| | |
|---|---|
| Return on Equity | 10.50% |
| Flotation Costs | 2.69% |
| Market Value | $ 25.00 |
| Dividend Yield | 4.25% |
| Growth Rate | 6.25% |
| Adjusted ROE | 10.62% |
| **Flotation Cost Recovery:** | **Yes** |
| **DCF Estimate** | **10.50%** |

| | Common Stock | Retained Earnings | Book Value | Market Price | Market/ Book Value | Earnings Per Share | Dividends Per Share | Payout Ratio |
|---|---|---|---|---|---|---|---|---|
| 1 | $ 24.33 | | $ 24.33 | $ 25.00 | 1.0277 | $ 2.58 | $ 1.06 | 41.14% |
| 2 | $ 24.33 | $ 1.52 | $ 25.85 | $ 26.56 | 1.0277 | $ 2.74 | $ 1.13 | 41.14% |
| 3 | $ 24.33 | $ 3.14 | $ 27.46 | $ 28.22 | 1.0277 | $ 2.92 | $ 1.20 | 41.14% |
| 4 | $ 24.33 | $ 4.85 | $ 29.18 | $ 29.99 | 1.0277 | $ 3.10 | $ 1.27 | 41.14% |
| 5 | $ 24.33 | $ 6.68 | $ 31.00 | $ 31.86 | 1.0277 | $ 3.29 | $ 1.35 | 41.14% |
| 6 | $ 24.33 | $ 8.61 | $ 32.94 | $ 33.85 | 1.0277 | $ 3.50 | $ 1.44 | 41.14% |
| 7 | $ 24.33 | $ 10.67 | $ 35.00 | $ 35.97 | 1.0277 | $ 3.72 | $ 1.53 | 41.14% |
| 8 | $ 24.33 | $ 12.86 | $ 37.19 | $ 38.22 | 1.0277 | $ 3.95 | $ 1.62 | 41.14% |
| 9 | $ 24.33 | $ 15.18 | $ 39.51 | $ 40.60 | 1.0277 | $ 4.20 | $ 1.73 | 41.14% |
| 10 | $ 24.33 | $ 17.65 | $ 41.98 | $ 43.14 | 1.0277 | $ 4.46 | $ 1.83 | 41.14% |
| Growth Rate | | | 6.25% | 6.25% | | 6.25% | 6.25% | |

Mr. Woolridge's Proxy Group Capital Structure - Consolidated

| | | % Common Equity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE, Inc. | ALE | 60.72% | 59.04% | 58.64% | 60.15% | 59.15% | 59.05% | 60.03% | 58.97% | 59.47% |
| Alliant Energy Corporation | LNT | 47.24% | 46.29% | 46.55% | 46.64% | 46.55% | 45.90% | 51.05% | 51.02% | 47.65% |
| Ameren Corporation | AEE | 48.15% | 48.57% | 48.29% | 49.26% | 50.14% | 49.24% | 51.66% | 50.32% | 49.45% |
| American Electric Power Co. | AEP | 43.50% | 43.30% | 44.44% | 46.51% | 47.68% | 48.66% | 49.52% | 48.19% | 46.48% |
| Avangrid, Inc. | AGR | 68.91% | 70.26% | 72.95% | 73.78% | 74.80% | 74.21% | 74.62% | 74.37% | 72.99% |
| Avista Corporation | AVA | 47.99% | 50.13% | 49.91% | 49.53% | 47.78% | 47.95% | 53.26% | 52.85% | 49.92% |
| CMS Energy Corporation | CMS | 28.96% | 29.92% | 30.18% | 30.80% | 34.68% | 33.31% | 33.60% | 32.52% | 31.75% |
| Consolidated Edison, Inc. | ED | 49.45% | 49.15% | 49.44% | 48.88% | 50.65% | 50.69% | 51.52% | 51.14% | 50.12% |
| Dominion Energy, Inc. | D | 43.40% | 39.81% | 41.92% | 39.23% | 36.46% | 36.00% | 36.24% | 35.65% | 38.59% |
| Duke Energy Corporation | DUK | 43.03% | 43.66% | 43.85% | 46.15% | 45.98% | 46.02% | 46.02% | 45.98% | 45.09% |
| Edison International | EIX | 42.66% | 39.35% | 38.99% | 41.68% | 45.26% | 45.97% | 46.67% | 50.06% | 43.83% |
| Entergy Corporation | ETR | 36.80% | 35.97% | 34.02% | 36.27% | 34.74% | 35.03% | 33.81% | 35.79% | 35.31% |
| Evergy, Inc. | EVRG | 49.22% | 55.00% | 56.42% | 59.83% | 61.50% | 62.04% | NA | 50.61% | 56.38% |
| Eversource Energy | ES | 46.35% | 46.68% | 47.42% | 47.22% | 47.25% | 47.19% | 48.21% | 48.48% | 47.35% |
| Excelon Corporation | EXC | 48.65% | 48.39% | 47.44% | 47.14% | 47.05% | 47.62% | 47.59% | 47.86% | 47.72% |
| FirstEnergy Corporation | FE | 27.03% | 27.30% | 26.61% | 27.32% | 28.85% | 30.94% | 29.64% | 17.36% | 26.88% |
| Hawaiian Electric Industries | HE | 51.16% | 50.63% | 50.09% | 53.50% | 53.77% | 53.40% | 54.66% | 56.27% | 52.93% |
| IDACORP, Inc. | IDA | 57.30% | 56.70% | 56.47% | 56.37% | 56.35% | 55.56% | 55.18% | 56.32% | 56.28% |
| MGE Energy, Inc. | MGEE | 62.63% | 62.06% | 61.91% | 62.34% | 62.16% | 65.62% | 66.46% | 66.15% | 63.67% |
| NextEra Energy, Inc. | NEE | 50.31% | 50.70% | 53.39% | 55.85% | 55.88% | 53.80% | 53.82% | 47.16% | 52.61% |
| NorthWestern Corporation | NWE | 47.72% | 47.98% | 48.63% | 47.79% | 48.26% | 48.30% | 47.37% | 49.77% | 48.23% |
| OGE Energy Corp. | OGE | 56.36% | 55.28% | 57.44% | 58.03% | 58.18% | 60.87% | 60.58% | 58.34% | 58.14% |
| Pinnacle West Capital Corp. | PNW | 52.43% | 51.44% | 51.53% | 52.96% | 54.40% | 54.56% | 53.92% | 51.11% | 52.79% |
| PNM Resources, Inc. | PNM | 39.31% | 36.60% | 36.75% | 38.74% | 45.26% | 44.80% | 42.56% | 43.74% | 40.97% |
| Portland General Electric Company | POR | 50.55% | 49.93% | 53.48% | 53.50% | 53.89% | 53.69% | 50.24% | 49.90% | 51.90% |
| PPL Corporation | PPL | 35.51% | 36.30% | 36.49% | 36.74% | 37.16% | 35.73% | 35.60% | 35.16% | 36.09% |
| Sempra Energy | SRE | 39.68% | 37.38% | 38.85% | 36.87% | 38.28% | 36.89% | 37.39% | 43.52% | 38.61% |
| Southern Company | SO | 38.64% | 39.39% | 38.53% | 37.77% | 37.52% | 35.75% | 35.70% | 35.21% | 37.31% |
| WEC Energy Group | WEC | 47.89% | 50.14% | 49.05% | 49.48% | 51.74% | 51.36% | 52.87% | 51.96% | 50.56% |
| Xcel Energy Inc. | XEL | 41.54% | 41.10% | 41.02% | 43.61% | 43.96% | 43.21% | 44.32% | 44.10% | 42.86% |
| Mean | | 46.77% | 46.61% | 47.02% | 47.80% | 48.51% | 48.45% | 48.42% | 48.00% | 47.73% |

Mr. Woolridge's Proxy Group Capital Structure - Consolidated

| | | % Long-Term Debt | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE, Inc. | ALE | 39.28% | 40.96% | 41.36% | 39.85% | 40.85% | 40.95% | 39.97% | 41.03% | 40.53% |
| Alliant Energy Corporation | LNT | 52.76% | 53.71% | 53.45% | 53.36% | 53.45% | 54.10% | 48.95% | 48.98% | 52.35% |
| Ameren Corporation | AEE | 51.85% | 51.43% | 51.71% | 50.74% | 49.86% | 50.76% | 48.34% | 49.68% | 50.55% |
| American Electric Power Co. | AEP | 56.50% | 56.70% | 55.56% | 53.49% | 52.32% | 51.34% | 50.48% | 51.81% | 53.52% |
| Avangrid, Inc. | AGR | 31.09% | 29.74% | 27.05% | 26.22% | 25.20% | 25.79% | 25.38% | 25.63% | 27.01% |
| Avista Corporation | AVA | 52.01% | 49.87% | 50.09% | 50.47% | 52.22% | 52.05% | 46.74% | 47.15% | 50.08% |
| CMS Energy Corporation | CMS | 71.04% | 70.08% | 69.82% | 69.20% | 65.32% | 66.69% | 66.40% | 67.48% | 68.25% |
| Consolidated Edison, Inc. | ED | 50.55% | 50.85% | 50.56% | 51.12% | 49.35% | 49.31% | 48.48% | 48.86% | 49.88% |
| Dominion Energy, Inc. | D | 56.60% | 60.19% | 58.08% | 60.77% | 63.54% | 64.00% | 63.76% | 64.35% | 61.41% |
| Duke Energy Corporation | DUK | 56.97% | 56.34% | 56.15% | 53.85% | 54.02% | 53.98% | 53.98% | 54.02% | 54.91% |
| Edison International | EIX | 57.34% | 60.65% | 61.01% | 58.32% | 54.74% | 54.03% | 53.33% | 49.94% | 56.17% |
| Entergy Corporation | ETR | 63.20% | 64.03% | 65.98% | 63.73% | 65.26% | 64.97% | 66.19% | 64.21% | 64.69% |
| Evergy, Inc. | EVRG | 50.78% | 45.00% | 43.58% | 40.17% | 38.50% | 37.96% | NA | 49.39% | 43.62% |
| Eversource Energy | ES | 53.65% | 53.32% | 52.58% | 52.78% | 52.75% | 52.81% | 51.79% | 51.52% | 52.65% |
| Excelon Corporation | EXC | 51.35% | 51.61% | 52.56% | 52.86% | 52.95% | 52.38% | 52.41% | 52.14% | 52.28% |
| FirstEnergy Corporation | FE | 72.97% | 72.70% | 73.39% | 72.68% | 71.15% | 69.06% | 70.36% | 82.64% | 73.12% |
| Hawaiian Electric Industries | HE | 48.84% | 49.37% | 49.91% | 46.50% | 46.23% | 46.60% | 45.34% | 43.73% | 47.07% |
| IDACORP, Inc. | IDA | 42.70% | 43.30% | 43.53% | 43.63% | 43.65% | 44.44% | 44.82% | 43.68% | 43.72% |
| MGE Energy, Inc. | MGEE | 37.37% | 37.94% | 38.09% | 37.66% | 37.84% | 34.38% | 33.54% | 33.85% | 36.33% |
| NextEra Energy, Inc. | NEE | 49.69% | 49.30% | 46.61% | 44.15% | 44.12% | 46.20% | 46.18% | 52.84% | 47.39% |
| NorthWestern Corporation | NWE | 52.28% | 52.02% | 51.37% | 52.21% | 51.74% | 51.70% | 52.63% | 50.23% | 51.77% |
| OGE Energy Corp. | OGE | 43.64% | 44.72% | 42.56% | 41.97% | 41.82% | 39.13% | 39.42% | 41.66% | 41.86% |
| Pinnacle West Capital Corp. | PNW | 47.57% | 48.56% | 48.47% | 47.04% | 45.60% | 45.44% | 46.08% | 48.89% | 47.21% |
| PNM Resources, Inc. | PNM | 60.69% | 63.40% | 63.25% | 61.26% | 54.74% | 55.20% | 57.44% | 56.26% | 59.03% |
| Portland General Electric Company | POR | 49.45% | 50.07% | 46.52% | 46.50% | 46.11% | 46.31% | 49.76% | 50.10% | 48.10% |
| PPL Corporation | PPL | 64.49% | 63.70% | 63.51% | 63.26% | 62.84% | 64.27% | 64.40% | 64.84% | 63.91% |
| Sempra Energy | SRE | 60.32% | 62.62% | 61.15% | 63.13% | 61.72% | 63.11% | 62.61% | 56.48% | 61.39% |
| Southern Company | SO | 61.36% | 60.61% | 61.47% | 62.23% | 62.48% | 64.25% | 64.30% | 64.79% | 62.69% |
| WEC Energy Group | WEC | 52.11% | 49.86% | 50.95% | 50.52% | 48.26% | 48.64% | 47.13% | 48.04% | 49.44% |
| Xcel Energy Inc. | XEL | 58.46% | 58.90% | 58.98% | 56.39% | 56.04% | 56.79% | 55.68% | 55.90% | 57.14% |
| Mean | | 53.23% | 53.39% | 52.98% | 52.20% | 51.49% | 51.55% | 51.58% | 52.00% | 52.27% |

Dr. Woolridge's Proxy Group Capital Structure - Operating Company Level

| | | % Common Equity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE, Inc. | ALE | 58.68% | 59.66% | 59.53% | 59.12% | 58.50% | 58.84% | 63.09% | 62.51% | 59.99% |
| Alliant Energy Corporation | LNT | 51.73% | 50.38% | 53.18% | 53.11% | 51.13% | 51.00% | 49.74% | 49.77% | 51.26% |
| Ameren Corporation | AEE | 53.67% | 53.03% | 52.81% | 52.69% | 53.22% | 52.01% | 53.04% | 52.65% | 52.89% |
| American Electric Power Co. | AEP | 49.91% | 48.80% | 49.62% | 49.40% | 48.68% | 48.52% | 48.60% | 48.91% | 49.06% |
| Avangrid, Inc. | AGR | 54.38% | 56.33% | 56.51% | 55.72% | 56.13% | 54.93% | 56.55% | 55.69% | 55.78% |
| Avista Corporation | AVA | 55.80% | 56.32% | 56.10% | 55.09% | 55.75% | 55.76% | 56.34% | 55.76% | 55.86% |
| CMS Energy Corporation | CMS | 51.70% | 53.64% | 52.52% | 50.27% | 53.01% | 52.86% | 53.13% | 52.25% | 52.42% |
| Consolidated Edison, Inc. | ED | 66.56% | 66.06% | 65.83% | 65.31% | 65.59% | 65.82% | 66.50% | 66.16% | 65.98% |
| Dominion Energy, Inc. | D | 53.56% | 50.98% | 50.47% | 48.75% | 51.63% | 51.12% | 50.17% | 50.62% | 50.91% |
| Duke Energy Corporation | DUK | 52.89% | 54.48% | 53.14% | 54.35% | 55.03% | 54.94% | 54.46% | 54.30% | 54.20% |
| Edison International | EIX | 50.14% | 48.40% | 45.15% | 46.90% | 49.82% | 50.05% | 50.63% | 53.08% | 49.27% |
| Entergy Corporation | ETR | 49.10% | 48.19% | 48.81% | 50.11% | 49.96% | 49.95% | 48.60% | 48.97% | 49.21% |
| Evergy, Inc. | EVRG | 60.28% | 60.51% | 58.16% | 59.56% | 59.86% | 58.51% | 58.73% | 58.62% | 59.28% |
| Eversource Energy | ES | 49.53% | 49.38% | 54.22% | 53.28% | 51.03% | 50.14% | 54.05% | 54.60% | 52.03% |
| Excelon Corporation | EXC | 51.77% | 52.46% | 52.41% | 51.93% | 51.85% | 52.40% | 52.25% | 52.10% | 52.15% |
| FirstEnergy Corporation | FE | 55.88% | 55.95% | 56.46% | 56.61% | 58.05% | 57.49% | 56.37% | 55.73% | 56.57% |
| Hawaiian Electric Industries | HE | 58.43% | 58.17% | 58.06% | 57.98% | 56.09% | 55.78% | 57.44% | 57.42% | 57.42% |
| IDACORP, Inc. | IDA | 55.20% | 54.58% | 54.36% | 54.25% | 54.25% | 53.44% | 51.37% | 54.22% | 53.96% |
| MGE Energy, Inc. | MGEE | 59.66% | 58.84% | 58.46% | 57.90% | 57.36% | 60.66% | 60.20% | 59.73% | 59.10% |
| NextEra Energy, Inc. | NEE | 56.15% | 61.22% | 61.05% | 64.37% | 64.78% | 60.84% | 61.23% | 59.93% | 61.20% |
| NorthWestern Corporation | NWE | 47.80% | 48.07% | 48.74% | 47.88% | 48.36% | 48.41% | 47.48% | 49.89% | 48.33% |
| OGE Energy Corp. | OGE | 54.96% | 53.47% | 55.38% | 53.20% | 53.05% | 54.25% | 53.59% | 53.36% | 53.91% |
| Pinnacle West Capital Corp. | PNW | 54.25% | 54.41% | 54.48% | 54.36% | 53.68% | 53.71% | 53.18% | 53.14% | 53.90% |
| PNM Resources, Inc. | PNM | 45.33% | 43.86% | 43.45% | 45.63% | 48.01% | 46.68% | 46.20% | 46.06% | 45.65% |
| Portland General Electric Company | POR | 51.78% | 51.56% | 50.60% | 50.19% | 50.51% | 50.29% | 50.14% | 49.80% | 50.61% |
| PPL Corporation | PPL | 53.84% | 53.74% | 55.38% | 55.06% | 54.92% | 54.59% | 54.52% | 54.67% | 54.59% |
| Sempra Energy | SRE | 56.17% | 56.30% | 53.82% | 53.29% | 53.13% | 54.39% | 54.20% | 53.27% | 54.32% |
| Southern Company | SO | 52.36% | 52.93% | 52.80% | 54.21% | 51.50% | 50.31% | 49.98% | 47.67% | 51.47% |
| WEC Energy Group | WEC | 55.79% | 56.71% | 55.73% | 53.46% | 58.30% | 57.72% | 61.62% | 54.62% | 56.74% |
| Xcel Energy Inc. | XEL | 53.98% | 54.70% | 54.51% | 54.22% | 53.37% | 53.63% | 54.15% | 53.95% | 54.06% |
| Mean | | 54.04% | 54.10% | 54.06% | 53.94% | 54.22% | 53.97% | 54.25% | 53.98% | 54.07% |

Operating Company Capital Structure

| | | % Common Equity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Operating Company | Parent | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE (Minnesota Power) | ALE | 59.33% | 60.94% | 60.87% | 61.39% | 60.43% | 60.33% | 60.38% | 60.04% | 60.46% |
| Superior Water, Light and Power Company | ALE | 58.03% | 58.38% | 58.19% | 56.86% | 56.58% | 57.34% | 65.80% | 64.99% | 59.52% |
| Interstate Power and Light Company | LNT | 50.06% | 51.76% | 53.33% | 53.52% | 49.64% | 50.47% | 49.92% | 50.31% | 51.13% |
| Wisconsin Power and Light Company | LNT | 53.40% | 49.01% | 53.03% | 52.69% | 52.62% | 51.52% | 49.57% | 49.23% | 51.38% |
| Ameren Illinois Company | AEE | 54.46% | 54.05% | 53.65% | 52.86% | 53.18% | 52.74% | 54.24% | 53.38% | 53.57% |
| Union Electric Company | AEE | 52.88% | 52.00% | 51.96% | 52.52% | 53.26% | 51.28% | 51.84% | 51.92% | 52.21% |
| AEP Texas Inc. | AEP | 46.97% | 46.32% | 47.54% | 45.38% | 43.80% | 43.20% | 46.75% | 45.14% | 45.64% |
| Appalachian Power Company | AEP | 48.74% | 48.19% | 47.77% | 49.51% | 49.30% | 48.93% | 49.35% | 48.72% | 48.81% |
| Indiana Michigan Power Company | AEP | 46.51% | 45.83% | 45.43% | 44.62% | 44.53% | 44.15% | 46.64% | 46.33% | 45.50% |
| Kentucky Power Company | AEP | 46.94% | 46.50% | 46.42% | 45.72% | 45.28% | 44.89% | 44.40% | 43.52% | 45.46% |
| Kingsport Power Company | AEP | 54.24% | 50.18% | 51.54% | 50.79% | 50.71% | 47.69% | 47.28% | 46.53% | 49.87% |
| Ohio Power Company | AEP | 53.63% | 52.92% | 58.86% | 57.80% | 56.85% | 57.11% | 52.91% | 58.63% | 56.09% |
| Public Service Company of Oklahoma | AEP | 49.89% | 48.02% | 47.19% | 49.16% | 49.55% | 48.59% | 48.10% | 48.50% | 48.62% |
| Southwestern Electric Power Company | AEP | 48.63% | 47.45% | 47.59% | 46.97% | 43.43% | 47.91% | 47.72% | 48.52% | 47.28% |
| Wheeling Power Company | AEP | 53.66% | 53.83% | 54.27% | 54.62% | 54.70% | 54.19% | 54.27% | 54.26% | 54.23% |
| Central Maine Power Company | AGR | 62.19% | 61.96% | 63.51% | 63.21% | 64.17% | 63.53% | 64.18% | 63.82% | 63.32% |
| New York State Electric & Gas Corporation | AGR | 48.79% | 55.84% | 55.93% | 54.30% | 53.95% | 50.99% | 54.51% | 53.30% | 53.45% |
| Rochester Gas and Electric Corporation | AGR | 50.50% | 50.25% | 49.96% | 48.89% | 48.16% | 47.77% | 50.80% | 49.63% | 49.50% |
| United Illuminating Company | AGR | 56.05% | 57.26% | 56.65% | 56.46% | 58.23% | 57.43% | 56.70% | 56.00% | 56.85% |
| Alaska Electric Light and Power Company | AVA | 61.28% | 61.24% | 61.02% | 60.29% | 61.94% | 61.78% | 61.53% | 60.77% | 61.23% |
| Avista Corporation | AVA | 50.33% | 51.40% | 51.18% | 49.89% | 49.55% | 49.74% | 51.16% | 50.75% | 50.50% |
| Consumers Energy Company | CMS | 51.70% | 53.64% | 52.52% | 50.27% | 53.01% | 52.86% | 53.13% | 52.25% | 52.42% |
| Consolidated Edison Company of New York, Inc. | ED | 49.29% | 48.92% | 48.30% | 47.52% | 48.33% | 46.72% | 48.66% | 48.22% | 48.24% |
| Orange and Rockland Utilities, Inc. | ED | 50.40% | 49.25% | 49.21% | 48.41% | 48.44% | 50.74% | 50.83% | 50.25% | 49.69% |
| Rockland Electric Company | ED | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Virginia Electric and Power Company | D | 53.33% | 53.30% | 52.42% | 52.62% | 53.64% | 52.81% | 51.03% | 51.71% | 52.61% |
| Dominion Energy South Carolina, Inc. | D | 53.80% | 48.67% | 48.52% | 44.88% | 49.63% | 49.44% | 49.30% | 49.54% | 49.22% |
| Duke Energy Carolinas, LLC | DUK | 51.80% | 52.94% | 52.32% | 51.78% | 52.64% | 52.10% | 51.70% | 52.98% | 52.28% |
| Duke Energy Florida, LLC | DUK | 52.82% | 51.55% | 50.56% | 50.04% | 49.65% | 48.79% | 49.92% | 49.25% | 50.32% |
| Duke Energy Indiana, LLC | DUK | 51.52% | 54.83% | 54.29% | 53.26% | 52.79% | 52.64% | 52.54% | 51.94% | 52.98% |
| Duke Energy Kentucky, Inc. | DUK | 45.44% | 53.04% | 52.81% | 51.95% | 56.58% | 55.79% | 53.72% | 53.11% | 52.80% |
| Duke Energy Ohio, Inc. | DUK | 64.90% | 64.45% | 59.29% | 68.09% | 67.73% | 67.10% | 66.06% | 66.24% | 65.48% |
| Duke Energy Progress, LLC | DUK | 50.86% | 50.09% | 49.60% | 51.00% | 50.76% | 53.22% | 52.82% | 52.27% | 51.33% |
| Southern California Edison Company | EIX | 50.14% | 48.40% | 45.15% | 46.90% | 49.82% | 50.05% | 50.63% | 53.08% | 49.27% |
| Entergy Arkansas, Inc. | ETR | 47.72% | 46.49% | 47.04% | 49.42% | 49.38% | 48.29% | 45.88% | 45.95% | 47.52% |
| Entergy Louisiana, LLC | ETR | 47.13% | 46.32% | 45.79% | 47.37% | 46.77% | 46.97% | 44.58% | 47.43% | 46.55% |
| Entergy Mississippi, Inc. | ETR | 48.35% | 44.93% | 49.41% | 49.11% | 50.10% | 49.10% | 48.32% | 47.85% | 48.40% |
| Entergy New Orleans, LLC | ETR | 53.69% | 52.40% | 51.69% | 51.19% | 50.93% | 54.02% | 53.43% | 53.16% | 52.56% |
| Entergy Texas, Inc. | ETR | 48.63% | 50.79% | 50.13% | 53.46% | 52.61% | 51.38% | 50.79% | 50.45% | 51.03% |
| Evergy Kansas South, Inc. | EVRG | 81.84% | 81.49% | 75.13% | 74.97% | 74.91% | 74.45% | 74.29% | 74.18% | 76.41% |
| Evergy Metro, Inc. | EVRG | 50.43% | 49.62% | 46.04% | 49.49% | 49.50% | 48.88% | 49.25% | 49.15% | 49.05% |
| Evergy Missouri West, Inc. | EVRG | 51.18% | 51.74% | 52.68% | 54.71% | 55.70% | 52.03% | 52.63% | 52.40% | 52.88% |
| Westar Energy (KPL) | EVRG | 57.66% | 59.18% | 58.80% | 59.08% | 59.34% | 58.68% | 58.75% | 58.74% | 58.78% |
| Connecticut Light and Power Company | ES | 54.12% | 55.38% | 58.18% | 56.18% | 54.49% | 53.85% | 50.40% | 53.82% | 54.55% |
| NSTAR Electric Company | ES | 53.81% | 52.74% | 56.08% | 55.74% | 55.50% | 54.51% | 53.83% | 53.85% | 54.51% |
| Public Service Company of New Hampshire | ES | 40.64% | 40.02% | 48.38% | 47.92% | 43.11% | 42.06% | 57.93% | 57.30% | 47.17% |
| Western Massachusetts Electric Company | ES | NA | NA | NA | NA | NA | NA | NA | 53.43% | 53.43% |
| Atlantic City Electric Company | EXC | 49.38% | 49.47% | 49.30% | 49.14% | 50.38% | 49.46% | 49.14% | 49.19% | 49.43% |
| Baltimore Gas and Electric Company | EXC | 51.89% | 54.36% | 54.43% | 53.67% | 52.85% | 55.34% | 55.36% | 54.77% | 54.08% |
| Commonwealth Edison Company | EXC | 55.61% | 55.29% | 55.00% | 55.06% | 54.72% | 55.36% | 54.96% | 54.85% | 55.11% |
| Delmarva Power & Light Company | EXC | 50.18% | 50.20% | 50.18% | 49.98% | 50.11% | 49.86% | 50.35% | 50.38% | 50.16% |
| PECO Energy Company | EXC | 53.37% | 55.20% | 55.13% | 53.72% | 52.82% | 54.28% | 53.77% | 53.54% | 53.98% |
| Potomac Electric Power Company | EXC | 50.21% | 50.24% | 50.41% | 50.01% | 50.24% | 50.08% | 49.94% | 49.89% | 50.13% |
| Cleveland Electric Illuminating Company | FE | 55.74% | 55.49% | 55.54% | 55.44% | 56.50% | 56.31% | 55.48% | 55.27% | 55.72% |
| Jersey Central Power & Light Company | FE | 68.74% | 68.23% | 68.08% | 69.46% | 69.34% | 68.81% | 65.52% | 65.30% | 67.93% |
| Metropolitan Edison Company | FE | 49.72% | 48.46% | 47.78% | 53.21% | 54.25% | 53.10% | 52.18% | 52.33% | 51.38% |
| Monongahela Power Company | FE | 49.98% | 49.07% | 49.05% | 48.87% | 50.71% | 51.53% | 50.57% | 49.15% | 49.87% |
| Ohio Edison Company | FE | 69.16% | 71.42% | 70.82% | 69.93% | 69.14% | 67.33% | 66.89% | 64.91% | 68.70% |
| Pennsylvania Electric Company | FE | 51.78% | 50.93% | 53.85% | 53.89% | 54.01% | 53.90% | 53.09% | 52.06% | 52.94% |
| Pennsylvania Power Company | FE | 53.09% | 51.71% | 50.69% | 49.03% | 58.27% | 56.89% | 55.70% | 53.82% | 53.65% |
| Potomac Edison Company | FE | 53.69% | 52.99% | 53.29% | 52.35% | 52.92% | 52.65% | 52.64% | 51.59% | 52.77% |
| Toledo Edison Company | FE | 60.76% | 60.57% | 60.78% | 60.43% | 62.25% | 62.25% | 60.60% | 60.04% | 60.96% |
| West Penn Power Company | FE | 46.11% | 50.63% | 54.68% | 53.50% | 53.14% | 52.09% | 51.09% | 52.82% | 51.76% |
| Hawaii Electric Light Company, Inc. | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hawaiian Electric Company, Inc. | HE | 58.43% | 58.17% | 58.06% | 57.98% | 56.09% | 55.78% | 57.44% | 57.42% | 57.42% |
| Maui Electric Company, Limited | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Idaho Power Co. | IDA | 55.20% | 54.58% | 54.36% | 54.25% | 54.25% | 53.44% | 51.37% | 54.22% | 53.96% |
| Madison Gas and Electric Company | MGEE | 59.66% | 58.84% | 58.46% | 57.90% | 57.36% | 60.66% | 60.20% | 59.73% | 59.10% |
| Florida Power & Light Company | NEE | 59.78% | 61.30% | 64.03% | 64.37% | 64.78% | 60.84% | 61.23% | 59.93% | 62.03% |
| Gulf Power Company | NEE | 52.52% | 61.15% | 58.06% | NA | NA | NA | NA | NA | 57.24% |
| NorthWestern Corporation | NWE | 47.80% | 48.07% | 48.74% | 47.88% | 48.36% | 48.41% | 47.48% | 49.89% | 48.33% |
| Oklahoma Gas and Electric Company | OGE | 54.96% | 53.47% | 55.38% | 53.20% | 53.05% | 54.25% | 53.59% | 53.36% | 53.91% |
| Arizona Public Service Company | PNW | 54.25% | 54.41% | 54.48% | 54.36% | 53.68% | 53.71% | 53.18% | 53.14% | 53.90% |
| Public Service Company of New Mexico | PNM | 45.33% | 43.86% | 43.45% | 45.63% | 48.01% | 46.68% | 46.20% | 46.06% | 45.65% |
| Portland General Electric Company | POR | 51.78% | 51.56% | 50.60% | 50.19% | 50.51% | 50.29% | 50.14% | 49.80% | 50.61% |
| Kentucky Utilities Company | PPL | 52.97% | 52.81% | 55.44% | 54.85% | 54.76% | 54.51% | 54.08% | 54.00% | 54.18% |
| Louisville Gas and Electric Company | PPL | 54.10% | 53.88% | 56.16% | 55.80% | 55.35% | 54.97% | 54.46% | 55.42% | 55.02% |
| PPL Electric Utilities Corporation | PPL | 54.44% | 54.51% | 54.52% | 54.52% | 54.65% | 54.28% | 55.04% | 54.57% | 54.57% |
| Oncor Electric Delivery Company LLC | SRE | 54.91% | 57.43% | 59.79% | 59.47% | 59.29% | 62.31% | 60.34% | 58.86% | 59.05% |
| San Diego Gas & Electric Co. | SRE | 57.43% | 55.17% | 56.60% | 55.79% | 55.17% | 54.47% | 55.92% | 55.09% | 55.71% |
| Sharyland Utilities, LLC | SRE | NA | NA | 45.05% | 44.62% | 44.92% | 46.39% | 46.34% | 45.86% | 45.53% |
| Alabama Power Company | SO | 51.45% | 52.54% | 52.23% | 47.77% | 48.13% | 47.51% | 48.86% | 47.07% | 49.44% |
| Georgia Power Company | SO | 55.38% | 56.39% | 56.43% | 59.02% | 57.27% | 54.97% | 53.81% | 50.06% | 55.42% |
| Mississippi Power Company | SO | 50.23% | 49.87% | 49.73% | 50.35% | 45.28% | 43.87% | 43.00% | 39.34% | 46.46% |
| Gulf Power Company | SO | NA | NA | NA | 59.73% | 55.34% | 54.90% | 54.27% | 54.19% | 55.69% |
| Upper Michigan Energy Resources Corporation | WEC | 56.09% | 54.45% | 52.54% | 47.01% | 55.08% | 54.53% | 70.04% | 49.85% | 54.95% |
| Wisconsin Electric Power Company | WEC | 56.92% | 56.64% | 55.78% | 56.03% | 59.25% | 59.09% | 56.47% | 55.94% | 57.01% |
| Wisconsin Public Service Corporation | WEC | 54.37% | 59.04% | 58.88% | 57.33% | 60.59% | 59.53% | 58.35% | 58.06% | 58.27% |
| Northern States Power Company - MN | XEL | 51.79% | 53.66% | 53.64% | 52.81% | 52.64% | 52.61% | 52.59% | 52.38% | 52.77% |
| Northern States Power Company - WI | XEL | 53.56% | 53.49% | 53.59% | 53.60% | 48.45% | 53.85% | 53.79% | 53.36% | 52.96% |
| Public Service Company of Colorado | XEL | 56.35% | 57.53% | 56.68% | 56.31% | 56.08% | 54.17% | 56.67% | 56.50% | 56.29% |
| Southwestern Public Service Company | XEL | 54.21% | 54.14% | 54.13% | 54.17% | 56.29% | 53.88% | 53.54% | 53.55% | 54.24% |
| Mean | | 53.92% | 54.08% | 54.16% | 54.04% | 54.22% | 53.95% | 54.14% | 53.71% | 54.03% |

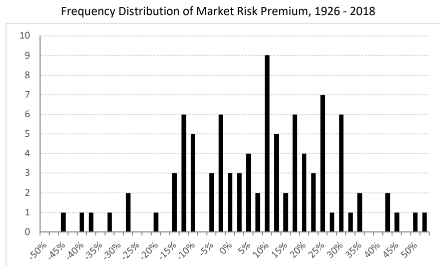
Source: S&P Global Market Intelligence

Dr. Woolridge's Proxy Group Capital Structure - Operating Company Level

| | | % Long-Term Debt | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE, Inc. | ALE | 41.32% | 40.34% | 40.47% | 40.88% | 41.50% | 41.16% | 36.91% | 37.49% | 40.01% |
| Alliant Energy Corporation | LNT | 48.27% | 49.62% | 46.82% | 46.89% | 48.87% | 49.00% | 50.26% | 50.23% | 48.74% |
| Ameren Corporation | AEE | 46.33% | 46.97% | 47.19% | 47.31% | 46.78% | 47.99% | 46.96% | 47.35% | 47.11% |
| American Electric Power Co. | AEP | 50.09% | 51.20% | 50.38% | 50.60% | 51.32% | 51.48% | 51.40% | 51.09% | 50.94% |
| Avangrid, Inc. | AGR | 45.62% | 43.67% | 43.49% | 44.28% | 43.87% | 45.07% | 43.45% | 44.31% | 44.22% |
| Avista Corporation | AVA | 44.20% | 43.68% | 43.90% | 44.91% | 44.25% | 44.24% | 43.66% | 44.24% | 44.14% |
| CMS Energy Corporation | CMS | 48.30% | 46.36% | 47.48% | 49.73% | 46.99% | 47.14% | 46.87% | 47.75% | 47.58% |
| Consolidated Edison, Inc. | ED | 33.44% | 33.94% | 34.17% | 34.69% | 34.41% | 34.18% | 33.50% | 33.84% | 34.02% |
| Dominion Energy, Inc. | D | 46.44% | 49.02% | 49.53% | 51.25% | 48.37% | 48.88% | 49.83% | 49.38% | 49.09% |
| Duke Energy Corporation | DUK | 47.11% | 45.52% | 46.86% | 45.65% | 44.97% | 45.06% | 45.54% | 45.70% | 45.80% |
| Edison International | EIX | 49.86% | 51.60% | 54.85% | 53.10% | 50.18% | 49.95% | 49.37% | 46.92% | 50.73% |
| Entergy Corporation | ETR | 50.90% | 51.81% | 51.19% | 49.89% | 50.04% | 50.05% | 51.40% | 51.03% | 50.79% |
| Evergy, Inc. | EVRG | 39.72% | 39.49% | 41.84% | 40.44% | 40.14% | 41.49% | 41.27% | 41.38% | 40.72% |
| Eversource Energy | ES | 50.47% | 50.62% | 45.78% | 46.72% | 48.97% | 49.86% | 45.95% | 45.40% | 47.97% |
| Excelon Corporation | EXC | 48.23% | 47.54% | 47.59% | 48.07% | 48.15% | 47.60% | 47.75% | 47.90% | 47.85% |
| FirstEnergy Corporation | FE | 44.12% | 44.05% | 43.54% | 43.39% | 41.95% | 42.51% | 43.63% | 44.27% | 43.43% |
| Hawaiian Electric Industries | HE | 41.57% | 41.83% | 41.94% | 42.02% | 43.91% | 44.22% | 42.56% | 42.58% | 42.58% |
| IDACORP, Inc. | IDA | 44.80% | 45.42% | 45.64% | 45.75% | 45.75% | 46.56% | 48.63% | 45.78% | 46.04% |
| MGE Energy, Inc. | MGEE | 40.34% | 41.16% | 41.54% | 42.10% | 42.64% | 39.34% | 39.80% | 40.27% | 40.90% |
| NextEra Energy, Inc. | NEE | 43.85% | 38.78% | 38.95% | 35.63% | 35.22% | 39.16% | 38.77% | 40.07% | 38.80% |
| NorthWestern Corporation | NWE | 52.20% | 51.93% | 51.26% | 52.12% | 51.64% | 51.59% | 52.52% | 50.11% | 51.67% |
| OGE Energy Corp. | OGE | 45.04% | 46.53% | 44.62% | 46.80% | 46.95% | 45.75% | 46.41% | 46.64% | 46.09% |
| Pinnacle West Capital Corp. | PNW | 45.75% | 45.59% | 45.52% | 45.64% | 46.32% | 46.29% | 46.82% | 46.86% | 46.10% |
| PNM Resources, Inc. | PNM | 54.67% | 56.14% | 56.55% | 54.37% | 51.99% | 53.32% | 53.80% | 53.94% | 54.35% |
| Portland General Electric Company | POR | 48.22% | 48.44% | 49.40% | 49.81% | 49.49% | 49.71% | 49.86% | 50.20% | 49.39% |
| PPL Corporation | PPL | 46.16% | 46.26% | 44.62% | 44.94% | 45.08% | 45.41% | 45.48% | 45.33% | 45.41% |
| Sempra Energy | SRE | 43.83% | 43.70% | 46.18% | 46.71% | 46.87% | 45.61% | 45.80% | 46.73% | 45.68% |
| Southern Company | SO | 47.64% | 47.07% | 47.20% | 45.79% | 48.50% | 49.69% | 50.02% | 52.33% | 48.53% |
| WEC Energy Group | WEC | 44.21% | 43.29% | 44.27% | 46.54% | 41.70% | 42.28% | 38.38% | 45.38% | 43.26% |
| Xcel Energy Inc. | XEL | 46.02% | 45.30% | 45.49% | 45.78% | 46.63% | 46.37% | 45.85% | 46.05% | 45.94% |
| Mean | | 45.96% | 45.90% | 45.94% | 46.06% | 45.78% | 46.03% | 45.75% | 46.02% | 45.93% |

Operating Company Capital Structure

| | | % Long-Term Debt | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Operating Company | Parent | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE (Minnesota Power) | ALE | 40.67% | 39.06% | 39.13% | 38.61% | 39.57% | 39.67% | 39.62% | 39.96% | 39.54% |
| Superior Water, Light and Power Company | ALE | 41.97% | 41.62% | 41.81% | 43.14% | 43.42% | 42.66% | 34.20% | 35.01% | 40.48% |
| Interstate Power and Light Company | LNT | 49.94% | 48.24% | 46.67% | 46.48% | 50.36% | 49.53% | 50.08% | 49.69% | 48.87% |
| Wisconsin Power and Light Company | LNT | 46.60% | 50.99% | 46.97% | 47.31% | 47.38% | 48.48% | 50.43% | 50.77% | 48.62% |
| Ameren Illinois Company | AEE | 45.54% | 45.95% | 46.35% | 47.14% | 46.82% | 47.26% | 45.76% | 46.62% | 46.43% |
| Union Electric Company | AEE | 47.12% | 48.00% | 48.04% | 47.48% | 46.74% | 48.72% | 48.16% | 48.08% | 47.79% |
| AEP Texas Inc. | AEP | 53.03% | 53.68% | 52.46% | 54.62% | 56.20% | 56.80% | 53.25% | 54.86% | 54.36% |
| Appalachian Power Company | AEP | 51.26% | 51.81% | 52.23% | 50.49% | 50.70% | 51.07% | 50.65% | 51.28% | 51.19% |
| Indiana Michigan Power Company | AEP | 53.49% | 54.17% | 54.57% | 55.38% | 55.47% | 55.85% | 53.36% | 53.67% | 54.50% |
| Kentucky Power Company | AEP | 53.06% | 53.50% | 53.58% | 54.28% | 54.72% | 55.11% | 55.60% | 56.48% | 54.54% |
| Kingsport Power Company | AEP | 45.76% | 49.82% | 48.46% | 49.21% | 49.29% | 52.31% | 52.72% | 53.47% | 50.13% |
| Ohio Power Company | AEP | 46.37% | 47.08% | 41.14% | 42.20% | 43.15% | 42.89% | 47.09% | 41.37% | 43.91% |
| Public Service Company of Oklahoma | AEP | 50.11% | 51.98% | 52.81% | 50.84% | 50.45% | 51.41% | 51.90% | 51.50% | 51.38% |
| Southwestern Electric Power Company | AEP | 51.37% | 52.55% | 52.41% | 53.03% | 56.57% | 52.09% | 52.28% | 51.48% | 52.72% |
| Wheeling Power Company | AEP | 46.34% | 46.17% | 45.73% | 45.38% | 45.30% | 45.81% | 45.73% | 45.74% | 45.77% |
| Central Maine Power Company | AGR | 37.81% | 38.04% | 36.49% | 36.79% | 35.83% | 36.47% | 35.82% | 36.18% | 36.68% |
| New York State Electric & Gas Corporation | AGR | 51.21% | 44.16% | 44.07% | 45.70% | 46.05% | 49.01% | 45.49% | 46.70% | 46.55% |
| Rochester Gas and Electric Corporation | AGR | 49.50% | 49.75% | 50.04% | 51.11% | 51.84% | 52.23% | 49.20% | 50.37% | 50.50% |
| United Illuminating Company | AGR | 43.95% | 42.74% | 43.35% | 43.54% | 41.77% | 42.57% | 43.30% | 44.00% | 43.15% |
| Alaska Electric Light and Power Company | AVA | 38.72% | 38.76% | 38.98% | 39.71% | 38.06% | 38.22% | 38.47% | 39.23% | 38.77% |
| Avista Corporation | AVA | 49.67% | 48.60% | 48.82% | 50.11% | 50.45% | 50.26% | 48.84% | 49.25% | 49.50% |
| Consumers Energy Company | CMS | 48.30% | 46.36% | 47.48% | 49.73% | 46.99% | 47.14% | 46.87% | 47.75% | 47.58% |
| Consolidated Edison Company of New York, Inc. | ED | 50.71% | 51.08% | 51.70% | 52.48% | 51.67% | 53.28% | 51.34% | 51.78% | 51.76% |
| Orange and Rockland Utilities, Inc. | ED | 49.60% | 50.75% | 50.79% | 51.59% | 51.56% | 49.26% | 49.17% | 49.75% | 50.31% |
| Rockland Electric Company | ED | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Virginia Electric and Power Company | D | 46.67% | 46.70% | 47.58% | 47.38% | 46.36% | 47.19% | 48.97% | 48.29% | 47.39% |
| Dominion Energy South Carolina, Inc. | D | 46.20% | 51.33% | 51.48% | 55.12% | 50.37% | 50.56% | 50.70% | 50.46% | 50.78% |
| Duke Energy Carolinas, LLC | DUK | 48.20% | 47.06% | 47.68% | 48.22% | 47.36% | 47.90% | 48.30% | 47.02% | 47.72% |
| Duke Energy Florida, LLC | DUK | 47.18% | 48.45% | 49.44% | 49.96% | 50.35% | 51.21% | 50.08% | 50.75% | 49.68% |
| Duke Energy Indiana, LLC | DUK | 48.48% | 45.17% | 45.71% | 46.74% | 47.21% | 47.36% | 47.46% | 48.06% | 47.02% |
| Duke Energy Kentucky, Inc. | DUK | 54.56% | 46.96% | 47.19% | 48.05% | 43.42% | 44.21% | 46.28% | 46.89% | 47.20% |
| Duke Energy Ohio, Inc. | DUK | 35.10% | 35.55% | 40.71% | 31.91% | 32.27% | 32.90% | 33.94% | 33.76% | 34.52% |
| Duke Energy Progress, LLC | DUK | 49.14% | 49.91% | 50.40% | 49.00% | 49.24% | 46.78% | 47.18% | 47.73% | 48.67% |
| Southern California Edison Company | EIX | 49.86% | 51.60% | 54.85% | 53.10% | 50.18% | 49.95% | 49.37% | 46.92% | 50.73% |
| Entergy Arkansas, Inc. | ETR | 52.28% | 53.51% | 52.96% | 50.58% | 50.62% | 51.71% | 54.12% | 54.05% | 52.48% |
| Entergy Louisiana, LLC | ETR | 52.87% | 53.68% | 54.21% | 52.63% | 53.23% | 53.03% | 55.42% | 52.57% | 53.45% |
| Entergy Mississippi, Inc. | ETR | 51.65% | 55.07% | 50.59% | 50.89% | 49.90% | 50.90% | 51.68% | 52.15% | 51.60% |
| Entergy New Orleans, LLC | ETR | 46.31% | 47.60% | 48.31% | 48.81% | 49.07% | 45.98% | 46.57% | 46.84% | 47.44% |
| Entergy Texas, Inc. | ETR | 51.37% | 49.21% | 49.87% | 46.54% | 47.39% | 48.62% | 49.21% | 49.55% | 48.97% |
| Evergy Kansas South, Inc. | EVRG | 18.16% | 18.51% | 24.87% | 25.03% | 25.09% | 25.55% | 25.71% | 25.82% | 23.59% |
| Evergy Metro, Inc. | EVRG | 49.57% | 50.38% | 53.96% | 50.51% | 50.50% | 51.12% | 50.75% | 50.85% | 50.95% |
| Evergy Missouri West, Inc. | EVRG | 48.82% | 48.26% | 47.32% | 45.29% | 44.30% | 47.97% | 47.37% | 47.60% | 47.12% |
| Westar Energy (KPL) | EVRG | 42.34% | 40.82% | 41.20% | 40.92% | 40.66% | 41.32% | 41.25% | 41.26% | 41.22% |
| Connecticut Light and Power Company | ES | 45.88% | 44.62% | 41.82% | 43.82% | 45.51% | 46.15% | 49.60% | 46.18% | 45.45% |
| NSTAR Electric Company | ES | 46.19% | 47.26% | 43.92% | 44.26% | 44.50% | 45.49% | 46.17% | 46.15% | 45.49% |
| Public Service Company of New Hampshire | ES | 59.36% | 59.98% | 51.62% | 52.08% | 56.89% | 57.94% | 42.07% | 42.70% | 52.83% |
| Western Massachusetts Electric Company | ES | NA | NA | NA | NA | NA | NA | NA | 46.57% | 46.57% |
| Atlantic City Electric Company | EXC | 50.62% | 50.53% | 50.70% | 50.86% | 49.62% | 50.54% | 50.86% | 50.81% | 50.57% |
| Baltimore Gas and Electric Company | EXC | 48.11% | 45.64% | 45.57% | 46.33% | 47.15% | 44.66% | 44.64% | 45.23% | 45.92% |
| Commonwealth Edison Company | EXC | 44.39% | 44.71% | 45.00% | 44.94% | 45.28% | 44.64% | 45.04% | 45.15% | 44.89% |
| Delmarva Power & Light Company | EXC | 49.82% | 49.80% | 49.82% | 50.02% | 49.89% | 50.14% | 49.65% | 49.62% | 49.84% |
| PECO Energy Company | EXC | 46.63% | 44.80% | 44.87% | 46.28% | 47.18% | 45.72% | 46.23% | 46.46% | 46.02% |
| Potomac Electric Power Company | EXC | 49.79% | 49.76% | 49.59% | 49.99% | 49.76% | 49.92% | 50.06% | 50.11% | 49.87% |
| Cleveland Electric Illuminating Company | FE | 44.26% | 44.51% | 44.46% | 44.56% | 43.50% | 43.69% | 44.52% | 44.73% | 44.28% |
| Jersey Central Power & Light Company | FE | 31.26% | 31.77% | 31.92% | 30.54% | 30.66% | 31.19% | 34.48% | 34.70% | 32.07% |
| Metropolitan Edison Company | FE | 50.28% | 51.54% | 52.22% | 46.79% | 45.75% | 46.90% | 47.82% | 47.67% | 48.62% |
| Monongahela Power Company | FE | 50.02% | 50.93% | 50.95% | 51.13% | 49.29% | 48.47% | 49.43% | 50.85% | 50.13% |
| Ohio Edison Company | FE | 30.84% | 28.58% | 29.18% | 30.07% | 30.86% | 32.67% | 33.11% | 35.09% | 31.30% |
| Pennsylvania Electric Company | FE | 48.22% | 49.07% | 46.15% | 46.11% | 45.99% | 46.10% | 46.91% | 47.94% | 47.06% |
| Pennsylvania Power Company | FE | 46.91% | 48.29% | 49.31% | 50.97% | 41.73% | 43.11% | 44.30% | 46.18% | 46.35% |
| Potomac Edison Company | FE | 46.31% | 47.01% | 46.71% | 47.65% | 47.08% | 47.35% | 47.36% | 48.41% | 47.23% |
| Toledo Edison Company | FE | 39.24% | 39.43% | 39.22% | 39.57% | 37.75% | 37.75% | 39.40% | 39.96% | 39.04% |
| West Penn Power Company | FE | 53.89% | 49.37% | 45.32% | 46.50% | 46.86% | 47.91% | 48.91% | 47.18% | 48.24% |
| Hawaii Electric Light Company, Inc. | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hawaiian Electric Company, Inc. | HE | 41.57% | 41.83% | 41.94% | 42.02% | 43.91% | 44.22% | 42.56% | 42.58% | 42.58% |
| Maui Electric Company, Limited | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Idaho Power Co. | IDA | 44.80% | 45.42% | 45.64% | 45.75% | 45.75% | 46.56% | 48.63% | 45.78% | 46.04% |
| Madison Gas and Electric Company | MGEE | 40.34% | 41.16% | 41.54% | 42.10% | 42.64% | 39.34% | 39.80% | 40.27% | 40.90% |
| Florida Power & Light Company | NEE | 40.22% | 38.70% | 35.97% | 35.63% | 35.22% | 39.16% | 38.77% | 40.07% | 37.97% |
| Gulf Power Company | NEE | 47.48% | 38.85% | 41.94% | NA | NA | NA | NA | NA | 42.76% |
| NorthWestern Corporation | NWE | 52.20% | 51.93% | 51.26% | 52.12% | 51.64% | 51.59% | 52.52% | 50.11% | 51.67% |
| Oklahoma Gas and Electric Company | OGE | 45.04% | 46.53% | 44.62% | 46.80% | 46.95% | 45.75% | 46.41% | 46.64% | 46.09% |
| Arizona Public Service Company | PNW | 45.75% | 45.59% | 45.52% | 45.64% | 46.32% | 46.29% | 46.82% | 46.86% | 46.10% |
| Public Service Company of New Mexico | PNM | 54.67% | 56.14% | 56.55% | 54.37% | 51.99% | 53.32% | 53.80% | 53.94% | 54.35% |
| Portland General Electric Company | POR | 48.22% | 48.44% | 49.40% | 49.81% | 49.49% | 49.71% | 49.86% | 50.20% | 49.39% |
| Kentucky Utilities Company | PPL | 47.03% | 47.19% | 44.56% | 45.15% | 45.24% | 45.49% | 45.92% | 46.00% | 45.82% |
| Louisville Gas and Electric Company | PPL | 45.90% | 46.12% | 43.84% | 44.20% | 44.65% | 45.03% | 45.54% | 44.58% | 44.98% |
| PPL Electric Utilities Corporation | PPL | 45.56% | 45.49% | 45.48% | 45.48% | 45.35% | 45.72% | 44.96% | 45.43% | 45.43% |
| Oncor Electric Delivery Company LLC | SRE | 45.09% | 42.57% | 40.21% | 40.53% | 40.71% | 37.69% | 39.66% | 41.14% | 40.95% |
| San Diego Gas & Electric Co. | SRE | 42.57% | 44.83% | 43.40% | 44.21% | 44.83% | 45.53% | 44.08% | 44.91% | 44.29% |
| Sharyland Utilities, LLC | SRE | NA | NA | 54.95% | 55.38% | 55.08% | 53.61% | 53.66% | 54.14% | 54.47% |
| Alabama Power Company | SO | 48.55% | 47.46% | 47.77% | 52.23% | 51.87% | 52.49% | 51.14% | 52.93% | 50.56% |
| Georgia Power Company | SO | 44.62% | 43.61% | 43.57% | 40.98% | 42.73% | 45.03% | 46.19% | 49.94% | 44.58% |
| Mississippi Power Company | SO | 49.77% | 50.13% | 50.27% | 49.65% | 54.72% | 56.13% | 57.00% | 60.66% | 53.54% |
| Gulf Power Company | SO | NA | NA | NA | 40.27% | 44.66% | 45.10% | 45.73% | 45.81% | 44.31% |
| Upper Michigan Energy Resources Corporation | WEC | 43.91% | 45.55% | 47.46% | 52.99% | 44.92% | 45.47% | 29.96% | 50.15% | 45.05% |
| Wisconsin Electric Power Company | WEC | 43.08% | 43.36% | 44.22% | 43.97% | 40.75% | 40.91% | 43.53% | 44.06% | 42.99% |
| Wisconsin Public Service Corporation | WEC | 45.63% | 40.96% | 41.12% | 42.67% | 39.41% | 40.47% | 41.65% | 41.94% | 41.73% |
| Northern States Power Company - MN | XEL | 48.21% | 46.34% | 46.36% | 47.19% | 47.36% | 47.39% | 47.41% | 47.62% | 47.23% |
| Northern States Power Company - WI | XEL | 46.44% | 46.51% | 46.41% | 46.40% | 51.55% | 46.15% | 46.21% | 46.64% | 47.04% |
| Public Service Company of Colorado | XEL | 43.65% | 42.47% | 43.32% | 43.69% | 43.92% | 45.83% | 43.33% | 43.50% | 43.71% |
| Southwestern Public Service Company | XEL | 45.79% | 45.86% | 45.87% | 45.83% | 43.71% | 46.12% | 46.46% | 46.45% | 45.76% |
| Mean | | 46.08% | 45.92% | 45.84% | 45.96% | 45.78% | 46.05% | 45.86% | 46.29% | 45.97% |




| Year | Large Company Stocks Total Returns Jan-Dec* | Long-Term Government Bond Income Returns Jan-Dec* | MRP Jan-Dec* |
|---|---|---|---|
| 1926 | 0.1162 | 0.0373 | 0.0789 |
| 1927 | 0.3749 | 0.0341 | 0.3408 |
| 1928 | 0.4361 | 0.0322 | 0.4039 |
| 1929 | -0.0842 | 0.0347 | -0.1189 |
| 1930 | -0.2490 | 0.0332 | -0.2822 |
| 1931 | -0.4334 | 0.0333 | -0.4667 |
| 1932 | -0.0819 | 0.0369 | -0.1188 |
| 1933 | 0.5399 | 0.0312 | 0.5087 |
| 1934 | -0.0144 | 0.0318 | -0.0462 |
| 1935 | 0.4767 | 0.0281 | 0.4486 |
| 1936 | 0.3392 | 0.0277 | 0.3115 |
| 1937 | -0.3503 | 0.0266 | -0.3769 |
| 1938 | 0.3112 | 0.0264 | 0.2848 |
| 1939 | -0.0041 | 0.0240 | -0.0281 |
| 1940 | -0.0978 | 0.0223 | -0.1201 |
| 1941 | -0.1159 | 0.0194 | -0.1353 |
| 1942 | 0.2034 | 0.0246 | 0.1788 |
| 1943 | 0.2590 | 0.0244 | 0.2346 |
| 1944 | 0.1975 | 0.0246 | 0.1729 |
| 1945 | 0.3644 | 0.0234 | 0.3410 |
| 1946 | -0.0807 | 0.0204 | -0.1011 |
| 1947 | 0.0571 | 0.0213 | 0.0358 |
| 1948 | 0.0550 | 0.0240 | 0.0310 |
| 1949 | 0.1879 | 0.0225 | 0.1654 |
| 1950 | 0.3171 | 0.0212 | 0.2959 |
| 1951 | 0.2402 | 0.0238 | 0.2164 |
| 1952 | 0.1837 | 0.0266 | 0.1571 |
| 1953 | -0.0099 | 0.0284 | -0.0383 |
| 1954 | 0.5262 | 0.0279 | 0.4983 |
| 1955 | 0.3156 | 0.0275 | 0.2881 |
| 1956 | 0.0656 | 0.0299 | 0.0357 |
| 1957 | -0.1078 | 0.0344 | -0.1422 |
| 1958 | 0.4336 | 0.0327 | 0.4009 |
| 1959 | 0.1196 | 0.0401 | 0.0795 |
| 1960 | 0.0047 | 0.0426 | -0.0379 |
| 1961 | 0.2689 | 0.0383 | 0.2306 |
| 1962 | -0.0873 | 0.0400 | -0.1273 |
| 1963 | 0.2280 | 0.0389 | 0.1891 |
| 1964 | 0.1648 | 0.0415 | 0.1233 |
| 1965 | 0.1245 | 0.0419 | 0.0826 |
| 1966 | -0.1006 | 0.0449 | -0.1455 |
| 1967 | 0.2398 | 0.0459 | 0.1939 |
| 1968 | 0.1106 | 0.0550 | 0.0556 |
| 1969 | -0.0850 | 0.0595 | -0.1445 |
| 1970 | 0.0386 | 0.0674 | -0.0288 |
| 1971 | 0.1430 | 0.0632 | 0.0798 |
| 1972 | 0.1899 | 0.0587 | 0.1312 |
| 1973 | -0.1469 | 0.0651 | -0.2120 |
| 1974 | -0.2647 | 0.0727 | -0.3374 |
| 1975 | 0.3723 | 0.0799 | 0.2924 |
| 1976 | 0.2393 | 0.0789 | 0.1604 |
| 1977 | -0.0716 | 0.0714 | -0.1430 |
| 1978 | 0.0657 | 0.0790 | -0.0133 |
| 1979 | 0.1861 | 0.0886 | 0.0975 |
| 1980 | 0.3250 | 0.0997 | 0.2253 |
| 1981 | -0.0492 | 0.1155 | -0.1647 |
| 1982 | 0.2155 | 0.1350 | 0.0805 |
| 1983 | 0.2256 | 0.1038 | 0.1218 |
| 1984 | 0.0627 | 0.1174 | -0.0547 |
| 1985 | 0.3173 | 0.1125 | 0.2048 |
| 1986 | 0.1867 | 0.0898 | 0.0969 |
| 1987 | 0.0525 | 0.0792 | -0.0267 |
| 1988 | 0.1661 | 0.0897 | 0.0764 |
| 1989 | 0.3169 | 0.0881 | 0.2288 |
| 1990 | -0.0310 | 0.0819 | -0.1129 |
| 1991 | 0.3047 | 0.0822 | 0.2225 |
| 1992 | 0.0762 | 0.0726 | 0.0036 |
| 1993 | 0.1008 | 0.0717 | 0.0291 |
| 1994 | 0.0132 | 0.0659 | -0.0527 |
| 1995 | 0.3758 | 0.0760 | 0.2998 |
| 1996 | 0.2296 | 0.0618 | 0.1678 |
| 1997 | 0.3336 | 0.0664 | 0.2672 |
| 1998 | 0.2858 | 0.0583 | 0.2275 |
| 1999 | 0.2104 | 0.0557 | 0.1547 |
| 2000 | -0.0910 | 0.0650 | -0.1560 |
| 2001 | -0.1189 | 0.0553 | -0.1742 |
| 2002 | -0.2210 | 0.0559 | -0.2769 |
| 2003 | 0.2868 | 0.0480 | 0.2388 |
| 2004 | 0.1088 | 0.0502 | 0.0586 |
| 2005 | 0.0491 | 0.0469 | 0.0022 |
| 2006 | 0.1579 | 0.0468 | 0.1111 |
| 2007 | 0.0549 | 0.0486 | 0.0063 |
| 2008 | -0.3700 | 0.0445 | -0.4145 |
| 2009 | 0.2646 | 0.0347 | 0.2299 |
| 2010 | 0.1506 | 0.0425 | 0.1081 |
| 2011 | 0.0211 | 0.0382 | -0.0171 |
| 2012 | 0.1600 | 0.0246 | 0.1354 |
| 2013 | 0.3239 | 0.0288 | 0.2951 |
| 2014 | 0.1369 | 0.0341 | 0.1028 |
| 2015 | 0.0138 | 0.0247 | -0.0109 |
| 2016 | 0.1196 | 0.0230 | 0.0966 |
| 2017 | 0.2183 | 0.0267 | 0.1916 |
| 2018 | -0.0438 | 0.0282 | -0.0720 |
| Average | 0.1188 | 0.0497 | 0.0691 |
| Std. Dev. | 0.1976 | 0.0263 | 0.1985 |

Source: Duff & Phelps, 2019 SBBI, Appendix A-1, A-7

| MRP | | |
|---|---|---|
| *Bin* | *Frequency* | *Cumulative %* |
| -50.00% | 0 | 0.0% |
| -47.50% | 0 | 0.0% |
| -45.00% | 1 | 1.1% |
| -42.50% | 0 | 1.1% |
| -40.00% | 1 | 2.2% |
| -37.50% | 1 | 3.2% |
| -35.00% | 0 | 3.2% |
| -32.50% | 1 | 4.3% |
| -30.00% | 0 | 4.3% |
| -27.50% | 2 | 6.5% |
| -25.00% | 0 | 6.5% |
| -22.50% | 0 | 6.5% |
| -20.00% | 1 | 7.5% |
| -17.50% | 0 | 7.5% |
| -15.00% | 3 | 10.8% |
| -12.50% | 6 | 17.2% |
| -10.00% | 5 | 22.6% |
| -7.50% | 0 | 22.6% |
| -5.00% | 3 | 25.8% |
| -2.50% | 6 | 32.3% |
| 0.00% | 3 | 35.5% |
| 2.50% | 3 | 38.7% |
| 5.00% | 4 | 43.0% |
| 7.50% | 2 | 45.2% |
| 10.00% | 9 | 54.8% |
| 12.50% | 5 | 60.2% |
| 15.00% | 2 | 62.4% |
| 17.50% | 6 | 68.8% |
| 20.00% | 4 | 73.1% |
| 22.50% | 3 | 76.3% |
| 25.00% | 7 | 83.9% |
| 27.50% | 1 | 84.9% |
| 30.00% | 6 | 91.4% |
| 32.50% | 1 | 92.5% |
| 35.00% | 2 | 94.6% |
| 37.50% | 0 | 94.6% |
| 40.00% | 0 | 94.6% |
| 42.50% | 2 | 96.8% |
| 45.00% | 1 | 97.8% |
| 47.50% | 0 | 97.8% |
| 50.00% | 1 | 98.9% |
| 51.00% | 1 | 100.0% |
| Count: | 93 | |

| Highest MRP from Direct | Rank | |
|---|---|---|
| 12.25% | 59.00% | 41.00% |

Historical Market Return

| D'Ascendis | % Rank | Occurrence |
|---|---|---|
| 14.78% | 51.70% | 45 |
| 14.88% | 51.90% | 45 |
| | | 93 |

CAPM vs. ECAPM Security Market Line
Using Mr. Baudino's Inputs

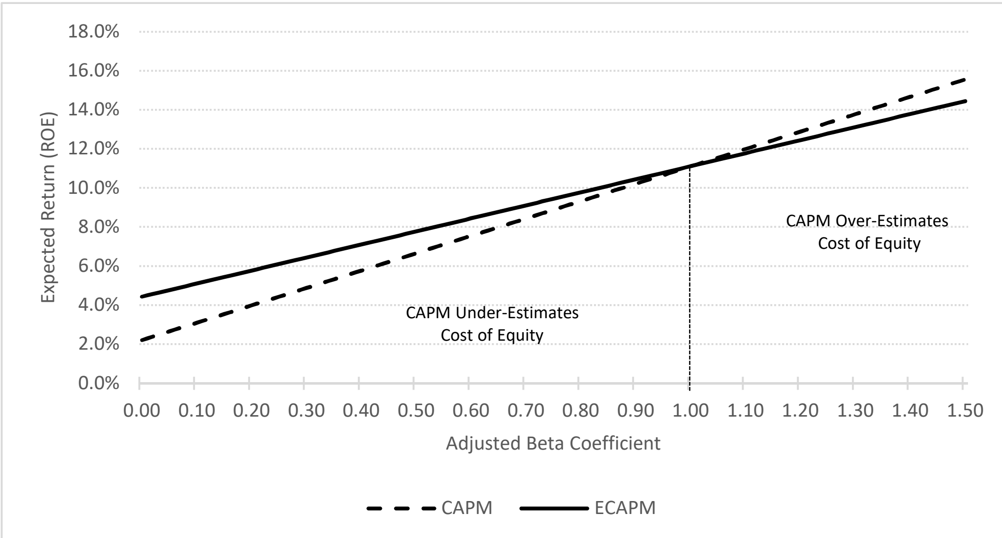
| | | | | |
|---|---|---|---|---|
| Risk-Free Rate | 2.21% | | ECAPM | 0.25 |
| MRP | 8.90% | | Factors | 0.75 |

| | | | ECAPM alpha | |
|---|---|---|---|---|
| | CAPM | ECAPM | 1.00% | 2.00% |
| 0.00 | 2.21% | 4.44% | 3.21% | 4.21% |
| 0.01 | 2.30% | 4.50% | 3.29% | 4.28% |
| 0.02 | 2.39% | 4.57% | 3.37% | 4.35% |
| 0.03 | 2.48% | 4.64% | 3.45% | 4.42% |
| 0.04 | 2.57% | 4.70% | 3.53% | 4.49% |
| 0.05 | 2.66% | 4.77% | 3.61% | 4.56% |
| 0.06 | 2.74% | 4.84% | 3.68% | 4.62% |
| 0.07 | 2.83% | 4.90% | 3.76% | 4.69% |
| 0.08 | 2.92% | 4.97% | 3.84% | 4.76% |
| 0.09 | 3.01% | 5.04% | 3.92% | 4.83% |
| 0.10 | 3.10% | 5.10% | 4.00% | 4.90% |
| 0.11 | 3.19% | 5.17% | 4.08% | 4.97% |
| 0.12 | 3.28% | 5.24% | 4.16% | 5.04% |
| 0.13 | 3.37% | 5.30% | 4.24% | 5.11% |
| 0.14 | 3.46% | 5.37% | 4.32% | 5.18% |
| 0.15 | 3.55% | 5.44% | 4.40% | 5.25% |
| 0.16 | 3.63% | 5.50% | 4.47% | 5.31% |
| 0.17 | 3.72% | 5.57% | 4.55% | 5.38% |
| 0.18 | 3.81% | 5.64% | 4.63% | 5.45% |
| 0.19 | 3.90% | 5.70% | 4.71% | 5.52% |
| 0.20 | 3.99% | 5.77% | 4.79% | 5.59% |
| 0.21 | 4.08% | 5.84% | 4.87% | 5.66% |
| 0.22 | 4.17% | 5.90% | 4.95% | 5.73% |
| 0.23 | 4.26% | 5.97% | 5.03% | 5.80% |
| 0.24 | 4.35% | 6.04% | 5.11% | 5.87% |
| 0.25 | 4.44% | 6.10% | 5.19% | 5.94% |
| 0.26 | 4.52% | 6.17% | 5.26% | 6.00% |
| 0.27 | 4.61% | 6.24% | 5.34% | 6.07% |
| 0.28 | 4.70% | 6.30% | 5.42% | 6.14% |
| 0.29 | 4.79% | 6.37% | 5.50% | 6.21% |
| 0.30 | 4.88% | 6.44% | 5.58% | 6.28% |
| 0.31 | 4.97% | 6.50% | 5.66% | 6.35% |
| 0.32 | 5.06% | 6.57% | 5.74% | 6.42% |
| 0.33 | 5.15% | 6.64% | 5.82% | 6.49% |
| 0.34 | 5.24% | 6.70% | 5.90% | 6.56% |
| 0.35 | 5.33% | 6.77% | 5.98% | 6.63% |
| 0.36 | 5.41% | 6.84% | 6.05% | 6.69% |
| 0.37 | 5.50% | 6.90% | 6.13% | 6.76% |
| 0.38 | 5.59% | 6.97% | 6.21% | 6.83% |
| 0.39 | 5.68% | 7.04% | 6.29% | 6.90% |
| 0.40 | 5.77% | 7.11% | 6.37% | 6.97% |
| 0.41 | 5.86% | 7.17% | 6.45% | 7.04% |
| 0.42 | 5.95% | 7.24% | 6.53% | 7.11% |
| 0.43 | 6.04% | 7.31% | 6.61% | 7.18% |
| 0.44 | 6.13% | 7.37% | 6.69% | 7.25% |
| 0.45 | 6.22% | 7.44% | 6.77% | 7.32% |
| 0.46 | 6.30% | 7.51% | 6.84% | 7.38% |
| 0.47 | 6.39% | 7.57% | 6.92% | 7.45% |

| | CAPM | ECAPM | 1.00% | 2.00% |
|---|---|---|---|---|
| 0.48 | 6.48% | 7.64% | 7.00% | 7.52% |
| 0.49 | 6.57% | 7.71% | 7.08% | 7.59% |
| 0.50 | 6.66% | 7.77% | 7.16% | 7.66% |
| 0.51 | 6.75% | 7.84% | 7.24% | 7.73% |
| 0.52 | 6.84% | 7.91% | 7.32% | 7.80% |
| 0.53 | 6.93% | 7.97% | 7.40% | 7.87% |
| 0.54 | 7.02% | 8.04% | 7.48% | 7.94% |
| 0.55 | 7.11% | 8.11% | 7.56% | 8.01% |
| 0.56 | 7.19% | 8.17% | 7.63% | 8.07% |
| 0.57 | 7.28% | 8.24% | 7.71% | 8.14% |
| 0.58 | 7.37% | 8.31% | 7.79% | 8.21% |
| 0.59 | 7.46% | 8.37% | 7.87% | 8.28% |
| 0.60 | 7.55% | 8.44% | 7.95% | 8.35% |
| 0.61 | 7.64% | 8.51% | 8.03% | 8.42% |
| 0.62 | 7.73% | 8.57% | 8.11% | 8.49% |
| 0.63 | 7.82% | 8.64% | 8.19% | 8.56% |
| 0.64 | 7.91% | 8.71% | 8.27% | 8.63% |
| 0.65 | 8.00% | 8.77% | 8.35% | 8.70% |
| 0.66 | 8.08% | 8.84% | 8.42% | 8.76% |
| 0.67 | 8.17% | 8.91% | 8.50% | 8.83% |
| 0.68 | 8.26% | 8.97% | 8.58% | 8.90% |
| 0.69 | 8.35% | 9.04% | 8.66% | 8.97% |
| 0.70 | 8.44% | 9.11% | 8.74% | 9.04% |
| 0.71 | 8.53% | 9.17% | 8.82% | 9.11% |
| 0.72 | 8.62% | 9.24% | 8.90% | 9.18% |
| 0.73 | 8.71% | 9.31% | 8.98% | 9.25% |
| 0.74 | 8.80% | 9.37% | 9.06% | 9.32% |
| 0.75 | 8.89% | 9.44% | 9.14% | 9.39% |
| 0.76 | 8.97% | 9.51% | 9.21% | 9.45% |
| 0.77 | 9.06% | 9.57% | 9.29% | 9.52% |
| 0.78 | 9.15% | 9.64% | 9.37% | 9.59% |
| 0.79 | 9.24% | 9.71% | 9.45% | 9.66% |
| 0.80 | 9.33% | 9.78% | 9.53% | 9.73% |
| 0.81 | 9.42% | 9.84% | 9.61% | 9.80% |
| 0.82 | 9.51% | 9.91% | 9.69% | 9.87% |
| 0.83 | 9.60% | 9.98% | 9.77% | 9.94% |
| 0.84 | 9.69% | 10.04% | 9.85% | 10.01% |
| 0.85 | 9.78% | 10.11% | 9.93% | 10.08% |
| 0.86 | 9.86% | 10.18% | 10.00% | 10.14% |
| 0.87 | 9.95% | 10.24% | 10.08% | 10.21% |
| 0.88 | 10.04% | 10.31% | 10.16% | 10.28% |
| 0.89 | 10.13% | 10.38% | 10.24% | 10.35% |
| 0.90 | 10.22% | 10.44% | 10.32% | 10.42% |
| 0.91 | 10.31% | 10.51% | 10.40% | 10.49% |
| 0.92 | 10.40% | 10.58% | 10.48% | 10.56% |
| 0.93 | 10.49% | 10.64% | 10.56% | 10.63% |
| 0.94 | 10.58% | 10.71% | 10.64% | 10.70% |
| 0.95 | 10.67% | 10.78% | 10.72% | 10.77% |
| 0.96 | 10.75% | 10.84% | 10.79% | 10.83% |
| 0.97 | 10.84% | 10.91% | 10.87% | 10.90% |
| 0.98 | 10.93% | 10.98% | 10.95% | 10.97% |
| 0.99 | 11.02% | 11.04% | 11.03% | 11.04% |
| 1.00 | 11.11% | 11.11% | 11.11% | 11.11% |
| 1.01 | 11.20% | 11.18% | 11.19% | 11.18% |

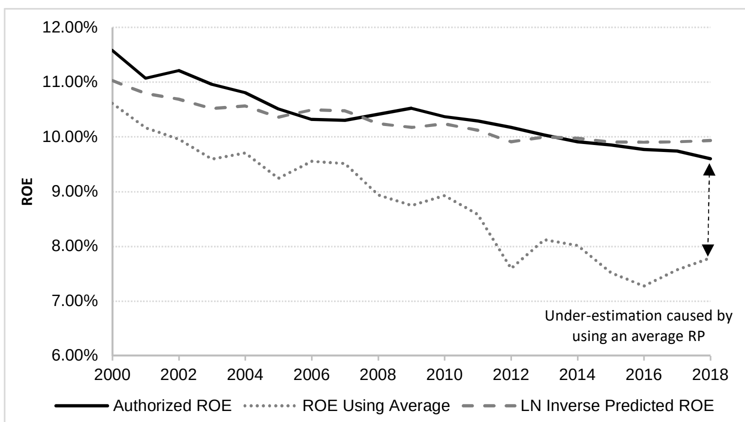
| | CAPM | ECAPM | 1.00% | 2.00% |
|---|---|---|---|---|
| 1.02 | 11.29% | 11.24% | 11.27% | 11.25% |
| 1.03 | 11.38% | 11.31% | 11.35% | 11.32% |
| 1.04 | 11.47% | 11.38% | 11.43% | 11.39% |
| 1.05 | 11.56% | 11.44% | 11.51% | 11.46% |
| 1.06 | 11.64% | 11.51% | 11.58% | 11.52% |
| 1.07 | 11.73% | 11.58% | 11.66% | 11.59% |
| 1.08 | 11.82% | 11.64% | 11.74% | 11.66% |
| 1.09 | 11.91% | 11.71% | 11.82% | 11.73% |
| 1.10 | 12.00% | 11.78% | 11.90% | 11.80% |
| 1.11 | 12.09% | 11.84% | 11.98% | 11.87% |
| 1.12 | 12.18% | 11.91% | 12.06% | 11.94% |
| 1.13 | 12.27% | 11.98% | 12.14% | 12.01% |
| 1.14 | 12.36% | 12.04% | 12.22% | 12.08% |
| 1.15 | 12.45% | 12.11% | 12.30% | 12.15% |
| 1.16 | 12.53% | 12.18% | 12.37% | 12.21% |
| 1.17 | 12.62% | 12.24% | 12.45% | 12.28% |
| 1.18 | 12.71% | 12.31% | 12.53% | 12.35% |
| 1.19 | 12.80% | 12.38% | 12.61% | 12.42% |
| 1.20 | 12.89% | 12.45% | 12.69% | 12.49% |
| 1.21 | 12.98% | 12.51% | 12.77% | 12.56% |
| 1.22 | 13.07% | 12.58% | 12.85% | 12.63% |
| 1.23 | 13.16% | 12.65% | 12.93% | 12.70% |
| 1.24 | 13.25% | 12.71% | 13.01% | 12.77% |
| 1.25 | 13.34% | 12.78% | 13.09% | 12.84% |
| 1.26 | 13.42% | 12.85% | 13.16% | 12.90% |
| 1.27 | 13.51% | 12.91% | 13.24% | 12.97% |
| 1.28 | 13.60% | 12.98% | 13.32% | 13.04% |
| 1.29 | 13.69% | 13.05% | 13.40% | 13.11% |
| 1.30 | 13.78% | 13.11% | 13.48% | 13.18% |
| 1.31 | 13.87% | 13.18% | 13.56% | 13.25% |
| 1.32 | 13.96% | 13.25% | 13.64% | 13.32% |
| 1.33 | 14.05% | 13.31% | 13.72% | 13.39% |
| 1.34 | 14.14% | 13.38% | 13.80% | 13.46% |
| 1.35 | 14.23% | 13.45% | 13.88% | 13.53% |
| 1.36 | 14.31% | 13.51% | 13.95% | 13.59% |
| 1.37 | 14.40% | 13.58% | 14.03% | 13.66% |
| 1.38 | 14.49% | 13.65% | 14.11% | 13.73% |
| 1.39 | 14.58% | 13.71% | 14.19% | 13.80% |
| 1.40 | 14.67% | 13.78% | 14.27% | 13.87% |
| 1.41 | 14.76% | 13.85% | 14.35% | 13.94% |
| 1.42 | 14.85% | 13.91% | 14.43% | 14.01% |
| 1.43 | 14.94% | 13.98% | 14.51% | 14.08% |
| 1.44 | 15.03% | 14.05% | 14.59% | 14.15% |
| 1.45 | 15.12% | 14.11% | 14.67% | 14.22% |
| 1.46 | 15.20% | 14.18% | 14.74% | 14.28% |
| 1.47 | 15.29% | 14.25% | 14.82% | 14.35% |
| 1.48 | 15.38% | 14.31% | 14.90% | 14.42% |
| 1.49 | 15.47% | 14.38% | 14.98% | 14.49% |
| 1.50 | 15.56% | 14.45% | 15.06% | 14.56% |

Source: Exhibit RAB-4


18.0%
16.0%
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
Expected Return (ROE)
0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50
Adjusted Beta Coefficient
CAPM Over-Estimates Cost of Equity
CAPM Under-Estimates Cost of Equity
CAPM
ECAPM

Relative Accuracy of Average Equity Risk Premiums and Predicted Risk Premiums

| Rate Case Year | Auth. ROE [1] | Avg 30-Yr Treasury [2] | Average RP [3] | ROE Using Average | Error | LN Inverse Predicted RP [4] | LN Inverse Predicted ROE | Error |
|---|---|---|---|---|---|---|---|---|
| 2000 | 11.58% | 5.93% | 4.68% | 10.61% | -0.97% | 5.09% | 11.03% | -0.55% |
| 2001 | 11.07% | 5.49% | 4.68% | 10.17% | -0.90% | 5.30% | 10.79% | -0.28% |
| 2002 | 11.21% | 5.28% | 4.68% | 9.96% | -1.25% | 5.40% | 10.69% | -0.52% |
| 2003 | 10.96% | 4.92% | 4.68% | 9.60% | -1.36% | 5.59% | 10.51% | -0.45% |
| 2004 | 10.81% | 5.03% | 4.68% | 9.70% | -1.11% | 5.54% | 10.56% | -0.25% |
| 2005 | 10.51% | 4.57% | 4.68% | 9.24% | -1.27% | 5.79% | 10.36% | -0.15% |
| 2006 | 10.32% | 4.88% | 4.68% | 9.55% | -0.77% | 5.62% | 10.49% | 0.17% |
| 2007 | 10.30% | 4.84% | 4.68% | 9.51% | -0.79% | 5.64% | 10.48% | 0.18% |
| 2008 | 10.41% | 4.27% | 4.68% | 8.94% | -1.47% | 5.98% | 10.24% | -0.17% |
| 2009 | 10.52% | 4.07% | 4.68% | 8.75% | -1.77% | 6.10% | 10.17% | -0.35% |
| 2010 | 10.37% | 4.25% | 4.68% | 8.92% | -1.45% | 5.99% | 10.24% | -0.13% |
| 2011 | 10.29% | 3.90% | 4.68% | 8.58% | -1.71% | 6.21% | 10.12% | -0.17% |
| 2012 | 10.17% | 2.92% | 4.68% | 7.59% | -2.58% | 6.99% | 9.91% | -0.26% |
| 2013 | 10.03% | 3.45% | 4.68% | 8.12% | -1.91% | 6.55% | 9.99% | -0.04% |
| 2014 | 9.91% | 3.34% | 4.68% | 8.01% | -1.90% | 6.63% | 9.97% | 0.06% |
| 2015 | 9.85% | 2.84% | 4.68% | 7.52% | -2.33% | 7.06% | 9.91% | 0.06% |
| 2016 | 9.77% | 2.60% | 4.68% | 7.27% | -2.50% | 7.30% | 9.90% | 0.13% |
| 2017 | 9.74% | 2.89% | 4.68% | 7.57% | -2.17% | 7.02% | 9.91% | 0.17% |
| 2018 | 9.60% | 3.11% | 4.68% | 7.79% | -1.81% | 6.82% | 9.93% | 0.33% |
| 2019 | 9.65% | 2.58% | 4.68% | 7.25% | -2.40% | 7.32% | 9.90% | 0.25% |
| Average: | 10.35% | 4.06% | 4.68% | 8.73% | -1.62% | 6.20% | 10.26% | -0.10% |
| | | | | | | | Stdev: | 0.26% |




Notes

[1] Source: Regulatory Research Associates: Regulatory Focus, Major Rate Case Decisions January - December 2019, January 31, 2020; all electric rate cases
[2] Source: Bloomberg Professional
[3] Source: Exhibit DWD-5
[4] Source: Exhibit DWD-5 (regression coefficients)

Retention Ratio Regression Analysis - Mr. O'Donnell's Proxy Group

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.340545656 |
| R Square | 0.115971344 |
| Adjusted R Square | 0.113876489 |
| Standard Error | 0.184348414 |
| Observations | 424 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 1.881376037 | 1.881376037 | 55.3600912 | 5.67235E-13 |
| Residual | 422 | 14.34139053 | 0.033984338 | | |
| Total | 423 | 16.22276657 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 0.109 | 0.011 | 9.648 | 4.88924E-20 | 0.087191134 | 0.13180579 |
| Retention Ratio | -0.168 | 0.023 | -7.440 | 5.67235E-13 | -0.212872957 | -0.123903852 |

Source: Value Line

| Date | Ticker | Payout Ratio | Retention Ratio | 5-year Fwd EPS Growth |
|---|---|---|---|---|
| 2004 | ALE | 22.22% | 77.78% | 13.03% |
| 2005 | ALE | 50.40% | 49.60% | -0.53% |
| 2006 | ALE | 52.35% | 47.65% | 1.33% |
| 2007 | ALE | 53.25% | 46.75% | -1.44% |
| 2008 | ALE | 60.99% | 39.01% | 0.64% |
| 2009 | ALE | 93.12% | 6.88% | 9.29% |
| 2010 | ALE | 80.37% | 19.63% | 9.42% |
| 2011 | ALE | 67.17% | 32.83% | 3.80% |
| 2012 | ALE | 71.32% | 28.68% | 4.27% |
| 2013 | ALE | 72.24% | 27.76% | 5.48% |
| 1996 | LNT | 86.78% | 13.22% | 6.92% |
| 1997 | LNT | 105.26% | -5.26% | -0.07% |
| 1998 | LNT | 158.73% | -58.73% | 13.28% |
| 1999 | LNT | 91.32% | 8.68% | 2.08% |
| 2000 | LNT | 80.97% | 19.03% | 3.42% |
| 2001 | LNT | 82.64% | 17.36% | 2.46% |
| 2002 | LNT | 169.49% | -69.49% | 18.83% |
| 2003 | LNT | 63.69% | 36.31% | 11.10% |
| 2004 | LNT | 55.14% | 44.86% | 2.50% |
| 2005 | LNT | 47.51% | 52.49% | 7.55% |
| 2006 | LNT | 55.83% | 44.17% | 8.91% |
| 2007 | LNT | 47.21% | 52.79% | 4.97% |
| 2008 | LNT | 55.12% | 44.88% | 7.73% |
| 2009 | LNT | 78.95% | 21.05% | 13.86% |
| 2010 | LNT | 57.45% | 42.55% | 4.34% |
| 2011 | LNT | 61.82% | 38.18% | 3.86% |
| 2012 | LNT | 59.02% | 40.98% | 5.80% |
| 2013 | LNT | 56.97% | 43.03% | 6.17% |

| Date | Ticker | Payout Ratio | Retention Ratio | 5-year Fwd EPS Growth |
|---|---|---|---|---|
| 1996 | AEE | 87.76% | 12.24% | 4.29% |
| 1997 | AEE | 104.10% | -4.10% | 2.83% |
| 1998 | AEE | 90.07% | 9.93% | 3.32% |
| 1999 | AEE | 90.39% | 9.61% | 1.35% |
| 2000 | AEE | 76.28% | 23.72% | -0.15% |
| 2001 | AEE | 74.49% | 25.51% | -3.63% |
| 2002 | AEE | 95.49% | 4.51% | 3.17% |
| 2003 | AEE | 80.89% | 19.11% | -1.11% |
| 2004 | AEE | 90.07% | 9.93% | 0.24% |
| 2005 | AEE | 81.15% | 18.85% | -2.03% |
| 2006 | AEE | 95.49% | 4.51% | -1.20% |
| 2007 | AEE | 85.23% | 14.77% | -4.09% |
| 2008 | AEE | 88.19% | 11.81% | -5.99% |
| 2009 | AEE | 55.40% | 44.60% | -2.44% |
| 2010 | AEE | 55.60% | 44.40% | -2.53% |
| 2011 | AEE | 63.16% | 36.84% | 2.15% |
| 2012 | AEE | 66.39% | 33.61% | 3.31% |
| 2013 | AEE | 76.19% | 23.81% | 9.85% |
| 1996 | AEP | 76.43% | 23.57% | 27.79% |
| 1997 | AEP | 73.17% | 26.83% | 24.39% |
| 1998 | AEP | 85.41% | 14.59% | 24.95% |
| 1999 | AEP | 89.22% | 10.78% | 26.43% |
| 2000 | AEP | 230.77% | -130.77% | 38.93% |
| 2001 | AEP | 73.39% | 26.61% | -2.29% |
| 2002 | AEP | 83.92% | 16.08% | 0.22% |
| 2003 | AEP | 65.22% | 34.78% | 3.44% |
| 2004 | AEP | 53.64% | 46.36% | 2.67% |
| 2005 | AEP | 53.79% | 46.21% | -0.05% |
| 2006 | AEP | 52.45% | 47.55% | 2.36% |
| 2007 | AEP | 55.24% | 44.76% | 1.40% |
| 2008 | AEP | 54.85% | 45.15% | 1.84% |
| 2009 | AEP | 55.22% | 44.78% | 2.98% |
| 2010 | AEP | 65.77% | 34.23% | 6.96% |
| 2011 | AEP | 59.11% | 40.89% | 6.45% |
| 2012 | AEP | 63.09% | 36.91% | 4.53% |
| 2013 | AEP | 61.32% | 38.68% | 4.73% |
| 1996 | CMS | 41.63% | 58.37% | -8.29% |
| 1997 | CMS | 43.68% | 56.32% | -76.68% |
| 1998 | CMS | 56.25% | 43.75% | -91.91% |
| 1999 | CMS | 48.77% | 51.23% | -168.39% |
| 2000 | CMS | 57.71% | 42.29% | -156.41% |
| 2001 | CMS | 114.96% | -14.96% | -154.82% |
| 2007 | CMS | 31.25% | 68.75% | 25.07% |
| 2008 | CMS | 29.27% | 70.73% | 8.33% |
| 2009 | CMS | 53.76% | 46.24% | 14.17% |
| 2010 | CMS | 49.62% | 50.38% | 7.30% |
| 2011 | CMS | 57.93% | 42.07% | 6.44% |
| 2012 | CMS | 62.75% | 37.25% | 7.26% |
| 2013 | CMS | 61.45% | 38.55% | 6.94% |

| Date | Ticker | Payout Ratio | Retention Ratio | 5-year Fwd EPS Growth |
|---|---|---|---|---|
| 1997 | ED | 71.19% | 28.81% | 1.64% |
| 1998 | ED | 69.74% | 30.26% | -0.88% |
| 1999 | ED | 68.37% | 31.63% | -5.08% |
| 2000 | ED | 79.56% | 20.44% | 3.19% |
| 2001 | ED | 68.54% | 31.46% | -0.51% |
| 2002 | ED | 70.93% | 29.07% | 3.58% |
| 2003 | ED | 79.15% | 20.85% | 4.81% |
| 2004 | ED | 97.41% | 2.59% | 7.10% |
| 2005 | ED | 76.25% | 23.75% | 3.43% |
| 2006 | ED | 77.97% | 22.03% | 4.27% |
| 2007 | ED | 66.67% | 33.33% | 2.30% |
| 2008 | ED | 69.64% | 30.36% | 3.36% |
| 2009 | ED | 75.16% | 24.84% | 3.09% |
| 2010 | ED | 68.59% | 31.41% | 3.36% |
| 2011 | ED | 67.23% | 32.77% | 2.24% |
| 2012 | ED | 62.69% | 37.31% | 1.43% |
| 2013 | ED | 62.60% | 37.40% | 3.26% |
| 1997 | D | 86.00% | 14.00% | 19.21% |
| 1998 | D | 150.00% | -50.00% | 24.00% |
| 1999 | D | 86.00% | 14.00% | 10.86% |
| 2000 | D | 103.20% | -3.20% | 8.27% |
| 2001 | D | 86.58% | 13.42% | 16.43% |
| 2002 | D | 53.53% | 46.47% | 1.83% |
| 2003 | D | 65.82% | 34.18% | 14.11% |
| 2004 | D | 61.03% | 38.97% | 9.75% |
| 2005 | D | 89.33% | 10.67% | 17.56% |
| 2006 | D | 57.50% | 42.50% | 4.66% |
| 2007 | D | 68.54% | 31.46% | 6.83% |
| 2008 | D | 51.97% | 48.03% | 0.76% |
| 2009 | D | 66.29% | 33.71% | 3.14% |
| 2010 | D | 63.32% | 36.68% | 2.23% |
| 2011 | D | 71.38% | 28.62% | 4.62% |
| 2012 | D | 76.73% | 23.27% | 5.22% |
| 2013 | D | 72.82% | 27.18% | 1.16% |
| 2007 | DUK | 71.67% | 28.33% | 1.45% |
| 2008 | DUK | 89.11% | 10.89% | 6.07% |
| 2009 | DUK | 83.19% | 16.81% | 4.45% |
| 2010 | DUK | 72.39% | 27.61% | 0.58% |
| 2011 | DUK | 71.74% | 28.26% | -1.92% |
| 2012 | DUK | 81.67% | 18.33% | 2.91% |
| 2013 | DUK | 77.64% | 22.36% | 1.03% |
| 2004 | EIX | 115.94% | -15.94% | 76.47% |
| 2005 | EIX | 30.54% | 69.46% | 0.34% |
| 2006 | EIX | 33.54% | 66.46% | -0.02% |
| 2007 | EIX | 35.54% | 64.46% | 7.91% |
| 2008 | EIX | 33.42% | 66.58% | 2.36% |
| 2009 | EIX | 38.58% | 61.42% | 7.66% |
| 2010 | EIX | 37.91% | 62.09% | 6.15% |
| 2011 | EIX | 39.94% | 60.06% | 5.86% |
| 2012 | EIX | 28.79% | 71.21% | 0.58% |
| 2013 | EIX | 36.24% | 63.76% | -21.63% |
| 2011 | EE | 26.61% | 73.39% | -0.24% |
| 2012 | EE | 42.92% | 57.08% | 1.79% |
| 2013 | EE | 47.73% | 52.27% | -0.57% |

| Date | Ticker | Payout Ratio | Retention Ratio | 5-year Fwd EPS Growth |
|---|---|---|---|---|
| 1997 | ETR | 80.00% | 20.00% | 11.04% |
| 1998 | ETR | 67.57% | 32.43% | 11.36% |
| 1999 | ETR | 53.33% | 46.67% | 12.39% |
| 2000 | ETR | 41.08% | 58.92% | 8.38% |
| 2001 | ETR | 41.56% | 58.44% | 12.01% |
| 2002 | ETR | 36.41% | 63.59% | 9.01% |
| 2003 | ETR | 43.36% | 56.64% | 11.09% |
| 2004 | ETR | 48.09% | 51.91% | 10.12% |
| 2005 | ETR | 49.09% | 50.91% | 8.87% |
| 2006 | ETR | 40.30% | 59.70% | 7.18% |
| 2007 | ETR | 46.07% | 53.93% | 2.23% |
| 2008 | ETR | 48.39% | 51.61% | -3.44% |
| 2009 | ETR | 47.62% | 52.38% | -0.49% |
| 2010 | ETR | 48.65% | 51.35% | -1.50% |
| 2011 | ETR | 43.97% | 56.03% | -0.49% |
| 2012 | ETR | 55.15% | 44.85% | -1.35% |
| 2013 | ETR | 66.94% | 33.06% | 4.83% |
| 2001 | ES | 32.85% | 67.15% | -8.32% |
| 2002 | ES | 49.07% | 50.93% | 14.69% |
| 2003 | ES | 46.77% | 53.23% | 15.13% |
| 2004 | ES | 69.23% | 30.77% | 20.99% |
| 2005 | ES | 69.39% | 30.61% | 21.44% |
| 2006 | ES | 89.02% | 10.98% | 25.85% |
| 2007 | ES | 49.06% | 50.94% | 4.09% |
| 2008 | ES | 44.62% | 55.38% | 7.05% |
| 2009 | ES | 49.74% | 50.26% | 7.23% |
| 2010 | ES | 49.05% | 50.95% | 6.64% |
| 2011 | ES | 49.55% | 50.45% | 6.94% |
| 2012 | ES | 69.84% | 30.16% | 10.93% |
| 2013 | ES | 59.04% | 40.96% | 5.48% |
| 1997 | FE | 77.32% | 22.68% | 6.27% |
| 1998 | FE | 76.92% | 23.08% | -2.26% |
| 1999 | FE | 60.00% | 40.00% | 9.78% |
| 2000 | FE | 55.76% | 44.24% | 8.77% |
| 2001 | FE | 52.82% | 47.18% | 14.56% |
| 2002 | FE | 59.06% | 40.94% | 18.76% |
| 2003 | FE | 102.04% | -2.04% | 27.95% |
| 2004 | FE | 68.95% | 31.05% | 5.42% |
| 2005 | FE | 60.21% | 39.79% | 4.49% |
| 2006 | FE | 48.43% | 51.57% | -10.84% |
| 2007 | FE | 48.58% | 51.42% | -10.27% |
| 2008 | FE | 50.23% | 49.77% | -3.15% |
| 2009 | FE | 66.27% | 33.73% | -12.58% |
| 2010 | FE | 67.69% | 32.31% | 14.90% |
| 2011 | FE | 117.02% | -17.02% | 24.33% |
| 2012 | FE | 103.29% | -3.29% | 27.67% |
| 2013 | FE | 55.56% | 44.44% | 9.53% |

| Date | Ticker | Payout Ratio | Retention Ratio | 5-year Fwd EPS Growth |
|---|---|---|---|---|
| 1996 | HE | 93.08% | 6.92% | 4.99% |
| 1997 | HE | 88.41% | 11.59% | 4.01% |
| 1998 | HE | 83.78% | 16.22% | 2.06% |
| 1999 | HE | 85.52% | 14.48% | -0.31% |
| 2000 | HE | 97.64% | 2.36% | 3.64% |
| 2001 | HE | 77.50% | 22.50% | -3.34% |
| 2002 | HE | 76.54% | 23.46% | -6.90% |
| 2003 | HE | 78.48% | 21.52% | -7.12% |
| 2004 | HE | 91.18% | 8.82% | -7.33% |
| 2005 | HE | 84.93% | 15.07% | -2.21% |
| 2006 | HE | 93.23% | 6.77% | 3.38% |
| 2007 | HE | 111.71% | -11.71% | 9.88% |
| 2008 | HE | 115.89% | -15.89% | 10.00% |
| 2009 | HE | 136.26% | -36.26% | 13.24% |
| 2010 | HE | 102.48% | -2.48% | 4.94% |
| 2011 | HE | 86.11% | 13.89% | 11.67% |
| 2012 | HE | 74.25% | 25.75% | 2.80% |
| 2013 | HE | 76.54% | 23.46% | 5.96% |
| 1996 | IDA | 84.16% | 15.84% | 9.88% |
| 1997 | IDA | 80.17% | 19.83% | -1.38% |
| 1998 | IDA | 78.48% | 21.52% | -10.03% |
| 1999 | IDA | 76.54% | 23.46% | 9.04% |
| 2000 | IDA | 53.14% | 46.86% | -1.34% |
| 2001 | IDA | 55.52% | 44.48% | 6.37% |
| 2002 | IDA | 114.11% | -14.11% | 12.47% |
| 2003 | IDA | 177.08% | -77.08% | 24.13% |
| 2004 | IDA | 63.16% | 36.84% | 8.77% |
| 2005 | IDA | 68.57% | 31.43% | 12.70% |
| 2006 | IDA | 51.06% | 48.94% | 8.62% |
| 2007 | IDA | 64.52% | 35.48% | 12.85% |
| 2008 | IDA | 55.05% | 44.95% | 11.01% |
| 2009 | IDA | 45.45% | 54.55% | 7.94% |
| 2010 | IDA | 40.68% | 59.32% | 5.70% |
| 2011 | IDA | 35.71% | 64.29% | 3.28% |
| 2012 | IDA | 40.65% | 59.35% | 4.59% |
| 2013 | IDA | 43.13% | 56.87% | 4.32% |
| 1998 | MGEE | 93.48% | 6.52% | 4.51% |
| 1999 | MGEE | 87.88% | 12.12% | 3.69% |
| 2000 | MGEE | 79.28% | 20.72% | -0.94% |
| 2001 | MGEE | 82.41% | 17.59% | 5.70% |
| 2002 | MGEE | 78.76% | 21.24% | 6.81% |
| 2003 | MGEE | 78.95% | 21.05% | 7.70% |
| 2004 | MGEE | 77.12% | 22.88% | 5.49% |
| 2005 | MGEE | 87.62% | 12.38% | 10.41% |
| 2006 | MGEE | 67.88% | 32.12% | 5.39% |
| 2007 | MGEE | 62.25% | 37.75% | 4.49% |
| 2008 | MGEE | 60.38% | 39.62% | 6.65% |
| 2009 | MGEE | 65.99% | 34.01% | 9.64% |
| 2010 | MGEE | 59.28% | 40.72% | 4.68% |
| 2011 | MGEE | 57.39% | 42.61% | 4.77% |
| 2012 | MGEE | 55.91% | 44.09% | 3.81% |
| 2013 | MGEE | 49.54% | 50.46% | 2.68% |

| Date | Ticker | Payout Ratio | Retention Ratio | 5-year Fwd EPS Growth |
|---|---|---|---|---|
| 1996 | NEE | 55.26% | 44.74% | 6.82% |
| 1997 | NEE | 53.63% | 46.37% | 2.72% |
| 1998 | NEE | 51.81% | 48.19% | 5.53% |
| 1999 | NEE | 50.98% | 49.02% | 4.48% |
| 2000 | NEE | 52.17% | 47.83% | 3.04% |
| 2001 | NEE | 48.48% | 51.52% | 8.57% |
| 2002 | NEE | 57.71% | 42.29% | 11.41% |
| 2003 | NEE | 48.98% | 51.02% | 11.93% |
| 2004 | NEE | 52.85% | 47.15% | 11.36% |
| 2005 | NEE | 61.21% | 38.79% | 16.37% |
| 2006 | NEE | 46.44% | 53.56% | 8.87% |
| 2007 | NEE | 50.15% | 49.85% | 7.54% |
| 2008 | NEE | 43.73% | 56.27% | 3.83% |
| 2009 | NEE | 47.61% | 52.39% | 7.51% |
| 2010 | NEE | 42.19% | 57.81% | 5.27% |
| 2011 | NEE | 45.64% | 54.36% | 4.01% |
| 2012 | NEE | 52.63% | 47.37% | 7.58% |
| 2013 | NEE | 54.66% | 45.34% | 6.92% |
| 2005 | NWE | 58.48% | 41.52% | 5.90% |
| 2006 | NWE | 94.66% | 5.34% | 14.23% |
| 2007 | NWE | 88.89% | 11.11% | 10.11% |
| 2008 | NWE | 74.58% | 25.42% | 7.29% |
| 2009 | NWE | 66.34% | 33.66% | 8.78% |
| 2010 | NWE | 63.55% | 36.45% | 6.99% |
| 2011 | NWE | 56.92% | 43.08% | 6.72% |
| 2012 | NWE | 65.49% | 34.51% | 8.56% |
| 2013 | NWE | 61.79% | 38.21% | 7.15% |
| 1998 | OGE | 65.69% | 34.31% | -1.39% |
| 1999 | OGE | 69.07% | 30.93% | 0.05% |
| 2000 | OGE | 70.53% | 29.47% | 1.14% |
| 2001 | OGE | 103.08% | -3.08% | 14.19% |
| 2002 | OGE | 93.06% | 6.94% | 13.50% |
| 2003 | OGE | 77.01% | 22.99% | 8.28% |
| 2004 | OGE | 75.28% | 24.72% | 9.10% |
| 2005 | OGE | 72.83% | 27.17% | 10.98% |
| 2006 | OGE | 54.47% | 45.53% | 7.31% |
| 2007 | OGE | 51.52% | 48.48% | 6.54% |
| 2008 | OGE | 56.00% | 44.00% | 9.27% |
| 2009 | OGE | 53.38% | 46.62% | 8.41% |
| 2010 | OGE | 48.67% | 51.33% | 2.92% |
| 2011 | OGE | 43.93% | 56.07% | -0.15% |
| 2012 | OGE | 44.69% | 55.31% | 1.88% |
| 2013 | OGE | 43.81% | 56.19% | 2.29% |

| Date | Ticker | Payout Ratio | Retention Ratio | 5-year Fwd EPS Growth |
|---|---|---|---|---|
| 1996 | OTTR | 72.58% | 27.42% | 6.36% |
| 1997 | OTTR | 72.09% | 27.91% | 6.86% |
| 1998 | OTTR | 74.42% | 25.58% | 3.73% |
| 1999 | OTTR | 68.28% | 31.72% | 1.12% |
| 2000 | OTTR | 63.75% | 36.25% | 2.78% |
| 2001 | OTTR | 61.90% | 38.10% | 0.77% |
| 2002 | OTTR | 59.22% | 40.78% | 0.53% |
| 2003 | OTTR | 71.52% | 28.48% | -4.10% |
| 2004 | OTTR | 73.33% | 26.67% | -10.94% |
| 2005 | OTTR | 62.92% | 37.08% | -23.97% |
| 2006 | OTTR | 68.05% | 31.95% | -19.27% |
| 2007 | OTTR | 65.73% | 34.27% | 6.33% |
| 2008 | OTTR | 109.17% | -9.17% | 20.18% |
| 2009 | OTTR | 167.61% | -67.61% | 29.78% |
| 2010 | OTTR | 313.16% | -213.16% | 39.20% |
| 2011 | OTTR | 264.44% | -164.44% | 36.03% |
| 2012 | OTTR | 113.33% | -13.33% | 12.61% |
| 2013 | OTTR | 86.86% | 13.14% | 8.67% |
| 1996 | PNW | 41.70% | 58.30% | 8.36% |
| 1997 | PNW | 40.94% | 59.06% | -0.24% |
| 1998 | PNW | 43.16% | 56.84% | -0.97% |
| 1999 | PNW | 41.82% | 58.18% | -2.81% |
| 2000 | PNW | 42.69% | 57.31% | -6.52% |
| 2001 | PNW | 41.58% | 58.42% | -0.18% |
| 2002 | PNW | 64.43% | 35.57% | 4.74% |
| 2003 | PNW | 68.65% | 31.35% | -0.86% |
| 2004 | PNW | 70.93% | 29.07% | -0.01% |
| 2005 | PNW | 86.16% | 13.84% | 9.88% |
| 2006 | PNW | 64.04% | 35.96% | 0.99% |
| 2007 | PNW | 70.95% | 29.05% | 5.73% |
| 2008 | PNW | 99.06% | 0.94% | 12.32% |
| 2009 | PNW | 92.92% | 7.08% | 10.56% |
| 2010 | PNW | 68.18% | 31.82% | 5.20% |
| 2011 | PNW | 70.23% | 29.77% | 5.94% |
| 2012 | PNW | 76.29% | 23.71% | 4.96% |
| 2013 | PNW | 60.93% | 39.07% | 4.54% |
| 1996 | PNM | 20.87% | 79.13% | 20.65% |
| 1997 | PNM | 33.60% | 66.40% | 7.11% |
| 1998 | PNM | 34.00% | 66.00% | 4.60% |
| 1999 | PNM | 41.09% | 58.91% | 12.27% |
| 2000 | PNM | 34.19% | 65.81% | 10.06% |
| 2001 | PNM | 20.31% | 79.69% | -1.57% |
| 2002 | PNM | 53.27% | 46.73% | -0.93% |
| 2003 | PNM | 53.04% | 46.96% | -19.53% |
| 2004 | PNM | 44.06% | 55.94% | 61.06% |
| 2005 | PNM | 50.64% | 49.36% | 69.24% |
| 2006 | PNM | 50.00% | 50.00% | 72.01% |
| 2007 | PNM | 119.74% | -19.74% | 87.44% |
| 2008 | PNM | 554.55% | -454.55% | 106.07% |
| 2009 | PNM | 86.21% | 13.79% | 21.18% |
| 2010 | PNM | 57.47% | 42.53% | 13.80% |
| 2011 | PNM | 46.30% | 53.70% | 9.10% |
| 2012 | PNM | 44.27% | 55.73% | 8.11% |
| 2013 | PNM | 48.23% | 51.77% | 3.87% |

| Date | Ticker | Payout Ratio | Retention Ratio | 5-year Fwd EPS Growth |
|---|---|---|---|---|
| 2006 | POR | 59.65% | 40.35% | 20.49% |
| 2007 | POR | 39.91% | 60.09% | -1.20% |
| 2008 | POR | 69.78% | 30.22% | 5.80% |
| 2009 | POR | 77.10% | 22.90% | 11.58% |
| 2010 | POR | 62.65% | 37.35% | 4.95% |
| 2011 | POR | 54.36% | 45.64% | 2.63% |
| 2012 | POR | 57.75% | 42.25% | 4.66% |
| 2013 | POR | 62.15% | 37.85% | 6.43% |
| 1997 | PEG | 89.26% | 10.74% | 9.36% |
| 1998 | PEG | 77.14% | 22.86% | 6.22% |
| 1999 | PEG | 69.23% | 30.77% | 0.10% |
| 2000 | PEG | 60.67% | 39.33% | 0.83% |
| 2001 | PEG | 58.38% | 41.62% | 0.72% |
| 2002 | PEG | 57.45% | 42.55% | 8.39% |
| 2003 | PEG | 57.45% | 42.55% | 10.79% |
| 2004 | PEG | 72.37% | 27.63% | 15.86% |
| 2005 | PEG | 62.57% | 37.43% | 12.24% |
| 2006 | PEG | 61.62% | 38.38% | 11.83% |
| 2007 | PEG | 45.17% | 54.83% | -0.48% |
| 2008 | PEG | 44.48% | 55.52% | -2.79% |
| 2009 | PEG | 43.18% | 56.82% | 0.38% |
| 2010 | PEG | 44.63% | 55.37% | 2.52% |
| 2011 | PEG | 44.05% | 55.95% | -0.59% |
| 2012 | PEG | 58.20% | 41.80% | 3.64% |
| 2013 | PEG | 58.78% | 41.22% | 3.14% |
| 1996 | SRE | 78.79% | 21.21% | 9.85% |
| 1997 | SRE | 70.91% | 29.09% | 9.51% |
| 1998 | SRE | 125.81% | -25.81% | 19.81% |
| 1999 | SRE | 93.98% | 6.02% | 19.15% |
| 2000 | SRE | 48.54% | 51.46% | 12.24% |
| 2001 | SRE | 39.22% | 60.78% | 11.52% |
| 2002 | SRE | 35.84% | 64.16% | 9.78% |
| 2003 | SRE | 33.22% | 66.78% | 9.00% |
| 2004 | SRE | 25.45% | 74.55% | 4.47% |
| 2005 | SRE | 32.95% | 67.05% | 3.37% |
| 2006 | SRE | 28.37% | 71.63% | 1.58% |
| 2007 | SRE | 29.11% | 70.89% | 0.90% |
| 2008 | SRE | 30.93% | 69.07% | -0.50% |
| 2009 | SRE | 32.64% | 67.36% | -0.13% |
| 2010 | SRE | 38.81% | 61.19% | 5.64% |
| 2011 | SRE | 42.95% | 57.05% | -0.39% |
| 2012 | SRE | 55.17% | 44.83% | 1.99% |
| 2013 | SRE | 59.72% | 40.28% | 6.26% |

| Date | Ticker | Payout Ratio | Retention Ratio | 5-year Fwd EPS Growth |
|---|---|---|---|---|
| 1996 | SO | 75.00% | 25.00% | -0.15% |
| 1997 | SO | 82.28% | 17.72% | 4.02% |
| 1998 | SO | 77.46% | 22.54% | 3.42% |
| 1999 | SO | 73.22% | 26.78% | 3.18% |
| 2000 | SO | 66.67% | 33.33% | 1.89% |
| 2001 | SO | 83.23% | 16.77% | 5.59% |
| 2002 | SO | 73.51% | 26.49% | 4.32% |
| 2003 | SO | 70.56% | 29.44% | 2.76% |
| 2004 | SO | 68.93% | 31.07% | 2.47% |
| 2005 | SO | 69.48% | 30.52% | 2.14% |
| 2006 | SO | 73.33% | 26.67% | 4.03% |
| 2007 | SO | 70.18% | 29.82% | 3.26% |
| 2008 | SO | 73.78% | 26.22% | 3.74% |
| 2009 | SO | 74.57% | 25.43% | 3.64% |
| 2010 | SO | 76.27% | 23.73% | 3.80% |
| 2011 | SO | 73.33% | 26.67% | 2.12% |
| 2012 | SO | 72.66% | 27.34% | 3.86% |
| 2013 | SO | 74.44% | 25.56% | 2.33% |
| 1996 | WEC | 75.76% | 24.24% | 35.15% |
| 1997 | WEC | 285.19% | -185.19% | 54.91% |
| 1998 | WEC | 93.98% | 6.02% | 12.91% |
| 1999 | WEC | 82.98% | 17.02% | 6.72% |
| 2000 | WEC | 127.78% | -27.78% | 22.76% |
| 2001 | WEC | 43.48% | 56.52% | 9.31% |
| 2002 | WEC | 34.48% | 65.52% | 5.61% |
| 2003 | WEC | 35.40% | 64.60% | 7.54% |
| 2004 | WEC | 45.16% | 54.84% | 12.13% |
| 2005 | WEC | 34.38% | 65.63% | 8.60% |
| 2006 | WEC | 34.85% | 65.15% | 10.68% |
| 2007 | WEC | 35.21% | 64.79% | 10.73% |
| 2008 | WEC | 35.53% | 64.47% | 10.68% |
| 2009 | WEC | 42.50% | 57.50% | 10.27% |
| 2010 | WEC | 41.67% | 58.33% | 4.34% |
| 2011 | WEC | 47.71% | 52.29% | 6.93% |
| 2012 | WEC | 51.06% | 48.94% | 6.58% |
| 2013 | WEC | 57.77% | 42.23% | 6.50% |
| 1996 | XEL | 71.73% | 28.27% | 6.01% |
| 1997 | XEL | 86.96% | 13.04% | -7.15% |
| 1998 | XEL | 77.72% | 22.28% | 28.57% |
| 1999 | XEL | 101.40% | -1.40% | 33.67% |
| 2000 | XEL | 92.50% | 7.50% | 30.19% |
| 2001 | XEL | 66.08% | 33.92% | 24.32% |
| 2002 | XEL | 269.05% | -169.05% | 40.62% |
| 2003 | XEL | 60.98% | 39.02% | 3.68% |
| 2004 | XEL | 63.78% | 36.22% | 3.44% |
| 2005 | XEL | 70.83% | 29.17% | 5.48% |
| 2006 | XEL | 65.19% | 34.81% | 5.03% |
| 2007 | XEL | 67.41% | 32.59% | 6.54% |
| 2008 | XEL | 64.38% | 35.62% | 5.56% |
| 2009 | XEL | 65.10% | 34.90% | 6.41% |
| 2010 | XEL | 64.10% | 35.90% | 6.16% |
| 2011 | XEL | 59.88% | 40.12% | 5.15% |
| 2012 | XEL | 57.84% | 42.16% | 4.46% |
| 2013 | XEL | 58.12% | 41.88% | 5.29% |

Retention Ratio Regression Analysis - Mr. O'Donnell's Proxy Group

Source: Value Line

| Company | Ticker | | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | Earnings Per Share | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1.35 | 2.48 | 2.77 | 3.08 | 2.82 | 1.89 | 2.19 | 2.65 | 2.58 | 2.63 | 2.9 | 3.38 | 3.14 | 3.13 | 3.38 |
| | | Dividends Per Share | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0.30 | 1.25 | 1.45 | 1.64 | 1.72 | 1.76 | 1.76 | 1.78 | 1.84 | 1.9 | 1.96 | 2.02 | 2.08 | 2.14 | 2.24 |
| | | Payout Ratio | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 22.22% | 50.40% | 52.35% | 53.25% | 60.99% | 93.12% | 80.37% | 67.17% | 71.32% | 72.24% | 67.59% | 59.76% | 66.24% | 68.37% | 66.27% |
| | | Annual Earnings Growth | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 83.70% | 11.69% | 11.19% | -8.44% | -32.98% | 15.87% | 21.00% | -2.64% | 1.94% | 10.27% | 16.55% | -7.10% | -0.32% | 7.99% |
| | | 5yr Avg Fwd EPS Growth | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 13.03% | -0.53% | 1.33% | -1.44% | 0.64% | 9.29% | 9.42% | 3.80% | 4.27% | 5.48% | N/A | N/A | N/A | N/A | N/A |
| Alliant Energy Corporation | LNT | Earnings Per Share | 1.14 | 0.95 | 0.63 | 1.10 | 1.24 | 1.21 | 0.59 | 0.79 | 0.93 | 1.11 | 1.03 | 1.35 | 1.27 | 0.95 | 1.38 | 1.38 | 1.53 | 1.65 | 1.74 | 1.69 | 1.65 | 1.99 | 2.19 |
| | | Dividends Per Share | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.50 | 0.51 | 0.53 | 0.58 | 0.64 | 0.70 | 0.75 | 0.79 | 0.85 | 0.90 | 0.94 | 1.02 | 1.10 | 1.18 | 1.26 | 1.34 |
| | | Payout Ratio | 86.78% | 105.26% | 158.73% | 91.32% | 80.97% | 82.64% | 169.49% | 63.69% | 55.14% | 47.51% | 55.83% | 47.21% | 55.12% | 78.95% | 57.45% | 61.82% | 59.02% | 56.97% | 58.62% | 65.09% | 71.52% | 63.32% | 61.19% |
| | | Annual Earnings Growth | N/A | -16.30% | -33.68% | 73.81% | 12.79% | -2.02% | -51.24% | 33.05% | 17.83% | 19.46% | -6.79% | 30.58% | -5.58% | -25.20% | 44.74% | 0.00% | 10.91% | 8.20% | 5.45% | -2.87% | -2.37% | 20.61% | 10.05% |
| | | 5yr Avg Fwd EPS Growth | 6.92% | -0.07% | 13.28% | 2.08% | 3.42% | 2.46% | 18.83% | 11.10% | 2.50% | 7.55% | 8.91% | 4.97% | 7.73% | 13.86% | 4.34% | 3.86% | 5.80% | 6.17% | N/A | N/A | N/A | N/A | N/A |
| Ameren Corporation | AEE | Earnings Per Share | 2.86 | 2.44 | 2.82 | 2.81 | 3.33 | 3.41 | 2.66 | 3.14 | 2.82 | 3.13 | 2.66 | 2.98 | 2.88 | 2.78 | 2.77 | 2.47 | 2.41 | 2.10 | 2.40 | 2.38 | 2.68 | 2.77 | 3.32 |
| | | Dividends Per Share | 2.51 | 2.54 | 2.54 | 2.54 | 2.54 | 2.54 | 2.54 | 2.54 | 2.54 | 2.54 | 2.54 | 2.54 | 2.54 | 1.54 | 1.54 | 1.56 | 1.60 | 1.60 | 1.61 | 1.66 | 1.72 | 1.78 | 1.85 |
| | | Payout Ratio | 87.76% | 104.10% | 90.07% | 90.39% | 76.28% | 74.49% | 95.49% | 80.89% | 90.07% | 81.15% | 95.49% | 85.23% | 88.19% | 55.40% | 55.60% | 63.16% | 66.39% | 76.19% | 67.08% | 69.75% | 64.18% | 64.26% | 55.72% |
| | | Annual Earnings Growth | N/A | -14.69% | 15.57% | -0.35% | 18.51% | 2.40% | -21.99% | 18.05% | -10.19% | 10.99% | -15.02% | 12.03% | -3.36% | -3.47% | -0.36% | -10.83% | -2.43% | -12.86% | 14.29% | -0.83% | 12.61% | 3.36% | 19.86% |
| | | 5yr Avg Fwd EPS Growth | 4.29% | 2.83% | 3.32% | 1.35% | -0.15% | -3.63% | 3.17% | -1.11% | 0.24% | -2.03% | -1.20% | -4.09% | -5.99% | -2.44% | -2.53% | 2.15% | 3.31% | 9.85% | N/A | N/A | N/A | N/A | N/A |
| American Electric Power Company, Inc. | AEP | Earnings Per Share | 3.14 | 3.28 | 2.81 | 2.69 | 1.04 | 3.27 | 2.86 | 2.53 | 2.61 | 2.64 | 2.86 | 2.86 | 2.99 | 2.97 | 2.60 | 3.13 | 2.98 | 3.18 | 3.34 | 3.59 | 4.23 | 3.62 | 3.90 |
| | | Dividends Per Share | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 | 1.65 | 1.40 | 1.42 | 1.50 | 1.58 | 1.64 | 1.64 | 1.71 | 1.85 | 1.88 | 1.95 | 2.03 | 2.15 | 2.27 | 2.39 | 2.53 |
| | | Payout Ratio | 76.43% | 73.17% | 85.41% | 89.22% | 230.77% | 73.39% | 83.92% | 65.22% | 53.64% | 53.79% | 52.45% | 55.24% | 54.85% | 55.22% | 65.77% | 59.11% | 63.09% | 61.32% | 60.78% | 59.89% | 53.66% | 66.02% | 64.87% |
| | | Annual Earnings Growth | N/A | 4.46% | -14.33% | -4.27% | -61.34% | 214.42% | -12.54% | -11.54% | 3.16% | 1.15% | 8.33% | 0.00% | 4.55% | -0.67% | -12.46% | 20.38% | -4.79% | 6.71% | 5.03% | 7.49% | 17.83% | -14.42% | 7.73% |
| | | 5yr Avg Fwd EPS Growth | 27.79% | 24.39% | 24.95% | 26.43% | 38.93% | -2.29% | 0.22% | 3.44% | 2.67% | -0.05% | 2.36% | 1.40% | 1.84% | 2.98% | 6.96% | 6.45% | 4.53% | 4.73% | N/A | N/A | N/A | N/A | N/A |
| CMS Energy Corporation | CMS | Earnings Per Share | 2.45 | 2.61 | 2.24 | 2.85 | 2.53 | 1.27 | -2.99 | -0.29 | 0.74 | 1.1 | 0.64 | 0.64 | 1.23 | 0.93 | 1.33 | 1.45 | 1.53 | 1.66 | 1.74 | 1.89 | 1.98 | 2.17 | 2.32 |
| | | Dividends Per Share | 1.02 | 1.14 | 1.26 | 1.39 | 1.46 | 1.46 | 1.09 | N/A | N/A | N/A | N/A | 0.2 | 0.36 | 0.5 | 0.66 | 0.84 | 0.96 | 1.02 | 1.08 | 1.16 | 1.24 | 1.33 | 1.43 |
| | | Payout Ratio | 41.63% | 43.68% | 56.25% | 48.77% | 57.71% | 114.96% | N/A | N/A | N/A | N/A | N/A | 31.25% | 29.27% | 53.76% | 49.62% | 57.93% | 62.75% | 61.45% | 62.07% | 61.38% | 62.63% | 61.29% | 61.64% |
| | | Annual Earnings Growth | N/A | 6.53% | -14.18% | 27.23% | -11.23% | -49.80% | -335.43% | -90.30% | -355.17% | 48.65% | -41.82% | 0.00% | 92.19% | -24.39% | 43.01% | 9.02% | 5.52% | 8.50% | 4.82% | 8.62% | 4.76% | 9.60% | 6.91% |
| | | 5yr Avg Fwd EPS Growth | -8.29% | -76.68% | -91.91% | -168.39% | -156.41% | -154.82% | -87.73% | -51.23% | 14.93% | 13.80% | 23.97% | 25.07% | 8.33% | 14.17% | 7.30% | 6.44% | 7.26% | 6.94% | N/A | N/A | N/A | N/A | N/A |
| Consolidated Edison, Inc. | ED | Earnings Per Share | N/A | 2.95 | 3.04 | 3.13 | 2.74 | 3.21 | 3.13 | 2.83 | 2.32 | 2.99 | 2.95 | 3.48 | 3.36 | 3.14 | 3.47 | 3.57 | 3.86 | 3.93 | 3.62 | 4.05 | 3.94 | 4.10 | 4.55 |
| | | Dividends Per Share | N/A | 2.10 | 2.12 | 2.14 | 2.18 | 2.20 | 2.22 | 2.24 | 2.26 | 2.28 | 2.30 | 2.32 | 2.34 | 2.36 | 2.38 | 2.40 | 2.42 | 2.46 | 2.52 | 2.60 | 2.68 | 2.76 | 2.86 |
| | | Payout Ratio | N/A | 71.19% | 69.74% | 68.37% | 79.56% | 68.54% | 70.93% | 79.15% | 97.41% | 76.25% | 77.97% | 66.67% | 69.64% | 75.16% | 68.59% | 67.23% | 62.69% | 62.60% | 69.61% | 64.20% | 68.02% | 67.32% | 62.86% |
| | | Return on Common Equity | N/A | N/A | 3.05% | 2.96% | -12.46% | 17.15% | -2.49% | -9.58% | -18.02% | 28.88% | -1.34% | 17.97% | -3.45% | -6.55% | 10.51% | 2.88% | 8.12% | 1.81% | -7.89% | 11.88% | -2.72% | 4.06% | 10.98% |
| | | 5yr Avg Fwd EPS Growth | N/A | 1.64% | -0.88% | -5.08% | 3.19% | -0.51% | 3.58% | 4.81% | 7.10% | 3.43% | 4.27% | 2.30% | 3.36% | 3.09% | 3.36% | 2.24% | 1.43% | 3.26% | N/A | N/A | N/A | N/A | N/A |
| Dominion Energy Inc | D | Earnings Per Share | N/A | 1.50 | 0.86 | 1.50 | 1.25 | 1.49 | 2.41 | 1.96 | 2.13 | 1.50 | 2.40 | 2.13 | 3.04 | 2.64 | 2.89 | 2.76 | 2.75 | 3.09 | 3.05 | 3.20 | 3.44 | 3.53 | 3.25 |
| | | Dividends Per Share | N/A | 1.29 | 1.29 | 1.29 | 1.29 | 1.29 | 1.29 | 1.29 | 1.30 | 1.34 | 1.38 | 1.46 | 1.58 | 1.75 | 1.83 | 1.97 | 2.11 | 2.25 | 2.40 | 2.59 | 2.80 | 3.04 | 3.34 |
| | | Payout Ratio | N/A | 86.00% | 150.00% | 86.00% | 103.20% | 86.58% | 53.53% | 65.82% | 61.03% | 89.33% | 57.50% | 68.54% | 51.97% | 66.29% | 63.32% | 71.38% | 76.73% | 72.82% | 78.69% | 80.94% | 81.40% | 86.12% | 102.77% |
| | | Annual Earnings Growth | N/A | N/A | -42.67% | 74.42% | -16.67% | 19.20% | 61.74% | -18.67% | 8.67% | -29.58% | 60.00% | -11.25% | 42.72% | -13.16% | 9.47% | -4.50% | -0.36% | 12.36% | -1.29% | 4.92% | 7.50% | 2.62% | -7.93% |
| | | 5yr Avg Fwd EPS Growth | N/A | 19.21% | 24.00% | 10.86% | 8.27% | 16.43% | 1.83% | 14.11% | 9.75% | 17.56% | 4.66% | 6.83% | 0.76% | 3.14% | 2.23% | 4.62% | 5.22% | 1.16% | N/A | N/A | N/A | N/A | N/A |
| Duke Energy Corporation | DUK | Earnings Per Share | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.76 | 3.6 | 3.03 | 3.39 | 4.02 | 4.14 | 3.71 | 3.98 | 4.13 | 4.1 | 3.71 | 4.22 | 4.13 |
| | | Dividends Per Share | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.58 | 2.7 | 2.82 | 2.91 | 2.97 | 3.03 | 3.09 | 3.15 | 3.24 | 3.36 | 3.49 | 3.64 |
| | | Payout Ratio | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 71.67% | 89.11% | 83.19% | 72.39% | 71.74% | 81.67% | 77.64% | 76.27% | 79.02% | 90.57% | 82.70% | 88.14% |
| | | Annual Earnings Growth | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 30.43% | -15.83% | 11.88% | 18.58% | 2.99% | -10.39% | 7.28% | 3.77% | -0.73% | -9.51% | 13.75% | -2.13% |
| | | 5yr Avg Fwd EPS Growth | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 9.61% | 1.45% | 6.07% | 4.45% | 0.58% | -1.92% | 2.91% | 1.03% | N/A | N/A | N/A | N/A | N/A |
| Edison International | EIX | Earnings Per Share | 1.64 | 1.75 | 1.86 | 2.03 | NA | 1.30 | 1.82 | 2.38 | 0.69 | 3.34 | 3.28 | 3.32 | 3.68 | 3.24 | 3.35 | 3.23 | 4.55 | 3.78 | 4.33 | 4.15 | 3.94 | 4.51 | -1.26 |
| | | Dividends Per Share | 1.00 | 1.00 | 1.04 | 1.08 | 0.83 | N/A | N/A | N/A | 0.80 | 1.02 | 1.10 | 1.18 | 1.23 | 1.25 | 1.27 | 1.29 | 1.31 | 1.37 | 1.48 | 1.73 | 1.98 | 2.23 | 2.43 |
| | | Payout Ratio | 60.98% | 57.14% | 55.91% | 53.20% | N/A | N/A | N/A | N/A | 115.94% | 30.54% | 33.54% | 35.54% | 33.42% | 38.58% | 37.91% | 39.94% | 28.79% | 36.24% | 34.18% | 41.69% | 50.25% | 49.45% | N/A |
| | | Return on Common Equity | N/A | 6.71% | 6.29% | 9.14% | N/A | N/A | 40.00% | 30.77% | -71.01% | 384.06% | -1.80% | 1.22% | 10.84% | -11.96% | 3.40% | -3.58% | 40.87% | -16.92% | 14.55% | -4.16% | -5.06% | 14.47% | -127.94% |
| | | 5yr Avg Fwd EPS Growth | N/A | N/A | N/A | N/A | N/A | 76.40% | 68.65% | 64.66% | 76.47% | 0.34% | -0.02% | 7.91% | 2.36% | 7.66% | 6.15% | 5.86% | 0.58% | -21.63% | N/A | N/A | N/A | N/A | N/A |
| El Paso Electric Company | EE | Earnings Per Share | 0.52 | 0.61 | 0.70 | 0.86 | 1.09 | 1.27 | 0.57 | 0.64 | 0.69 | 0.76 | 1.27 | 1.63 | 1.73 | 1.50 | 2.07 | 2.48 | 2.26 | 2.20 | 2.27 | 2.03 | 2.39 | 2.42 | 2.07 |
| | | Dividends Per Share | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0.66 | 0.97 | 1.05 | 1.11 | 1.17 | 1.23 | 1.32 | 1.42 |
| | | Payout Ratio | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 26.61% | 42.92% | 47.73% | 48.90% | 57.64% | 51.46% | 54.55% | 68.60% |
| | | Return on Common Equity | N/A | 17.31% | 14.75% | 22.86% | 26.74% | 16.51% | -55.12% | 12.28% | 7.81% | 10.14% | 67.11% | 28.35% | 6.13% | -13.29% | 38.00% | 19.81% | -8.87% | -2.65% | 3.18% | -10.57% | 17.73% | 1.26% | -14.46% |
| | | 5yr Avg Fwd EPS Growth | 19.64% | 5.15% | 4.66% | 1.65% | -1.67% | 8.45% | 25.14% | 23.91% | 19.69% | 25.26% | 15.80% | 8.36% | 6.60% | 9.89% | 0.18% | -0.24% | 1.79% | -0.57% | N/A | N/A | N/A | N/A | N/A |
| Entergy Corporation | ETR | Earnings Per Share | N/A | 2.25 | 2.22 | 2.25 | 2.97 | 3.08 | 3.68 | 3.69 | 3.93 | 4.40 | 5.36 | 5.60 | 6.20 | 6.30 | 6.66 | 7.55 | 6.02 | 4.96 | 5.77 | 5.81 | 6.88 | 5.19 | 5.88 |
| | | Dividends Per Share | N/A | 1.80 | 1.50 | 1.20 | 1.22 | 1.28 | 1.34 | 1.60 | 1.89 | 2.16 | 2.16 | 2.58 | 3.00 | 3.00 | 3.24 | 3.32 | 3.32 | 3.32 | 3.32 | 3.34 | 3.42 | 3.50 | 3.58 |
| | | Payout Ratio | N/A | 80.00% | 67.57% | 53.33% | 41.08% | 41.56% | 36.41% | 43.36% | 48.09% | 49.09% | 40.30% | 46.07% | 48.39% | 47.62% | 48.65% | 43.97% | 55.15% | 66.94% | 57.54% | 57.49% | 49.71% | 67.44% | 60.88% |
| | | Return on Common Equity | N/A | N/A | -1.33% | 1.35% | 32.00% | 3.70% | 19.48% | 0.27% | 6.50% | 11.96% | 21.82% | 4.48% | 10.71% | 1.61% | 5.71% | 13.36% | -20.26% | -17.61% | 16.33% | 0.69% | 18.42% | -24.56% | 13.29% |
| | | 5yr Avg Fwd EPS Growth | N/A | 11.04% | 11.36% | 12.39% | 8.38% | 12.01% | 9.01% | 11.09% | 10.12% | 8.87% | 7.18% | 2.23% | -3.44% | -0.49% | -1.50% | -0.49% | -1.35% | 4.83% | N/A | N/A | N/A | N/A | N/A |
| Eversource Energy | ES | Earnings Per Share | N/A | -1.05 | -0.36 | -1.14 | -0.20 | 1.37 | 1.08 | 1.24 | 0.91 | 0.98 | 0.82 | 1.59 | 1.86 | 1.91 | 2.10 | 2.22 | 1.89 | 2.49 | 2.58 | 2.76 | 2.96 | 3.11 | 3.25 |
| | | Dividends Per Share | N/A | 0.25 | N/A | 0.10 | 0.40 | 0.45 | 0.53 | 0.58 | 0.63 | 0.68 | 0.73 | 0.78 | 0.83 | 0.95 | 1.03 | 1.10 | 1.32 | 1.47 | 1.57 | 1.67 | 1.78 | 1.90 | 2.02 |
| | | Payout Ratio | N/A | N/A | N/A | N/A | N/A | 32.85% | 49.07% | 46.77% | 69.23% | 69.39% | 89.02% | 49.06% | 44.62% | 49.74% | 49.05% | 49.55% | 69.84% | 59.04% | 60.85% | 60.51% | 60.14% | 61.09% | 62.15% |
| | | Return on Common Equity | N/A | N/A | -65.71% | 216.67% | -82.46% | -785.00% | -21.17% | 14.81% | -26.61% | 7.69% | -16.33% | 93.90% | 16.98% | 2.69% | 9.95% | 5.71% | -14.86% | 31.75% | 3.61% | 6.98% | 7.25% | 5.07% | 4.50% |
| | | 5yr Avg Fwd EPS Growth | N/A | -147.53% | -131.43% | -180.08% | -162.05% | -8.32% | 14.69% | 15.13% | 20.99% | 21.44% | 25.85% | 4.09% | 7.05% | 7.23% | 6.64% | 6.94% | 10.93% | 5.48% | N/A | N/A | N/A | N/A | N/A |
| FirstEnergy Corp. | FE | Earnings Per Share | N/A | 1.94 | 1.95 | 2.50 | 2.69 | 2.84 | 2.54 | 1.47 | 2.77 | 2.84 | 3.82 | 4.22 | 4.38 | 3.32 | 3.25 | 1.88 | 2.13 | 2.97 | 0.85 | 2.00 | 2.10 | 2.73 | 1.33 |
| | | Dividends Per Share | N/A | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.91 | 1.71 | 1.85 | 2.05 | 2.20 | 2.20 | 2.20 | 2.20 | 2.20 | 1.65 | 1.44 | 1.44 | 1.44 | 1.44 | 1.82 |
| | | Payout Ratio | N/A | 77.32% | 76.92% | 60.00% | 55.76% | 52.82% | 59.06% | 102.04% | 68.95% | 60.21% | 48.43% | 48.58% | 50.23% | 66.27% | 67.69% | 117.02% | 103.29% | 55.56% | 169.41% | 72.00% | 68.57% | 52.75% | 136.84% |
| | | Annual Earnings Growth | N/A | N/A | 0.52% | 28.21% | 7.60% | 5.58% | -10.56% | -42.13% | 88.44% | 2.53% | 34.51% | 10.47% | 3.79% | -24.20% | -2.11% | -42.15% | 13.30% | 39.44% | -71.38% | 135.29% | 5.00% | 30.00% | -51.28% |
| | | 5yr Avg Fwd EPS Growth | N/A | 6.27% | -2.26% | 9.78% | 8.77% | 14.56% | 18.76% | 27.95% | 5.42% | 4.49% | -10.84% | -10.27% | -3.15% | -12.58% | 14.90% | 24.33% | 27.67% | 9.53% | N/A | N/A | N/A | N/A | N/A |
| Hawaiian Electric Industries, Inc. | HE | Earnings Per Share | 1.30 | 1.38 | 1.48 | 1.45 | 1.27 | 1.60 | 1.62 | 1.58 | 1.36 | 1.46 | 1.33 | 1.11 | 1.07 | 0.91 | 1.21 | 1.44 | 1.67 | 1.62 | 1.64 | 1.50 | 2.29 | 1.64 | 1.85 |
| | | Dividends Per Share | 1.21 | 1.22 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 |
| | | Payout Ratio | 93.08% | 88.41% | 83.78% | 85.52% | 97.64% | 77.50% | 76.54% | 78.48% | 91.18% | 84.93% | 93.23% | 111.71% | 115.89% | 136.26% | 102.48% | 86.11% | 74.25% | 76.54% | 75.61% | 82.67% | 54.15% | 75.61% | 67.03% |
| | | Annual Earnings Growth | N/A | 6.15% | 7.25% | -2.03% | -12.41% | 25.98% | 1.25% | -2.47% | -13.92% | 7.35% | -8.90% | -16.54% | -3.60% | -14.95% | 32.97% | 19.01% | 15.97% | -2.99% | 1.23% | -8.54% | 52.67% | -28.38% | 12.80% |
| | | 5yr Avg Fwd EPS Growth | 4.99% | 4.01% | 2.06% | -0.31% | 3.64% | -3.34% | -6.90% | -7.12% | -7.33% | -2.21% | 3.38% | 9.88% | 10.00% | 13.24% | 4.94% | 11.67% | 2.80% | 5.96% | N/A | N/A | N/A | N/A | N/A |
| IDACORP, Inc. | IDA | Earnings Per Share | 2.21 | 2.32 | 2.37 | 2.43 | 3.50 | 3.35 | 1.63 | 0.96 | 1.90 | 1.75 | 2.35 | 1.86 | 2.18 | 2.64 | 2.95 | 3.36 | 3.37 | 3.64 | 3.85 | 3.87 | 3.94 | 4.21 | 4.49 |
| | | Dividends Per Share | 1.86 | 1.86 | 1.86 | 1.86 | 1.86 | 1.86 | 1.86 | 1.70 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.37 | 1.57 | 1.76 | 1.92 | 2.08 | 2.24 | 2.40 |
| | | Payout Ratio | 84.16% | 80.17% | 78.48% | 76.54% | 53.14% | 55.52% | 114.11% | 177.08% | 63.16% | 68.57% | 51.06% | 64.52% | 55.05% | 45.45% | 40.68% | 35.71% | 40.65% | 43.13% | 45.71% | 49.61% | 52.79% | 53.21% | 53.45% |
| | | Return on Common Equity | N/A | 4.98% | 2.16% | 2.53% | 44.03% | -4.29% | -51.34% | -41.10% | 97.92% | -7.89% | 34.29% | -20.85% | 17.20% | 21.10% | 11.74% | 13.90% | 0.30% | 8.01% | 5.77% | 0.52% | 1.81% | 6.85% | 6.65% |
| | | 5yr Avg Fwd EPS Growth | 9.88% | -1.38% | -10.03% | 9.04% | -1.34% | 6.37% | 12.47% | 24.13% | 8.77% | 12.70% | 8.62% | 12.85% | 11.01% | 7.94% | 5.70% | 3.28% | 4.59% | 4.32% | N/A | N/A | N/A | N/A | N/A |
| MGE Energy, Inc. | MGEE | Earnings Per Share | N/A | N/A | 0.92 | 0.99 | 1.11 | 1.08 | 1.13 | 1.14 | 1.18 | 1.05 | 1.37 | 1.51 | 1.59 | 1.47 | 1.67 | 1.76 | 1.86 | 2.16 | 2.32 | 2.06 | 2.18 | 2.20 | 2.43 |
| | | Dividends Per Share | N/A | N/A | 0.86 | 0.87 | 0.88 | 0.89 | 0.89 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.96 | 0.97 | 0.99 | 1.01 | 1.04 | 1.07 | 1.11 | 1.16 | 1.21 | 1.26 | 1.32 |
| | | Payout Ratio | N/A | N/A | 93.48% | 87.88% | 79.28% | 82.41% | 78.76% | 78.95% | 77.12% | 87.62% | 67.88% | 62.25% | 60.38% | 65.99% | 59.28% | 57.39% | 55.91% | 49.54% | 47.84% | 56.31% | 55.50% | 57.27% | 54.32% |
| | | Return on Common Equity | N/A | N/A | N/A | 7.61% | 12.12% | -2.70% | 4.63% | 0.88% | 3.51% | -11.02% | 30.48% | 10.22% | 5.30% | -7.55% | 13.61% | 5.39% | 5.68% | 16.13% | 7.41% | -11.21% | 5.83% | 0.92% | 10.45% |
| | | 5yr Avg Fwd EPS Growth | N/A | N/A | 4.51% | 3.69% | -0.94% | 5.70% | 6.81% | 7.70% | 5.49% | 10.41% | 5.39% | 4.49% | 6.65% | 9.64% | 4.68% | 4.77% | 3.81% | 2.68% | N/A | N/A | N/A | N/A | N/A |
| Nextera Energy Inc. | NEE | Earnings Per Share | 1.67 | 1.79 | 1.93 | 2.04 | 2.07 | 2.31 | 2.01 | 2.45 | 2.46 | 2.32 | 3.23 | 3.27 | 4.07 | 3.97 | 4.74 | 4.82 | 4.56 | 4.83 | 5.60 | 6.06 | 5.78 | 6.50 | 6.67 |
| | | Dividends Per Share | 0.92 | 0.96 | 1.00 | 1.04 | 1.08 | 1.12 | 1.16 | 1.20 | 1.30 | 1.42 | 1.50 | 1.64 | 1.78 | 1.89 | 2.00 | 2.20 | 2.40 | 2.64 | 2.90 | 3.08 | 3.48 | 3.93 | 4.44 |
| | | Payout Ratio | 55.26% | 53.63% | 51.81% | 50.98% | 52.17% | 48.48% | 57.71% | 48.98% | 52.85% | 61.21% | 46.44% | 50.15% | 43.73% | 47.61% | 42.19% | 45.64% | 52.63% | 54.66% | 51.79% | 50.83% | 60.21% | 60.46% | 66.57% |
| | | Annual Earnings Growth | N/A | 7.51% | 7.82% | 5.70% | 1.47% | 11.59% | -12.99% | 21.89% | 0.41% | -5.69% | 39.22% | 1.24% | 24.46% | -2.46% | 19.40% | 1.69% | -5.39% | 5.92% | 15.94% | 8.21% | -4.62% | 12.46% | 2.62% |
| | | 5yr Avg Fwd EPS Growth | 6.82% | 2.72% | 5.53% | 4.48% | 3.04% | 8.57% | 11.41% | 11.93% | 11.36% | 16.37% | 8.87% | 7.54% | 3.83% | 7.51% | 5.27% | 4.01% | 7.58% | 6.92% | N/A | N/A | N/A | N/A | N/A |
| NorthWestern Corporation | NWE | Earnings Per Share | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | -14.32 | 1.71 | 1.31 | 1.44 | 1.77 | 2.02 | 2.14 | 2.53 | 2.26 | 2.46 | 2.99 | 2.9 | 3.39 | 3.34 | 3.4 |
| | | Dividends Per Share | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 1.24 | 1.28 | 1.32 | 1.34 | 1.36 | 1.44 | 1.48 | 1.52 | 1.6 | 1.92 | 2 | 2.1 | 2.2 |
| | | Payout Ratio | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 58.48% | 94.66% | 88.89% | 74.58% | 66.34% | 63.55% | 56.92% | 65.49% | 61.79% | 53.51% | 66.21% | 59.00% | 62.87% | 64.71% |
| | | Annual Earnings Growth | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | -111.94% | -23.39% | 9.92% | 22.92% | 14.12% | 5.94% | 18.22% | -10.67% | 8.85% | 21.54% | -3.01% | 16.90% | -1.47% | 1.80% |
| | | 5yr Avg Fwd EPS Growth | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | -17.67% | 5.90% | 14.23% | 10.11% | 7.29% | 8.78% | 6.99% | 6.72% | 8.56% | 7.15% | N/A | N/A | N/A | N/A | N/A |
| OGE Energy Corp. | OGE | Earnings Per Share | N/A | N/A | 1.02 | 0.97 | 0.95 | 0.65 | 0.72 | 0.87 | 0.89 | 0.92 | 1.23 | 1.32 | 1.25 | 1.33 | 1.50 | 1.73 | 1.79 | 1.94 | 1.98 | 1.69 | 1.69 | 1.92 | 2.12 |
| | | Dividends Per Share | N/A | N/A | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.68 | 0.70 | 0.71 | 0.73 | 0.76 | 0.80 | 0.85 | 0.95 | 1.05 | 1.16 | 1.27 | 1.40 |
| | | Payout Ratio | N/A | N/A | 65.69% | 69.07% | 70.53% | 103.08% | 93.06% | 77.01% | 75.28% | 72.83% | 54.47% | 51.52% | 56.00% | 53.38% | 48.67% | 43.93% | 44.69% | 43.81% | 47.98% | 62.13% | 68.64% | 66.15% | 66.04% |
| | | Annual Earnings Growth | N/A | N/A | N/A | -4.90% | -2.06% | -31.58% | 10.77% | 20.83% | 2.30% | 3.37% | 33.70% | 7.32% | -5.30% | 6.40% | 12.78% | 15.33% | 3.47% | 8.38% | 2.06% | -14.65% | 0.00% | 13.61% | 10.42% |
| | | 5yr Avg Fwd EPS Growth | N/A | N/A | -1.39% | 0.05% | 1.14% | 14.19% | 13.50% | 8.28% | 9.10% | 10.98% | 7.31% | 6.54% | 9.27% | 8.41% | 2.92% | -0.15% | 1.88% | 2.29% | N/A | N/A | N/A | N/A | N/A |
| Otter Tail Corporation | OTTR | Earnings Per Share | 1.24 | 1.29 | 1.29 | 1.45 | 1.60 | 1.68 | 1.79 | 1.51 | 1.50 | 1.78 | 1.69 | 1.78 | 1.09 | 0.71 | 0.38 | 0.45 | 1.05 | 1.37 | 1.55 | 1.56 | 1.60 | 1.86 | 2.06 |
| | | Dividends Per Share | 0.90 | 0.93 | 0.96 | 0.99 | 1.02 | 1.04 | 1.06 | 1.08 | 1.10 | 1.12 | 1.15 | 1.17 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.21 | 1.23 | 1.25 | 1.28 | 1.34 |
| | | Payout Ratio | 72.58% | 72.09% | 74.42% | 68.28% | 63.75% | 61.90% | 59.22% | 71.52% | 73.33% | 62.92% | 68.05% | 65.73% | 109.17% | 167.61% | 313.16% | 264.44% | 113.33% | 86.86% | 78.06% | 78.85% | 78.13% | 68.82% | 65.05% |
| | | Annual Earnings Growth | N/A | 5.33% | 0.00% | 12.40% | 10.34% | 5.00% | 6.55% | -15.64% | -0.66% | 18.67% | -5.06% | 5.33% | -38.76% | -34.86% | -46.48% | 18.42% | 133.33% | 30.48% | 13.14% | 0.65% | 2.56% | 16.25% | 10.75% |
| | | 5yr Avg Fwd EPS Growth | 6.36% | 6.86% | 3.73% | 1.12% | 2.78% | 0.77% | 0.53% | -4.10% | -10.94% | -23.97% | -19.27% | 6.33% | 20.18% | 29.78% | 39.20% | 36.03% | 12.61% | 8.67% | N/A | N/A | N/A | N/A | N/A |
| Pinnacle West Capital Corporation | PNW | Earnings Per Share | 2.47 | 2.76 | 2.85 | 3.18 | 3.35 | 3.68 | 2.53 | 2.52 | 2.58 | 2.24 | 3.17 | 2.96 | 2.12 | 2.26 | 3.08 | 2.99 | 3.50 | 3.66 | 3.58 | 3.92 | 3.95 | 4.43 | 4.54 |
| | | Dividends Per Share | 1.03 | 1.13 | 1.23 | 1.33 | 1.43 | 1.53 | 1.63 | 1.73 | 1.83 | 1.93 | 2.03 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.67 | 2.23 | 2.33 | 2.44 | 2.56 | 2.70 | 2.87 |
| | | Payout Ratio | 41.70% | 40.94% | 43.16% | 41.82% | 42.69% | 41.58% | 64.43% | 68.65% | 70.93% | 86.16% | 64.04% | 70.95% | 99.06% | 92.92% | 68.18% | 70.23% | 76.29% | 60.93% | 65.08% | 62.24% | 64.81% | 60.95% | 63.22% |
| | | Annual Earnings Growth | N/A | 11.74% | 3.26% | 11.58% | 5.35% | 9.85% | -31.25% | -0.40% | 2.38% | -13.18% | 41.52% | -6.62% | -28.38% | 6.60% | 36.28% | -2.92% | 17.06% | 4.57% | -2.19% | 9.50% | 0.77% | 12.15% | 2.48% |
| | | 5yr Avg Fwd EPS Growth | 8.36% | [illegible] | -0.97% | -2.81% | -6.52% | -0.18% | 4.74% | -0.86% | -0.01% | 9.88% | 0.99% | 5.73% | 12.32% | 10.56% | 5.20% | 5.94% | 4.96% | 4.54% | N/A | N/A | N/A | N/A | N/A |
| PNM Resources, Inc. | PNM | Earnings Per Share | 1.15 | 1.25 | 1.50 | 1.29 | 1.55 | 2.61 | 1.07 | 1.15 | 1.43 | 1.56 | 1.72 | 0.76 | 0.11 | 0.58 | 0.87 | 1.08 | 1.31 | 1.41 | 1.45 | 1.64 | 1.65 | 1.92 | 1.66 |
| | | Dividends Per Share | 0.24 | 0.42 | 0.51 | 0.53 | 0.53 | 0.53 | 0.57 | 0.61 | 0.63 | 0.79 | 0.86 | 0.91 | 0.61 | 0.50 | 0.50 | 0.50 | 0.58 | 0.68 | 0.76 | 0.80 | 0.88 | 0.99 | 1.09 |
| | | Payout Ratio | 20.87% | 33.60% | 34.00% | 41.09% | 34.19% | 20.31% | 53.27% | 53.04% | 44.06% | 50.64% | 50.00% | 119.74% | 554.55% | 86.21% | 57.47% | 46.30% | 44.27% | 48.23% | 52.41% | 48.78% | 53.33% | 51.56% | 65.66% |
| | | Annual Earnings Growth | N/A | 8.70% | 20.00% | -14.00% | 20.16% | 68.39% | -59.00% | 7.48% | 24.35% | 9.09% | 10.26% | -55.81% | -85.53% | 427.27% | 50.00% | 24.14% | 21.30% | 7.63% | 2.84% | 13.10% | 0.61% | 16.36% | -13.54% |
| | | 5yr Avg Fwd EPS Growth | 20.65% | 7.11% | 4.60% | 12.27% | 10.06% | -1.57% | -0.93% | -19.53% | 61.06% | 69.24% | 72.01% | 87.44% | 106.07% | 21.18% | 13.80% | 9.10% | 8.11% | 3.87% | N/A | N/A | N/A | N/A | N/A |
| Portland General Electric Company | POR | Earnings Per Share | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1.02 | 1.14 | 2.33 | 1.39 | 1.31 | 1.66 | 1.95 | 1.87 | 1.77 | 2.18 | 2.04 | 2.16 | 2.29 | 2.37 |
| | | Dividends Per Share | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0.68 | 0.93 | 0.97 | 1.01 | 1.04 | 1.06 | 1.08 | 1.10 | 1.12 | 1.18 | 1.26 | 1.34 | 1.43 |
| | | Payout Ratio | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 59.65% | 39.91% | 69.78% | 77.10% | 62.65% | 54.36% | 57.75% | 62.15% | 51.38% | 57.84% | 58.33% | 58.52% | 60.34% |
| | | Annual Earnings Growth | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 11.76% | 104.39% | -40.34% | -5.76% | 26.72% | 17.47% | -4.10% | -5.35% | 23.16% | -6.42% | 5.88% | 6.02% | 3.49% |
| | | 5yr Avg Fwd EPS Growth | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 19.35% | 20.49% | -1.20% | 5.80% | 11.58% | 4.95% | 2.63% | 4.66% | 6.43% | N/A | N/A | N/A | N/A | N/A |
| Public Service Enterprise Group Incorporated | PEG | Earnings Per Share | N/A | 1.21 | 1.40 | 1.56 | 1.78 | 1.85 | 1.88 | 1.88 | 1.52 | 1.79 | 1.85 | 2.59 | 2.90 | 3.08 | 3.07 | 3.11 | 2.44 | 2.45 | 2.99 | 3.30 | 2.83 | 2.82 | 2.76 |
| | | Dividends Per Share | N/A | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.10 | 1.12 | 1.14 | 1.17 | 1.29 | 1.33 | 1.37 | 1.37 | 1.42 | 1.44 | 1.48 | 1.56 | 1.64 | 1.72 | 1.80 |
| | | Payout Ratio | N/A | 89.26% | 77.14% | 69.23% | 60.67% | 58.38% | 57.45% | 57.45% | 72.37% | 62.57% | 61.62% | 45.17% | 44.48% | 43.18% | 44.63% | 44.05% | 58.20% | 58.78% | 49.50% | 47.27% | 57.95% | 60.99% | 65.22% |
| | | Return on Common Equity | N/A | N/A | 15.70% | 11.43% | 14.10% | 3.93% | 1.62% | 0.00% | -19.15% | 17.76% | 3.35% | 40.00% | 11.97% | 6.21% | -0.32% | 1.30% | -21.54% | 0.41% | 22.04% | 10.37% | -14.24% | -0.35% | -2.13% |
| | | 5yr Avg Fwd EPS Growth | N/A | 9.36% | 6.22% | 0.10% | 0.83% | 0.72% | 8.39% | 10.79% | 15.86% | 12.24% | 11.83% | -0.48% | -2.79% | 0.38% | 2.52% | -0.59% | 3.64% | 3.14% | N/A | N/A | N/A | N/A | N/A |
| Sempra Energy | SRE | Earnings Per Share | 1.98 | 2.20 | 1.24 | 1.66 | 2.06 | 2.55 | 2.79 | 3.01 | 3.93 | 3.52 | 4.23 | 4.26 | 4.43 | 4.78 | 4.02 | 4.47 | 4.35 | 4.22 | 4.63 | 5.23 | 4.24 | 4.63 | 5.48 |
| | | Dividends Per Share | 1.56 | 1.56 | 1.56 | 1.56 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.16 | 1.20 | 1.24 | 1.37 | 1.56 | 1.56 | 1.92 | 2.40 | 2.52 | 2.64 | 2.80 | 3.02 | 3.29 | 3.58 |
| | | Payout Ratio | 78.79% | 70.91% | 125.81% | 93.98% | 48.54% | 39.22% | 35.84% | 33.22% | 25.45% | 32.95% | 28.37% | 29.11% | 30.93% | 32.64% | 38.81% | 42.95% | 55.17% | 59.72% | 57.02% | 53.54% | 71.23% | 71.06% | 65.33% |
| | | Return on Common Equity | N/A | 11.11% | -43.64% | 33.87% | 24.10% | 23.79% | 9.41% | 7.89% | 30.56% | -10.43% | 20.17% | 0.71% | 3.99% | 7.90% | -15.90% | 11.19% | -2.68% | -2.99% | 9.72% | 12.96% | -18.93% | 9.20% | 18.36% |
| | | 5yr Avg Fwd EPS Growth | 9.85% | 9.51% | 19.81% | 19.15% | 12.24% | 11.52% | 9.78% | 9.00% | 4.47% | 3.37% | 1.58% | 0.90% | -0.50% | -0.13% | 5.64% | -0.39% | 1.99% | 6.26% | N/A | N/A | N/A | N/A | N/A |
| Southern Company | SO | Earnings Per Share | 1.68 | 1.58 | 1.73 | 1.83 | 2.01 | 1.61 | 1.85 | 1.97 | 2.06 | 2.13 | 2.10 | 2.28 | 2.25 | 2.32 | 2.36 | 2.55 | 2.67 | 2.70 | 2.77 | 2.84 | 2.83 | 3.21 | 3.00 |
| | | Dividends Per Share | 1.26 | 1.30 | 1.34 | 1.34 | 1.34 | 1.34 | 1.36 | 1.39 | 1.42 | 1.48 | 1.54 | 1.60 | 1.66 | 1.73 | 1.80 | 1.87 | 1.94 | 2.01 | 2.08 | 2.15 | 2.22 | 2.30 | 2.38 |
| | | Payout Ratio | 75.00% | 82.28% | 77.46% | 73.22% | 66.67% | 83.23% | 73.51% | 70.56% | 68.93% | 69.48% | 73.33% | 70.18% | 73.78% | 74.57% | 76.27% | 73.33% | 72.66% | 74.44% | 75.09% | 75.70% | 78.45% | 71.65% | 79.33% |
| | | Annual Earnings Growth | N/A | -5.95% | 9.49% | 5.78% | 9.84% | -19.90% | 14.91% | 6.49% | 4.57% | 3.40% | -1.41% | 8.57% | -1.32% | 3.11% | 1.72% | 8.05% | 4.71% | 1.12% | 2.59% | 2.53% | -0.35% | 13.43% | -6.54% |
| | | 5yr Avg Fwd EPS Growth | -0.15% | 4.02% | 3.42% | 3.18% | 1.89% | 5.59% | 4.32% | 2.76% | 2.47% | 2.14% | 4.03% | 3.26% | 3.74% | 3.64% | 3.80% | 2.12% | 3.86% | 2.33% | N/A | N/A | N/A | N/A | N/A |
| WEC Energy Group | WEC | Earnings Per Share | 0.99 | 0.27 | 0.83 | 0.94 | 0.54 | 0.92 | 1.16 | 1.13 | 0.93 | 1.28 | 1.32 | 1.42 | 1.52 | 1.6 | 1.92 | 2.18 | 2.35 | 2.51 | 2.59 | 2.34 | 2.96 | 3.14 | 3.34 |
| | | Dividends Per Share | 0.75 | 0.77 | 0.78 | 0.78 | 0.69 | 0.40 | 0.40 | 0.40 | 0.42 | 0.44 | 0.46 | 0.50 | 0.54 | 0.68 | 0.80 | 1.04 | 1.20 | 1.45 | 1.56 | 1.74 | 1.98 | 2.08 | 2.21 |
| | | Payout Ratio | 75.76% | 285.19% | 93.98% | 82.98% | 127.78% | 43.48% | 34.48% | 35.40% | 45.16% | 34.38% | 34.85% | 35.21% | 35.53% | 42.50% | 41.67% | 47.71% | 51.06% | 57.77% | 60.23% | 74.36% | 66.89% | 66.24% | 66.17% |
| | | Annual Earnings Growth | N/A | -72.73% | 207.41% | 13.25% | -42.55% | 70.37% | 26.09% | -2.59% | -17.70% | 37.63% | 3.13% | 7.58% | 7.04% | 5.26% | 20.00% | 13.54% | 7.80% | 6.81% | 3.19% | -9.65% | 26.50% | 6.08% | 6.37% |
| | | 5yr Avg Fwd EPS Growth | 35.15% | 54.91% | 12.91% | 6.72% | 22.76% | 9.31% | 5.61% | 7.54% | 12.13% | 8.60% | 10.68% | 10.73% | 10.68% | 10.27% | 4.34% | 6.93% | 6.58% | 6.50% | N/A | N/A | N/A | N/A | N/A |
| Xcel Energy Inc. | XEL | Earnings Per Share | 1.91 | 1.61 | 1.84 | 1.43 | 1.60 | 2.27 | 0.42 | 1.23 | 1.27 | 1.20 | 1.35 | 1.35 | 1.46 | 1.49 | 1.56 | 1.72 | 1.85 | 1.91 | 2.03 | 2.10 | 2.21 | 2.30 | 2.47 |
| | | Dividends Per Share | 1.37 | 1.40 | 1.43 | 1.45 | 1.48 | 1.50 | 1.13 | 0.75 | 0.81 | 0.85 | 0.88 | 0.91 | 0.94 | 0.97 | 1.00 | 1.03 | 1.07 | 1.11 | 1.20 | 1.28 | 1.36 | 1.44 | 1.52 |
| | | Payout Ratio | 71.73% | 86.96% | 77.72% | 101.40% | 92.50% | 66.08% | 269.05% | 60.98% | 63.78% | 70.83% | 65.19% | 67.41% | 64.38% | 65.10% | 64.10% | 59.88% | 57.84% | 58.12% | 59.11% | 60.95% | 61.54% | 62.61% | 61.54% |
| | | Annual Earnings Growth | N/A | -15.71% | 14.29% | -22.28% | 11.89% | 41.88% | -81.50% | 192.86% | 3.25% | -5.51% | 12.50% | 0.00% | 8.15% | 2.05% | 4.70% | 10.26% | 7.56% | 3.24% | 6.28% | 3.45% | 5.24% | 4.07% | 7.39% |
| | | 5yr Avg Fwd EPS Growth | 6.01% | -7.15% | 28.57% | 33.67% | 30.19% | 24.32% | 40.62% | 3.68% | 3.44% | 5.48% | 5.03% | 6.54% | 5.56% | 6.41% | 6.16% | 5.15% | 4.46% | 5.29% | N/A | N/A | N/A | N/A | N/A |

Retention Growth Estimate Vs. Value Line EPS Growth Estimate

| Company | Ticker | [1] Projected Earnings per share 2019 | [2] Projected Dividend per share 2019 | [3] Retention Ratio (B) | [4] Projected Book Value per Share 2019 | [5] Return on Book Value (R) | [6] B x R | [7] Projected Common Shares Outstanding 2019 | [8] Projected Common Shares Outstanding 2022-2024 | [9] Common Shares Growth Rate | [10] 2019 High Price | [11] 2019 Low Price | [12] 2019 price midpoint | [13] Market/ Book Ratio | [14] "S" | [15] "V" | [16] S x V | [17] BR + SV | 2019 Value Line Projected EPS Growth | Sustainable Growth Minus EPS Growth | Actual 2018 EPS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | 3.30 | 2.35 | 28.79% | 42.90 | 7.69% | 2.21% | 51.75 | 52.75 | 0.48% | $ 88.60 | $ 72.50 | $ 80.55 | 1.88 | 0.90% | 46.74% | 0.42% | 2.64% | -2.37% | 5.00% | 3.38 |
| Alliant Energy Corporation | LNT | 2.30 | 1.42 | 38.26% | 21.80 | 10.55% | 4.04% | 240.00 | 250.00 | 1.03% | $ 54.60 | $ 40.80 | $ 47.70 | 2.19 | 2.24% | 54.30% | 1.22% | 5.26% | 5.02% | 0.23% | 2.19 |
| American Electric Power Company, Inc. | AEP | 4.15 | 2.71 | 34.70% | 40.10 | 10.35% | 3.59% | 494.65 | 525.00 | 1.50% | $ 96.20 | $ 72.30 | $ 84.25 | 2.10 | 3.15% | 52.40% | 1.65% | 5.24% | 6.41% | -1.17% | 3.90 |
| Ameren Corporation | AEE | 3.25 | 1.92 | 40.92% | 32.85 | 9.89% | 4.05% | 246.00 | 259.00 | 1.30% | $ 80.90 | $ 63.10 | $ 72.00 | 2.19 | 2.84% | 54.38% | 1.54% | 5.59% | -2.11% | 7.70% | 3.32 |
| CMS Energy Corporation | CMS | 2.50 | 1.53 | 38.80% | 17.80 | 14.04% | 5.45% | 284.00 | 296.00 | 1.04% | $ 65.30 | $ 48.00 | $ 56.65 | 3.18 | 3.31% | 68.58% | 2.27% | 7.72% | 7.76% | -0.04% | 2.32 |
| Consolidated Edison, Inc. | ED | 3.95 | 2.96 | 25.06% | 53.65 | 7.36% | 1.85% | 334.00 | 344.00 | 0.74% | $ 90.50 | $ 73.30 | $ 81.90 | 1.53 | 1.13% | 34.49% | 0.39% | 2.24% | -13.19% | 15.42% | 4.55 |
| Dominion Energy Inc | D | 2.15 | 3.67 | -70.70% | 34.55 | 6.22% | -4.40% | 824.00 | 862.00 | 1.13% | $ 83.70 | $ 67.40 | $ 75.55 | 2.19 | 2.48% | 54.27% | 1.35% | -3.05% | -33.85% | 30.79% | 3.25 |
| DTE Energy Company | DTE | 6.25 | 3.85 | 38.40% | 61.00 | 10.25% | 3.93% | 194.00 | 212.00 | 2.24% | $ 134.40 | $ 107.30 | $ 120.85 | 1.98 | 4.44% | 49.52% | 2.20% | 6.14% | 1.30% | 4.84% | 6.17 |
| Edison International | EIX | 4.65 | 2.48 | 46.67% | 37.90 | 12.27% | 5.73% | 365.00 | 385.00 | 1.34% | $ 76.40 | $ 53.40 | $ 64.90 | 1.71 | 2.30% | 41.60% | 0.96% | 6.68% | 469.05% | -462.37% | -1.26 |
| El Paso Electric Company | EE | 2.70 | 1.52 | 43.70% | 29.65 | 9.11% | 3.98% | 40.90 | 43.00 | 1.26% | $ 74.40 | $ 48.00 | $ 61.20 | 2.06 | 2.60% | 51.55% | 1.34% | 5.32% | 30.43% | -25.11% | 2.07 |
| Entergy Corp. | ETR | 4.80 | 3.66 | 23.75% | 48.65 | 9.87% | 2.34% | 199.00 | 210.00 | 1.35% | $ 122.10 | $ 83.20 | $ 102.65 | 2.11 | 2.86% | 52.61% | 1.50% | 3.85% | -18.37% | 22.21% | 5.88 |
| Eversource Energy | ES | 3.45 | 2.14 | 37.97% | 37.70 | 9.15% | 3.47% | 324.00 | 350.00 | 1.95% | $ 86.60 | $ 63.10 | $ 74.85 | 1.99 | 3.87% | 49.63% | 1.92% | 5.39% | 6.15% | -0.76% | 3.25 |
| FirstEnergy Corp | FE | 1.50 | 1.52 | -1.33% | 13.75 | 10.91% | -0.15% | 540.00 | 550.00 | 0.46% | $ 49.10 | $ 36.30 | $ 42.70 | 3.11 | 1.43% | 67.80% | 0.97% | 0.82% | 12.78% | -11.96% | 1.33 |
| Hawaiian Electric Industries, Inc. | HE | 1.90 | 1.28 | 32.63% | 20.45 | 9.29% | 3.03% | 109.00 | 113.00 | 0.91% | $ 47.60 | $ 35.10 | $ 41.35 | 2.02 | 1.83% | 50.54% | 0.92% | 3.96% | 2.70% | 1.25% | 1.85 |
| IDACORP Inc. | IDA | 4.45 | 2.56 | 42.47% | 48.85 | 9.11% | 3.87% | 50.40 | 50.40 | 0.00% | $ 114.00 | $ 89.30 | $ 101.65 | 2.08 | 0.00% | 51.94% | 0.00% | 3.87% | -0.89% | 4.76% | 4.49 |
| MGE Energy Inc | MGEE | 2.55 | 1.38 | 45.88% | 24.75 | 10.30% | 4.73% | 34.67 | 34.67 | 0.00% | $ 80.80 | $ 56.70 | $ 68.75 | 2.78 | 0.00% | 64.00% | 0.00% | 4.73% | 4.94% | -0.21% | 2.43 |
| NextEra Energy, Inc. | NEE | 7.10 | 5.00 | 29.58% | 75.05 | 9.46% | 2.80% | 489.00 | 495.00 | 0.31% | $ 239.90 | $ 168.70 | $ 204.30 | 2.72 | 0.83% | 63.26% | 0.53% | 3.32% | 6.45% | -3.12% | 6.67 |
| NorthWestern Corporation | NWE | 3.55 | 2.30 | 35.21% | 40.20 | 8.83% | 3.11% | 50.50 | 51.60 | 0.54% | $ 76.70 | $ 57.30 | $ 67.00 | 1.67 | 0.90% | 40.00% | 0.36% | 3.47% | 4.41% | -0.94% | 3.40 |
| OGE Energy Corp. | OGE | 2.25 | 1.51 | 32.89% | 20.70 | 10.87% | 3.57% | 200.00 | 200.00 | 0.00% | $ 45.80 | $ 38.00 | $ 41.90 | 2.02 | 0.00% | 50.60% | 0.00% | 3.57% | 6.13% | -2.56% | 2.12 |
| Otter Tail Corporation | OTTR | 2.15 | 1.40 | 34.88% | 19.25 | 11.17% | 3.90% | 40.00 | 41.80 | 1.11% | $ 57.70 | $ 45.90 | $ 51.80 | 2.69 | 2.98% | 62.84% | 1.87% | 5.77% | 4.37% | 1.40% | 2.06 |
| Portland General Electric Company | POR | 2.40 | 1.52 | 36.67% | 28.90 | 8.30% | 3.04% | 89.40 | 90.00 | 0.17% | $ 58.40 | $ 44.00 | $ 51.20 | 1.77 | 0.30% | 43.55% | 0.13% | 3.17% | 1.27% | 1.91% | 2.37 |
| Pinnacle West Capital Corporation | PNW | 4.50 | 3.04 | 32.44% | 47.70 | 9.43% | 3.06% | 113.00 | 118.00 | 1.09% | $ 99.80 | $ 81.60 | $ 90.70 | 1.90 | 2.07% | 47.41% | 0.98% | 4.04% | -0.88% | 4.92% | 4.54 |
| PNM Resources, Inc. | PNM | 2.20 | 1.18 | 46.36% | 20.80 | 10.58% | 4.90% | 79.65 | 90.00 | 3.10% | $ 53.00 | $ 39.70 | $ 46.35 | 2.23 | 6.91% | 55.12% | 3.81% | 8.71% | 32.53% | -23.82% | 1.66 |
| Public Service Enterprie Group, Inc. | PEG | 3.70 | 1.88 | 49.19% | 29.70 | 12.46% | 6.13% | 505.00 | 505.00 | 0.00% | $ 63.90 | $ 50.00 | $ 56.95 | 1.92 | 0.00% | 47.85% | 0.00% | 6.13% | 34.06% | -27.93% | 2.76 |
| SEMPRA Energy | SRE | 5.85 | 3.87 | 33.85% | 61.25 | 9.55% | 3.23% | 290.00 | 320.00 | 2.49% | $ 154.50 | $ 106.10 | $ 130.30 | 2.13 | 5.30% | 52.99% | 2.81% | 6.04% | 6.75% | -0.71% | 5.48 |
| Southern Company | SO | 3.10 | 2.46 | 20.65% | 26.20 | 11.83% | 2.44% | 1050.00 | 1080.00 | 0.71% | $ 63.10 | $ 43.30 | $ 53.20 | 2.03 | 1.44% | 50.75% | 0.73% | 3.17% | 3.33% | -0.16% | 3.00 |
| WEC Energy Group, Inc. | WEC | 3.53 | 2.36 | 33.14% | 32.05 | 11.01% | 3.65% | 315.50 | 315.50 | 0.00% | $ 98.20 | $ 67.20 | $ 82.70 | 2.58 | 0.00% | 61.25% | 0.00% | 3.65% | 5.69% | -2.04% | 3.34 |
| Xcel Energy Inc. | XEL | 2.60 | 1.62 | 37.69% | 25.15 | 10.34% | 3.90% | 525.00 | 546.00 | 0.99% | $ 66.10 | $ 47.70 | $ 56.90 | 2.26 | 2.23% | 55.80% | 1.24% | 5.14% | 5.26% | -0.12% | 2.47 |
| | | | Average: | 31.02% | | | | | | | | | | | | | Mean: | 4.38% | 20.90% | -16.52% | |
| | | | | | | | | | | | | | | | | | Median: | 4.38% | 4.98% | -0.14% | |
| | | | | | | | | | | | | | | | | | | | Number of underestimates: | 16 | |
| | | | | | | | | | | | | | | | | | | | Number of overestimates: | 12 | |

Notes:
[1] Source: Value Line
[2] Source: Value Line
[3] Equals 1 - [2] / [1]
[4] Source: Value Line
[5] Equals [1] / [4]
[6] Equals [3] x [5]
[7] Source: Value Line
[8] Source: Value Line
[9] Equals ([8] / [7]) ^ 0.33 - 1
[10] Source: Value Line
[11] Source: Value Line
[12] Equals Average ([10], [11])
[13] Equals [12] / [13]
[14] Equals [9] x [14]
[15] Equals 1 - (1 / [14])
[16] Equals [15] x [16]
[17] Equals [6] + [17]

Retention Growth Estimate Vs. Value Line EPS Growth Estimate

| Company | Ticker | [1] Projected Earnings per share 2022-2024 | [2] Projected Dividend per share 2022-2024 | [3] Retention Ratio (B) | [4] Projected Book Value per Share 2022-2024 | [5] Return on Book Value (R) | [6] B x R | [7] Projected Common Shares Outstanding 2019 | [8] Projected Common Shares Outstanding 2022-2024 | [9] Common Shares Growth Rate | [10] 2019 High Price | [11] 2019 Low Price | [12] 2019 price midpoint | [13] Projected Book Value per Share 2019 | [14] Market/ Book Ratio | [15] "S" | [16] "V" | [17] S x V | [18] 2022 BR + SV | [19] 2019 BR + SV | [20] Average 2019/2022 BR + SV | 2022-24 Value Line Projected Annual EPS Growth | Average 2022-2024 Sustainable Growth Minus EPS Growth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | 4.25 | 2.85 | 32.94% | 48.25 | 8.81% | 2.90% | 51.75 | 52.75 | 0.48% | $ 88.60 | $ 72.50 | $ 80.55 | 42.90 | 1.88 | 0.90% | 46.74% | 0.42% | 3.32% | 2.64% | 2.98% | 6.53% | -3.55% |
| Alliant Energy Corporation | LNT | 2.80 | 1.74 | 37.86% | 27.55 | 10.16% | 3.85% | 240.00 | 250.00 | 1.03% | $ 54.60 | $ 40.80 | $ 47.70 | 21.80 | 2.19 | 2.24% | 54.30% | 1.22% | 5.07% | 5.26% | 5.16% | 5.04% | 0.12% |
| American Electric Power Company, Inc. | AEP | 5.00 | 3.35 | 33.00% | 48.50 | 10.31% | 3.40% | 494.65 | 525.00 | 1.50% | $ 96.20 | $ 72.30 | $ 84.25 | 40.10 | 2.10 | 3.15% | 52.40% | 1.65% | 5.05% | 5.24% | 5.15% | 4.77% | 0.38% |
| Ameren Corporation | AEE | 4.25 | 2.35 | 44.71% | 41.50 | 10.24% | 4.58% | 246.00 | 259.00 | 1.30% | $ 80.90 | $ 63.10 | $ 72.00 | 32.85 | 2.19 | 2.84% | 54.38% | 1.54% | 6.12% | 5.59% | 5.86% | 6.94% | -1.08% |
| CMS Energy Corporation | CMS | 3.25 | 2.00 | 38.46% | 24.00 | 13.54% | 5.21% | 284.00 | 296.00 | 1.04% | $ 65.30 | $ 48.00 | $ 56.65 | 17.80 | 3.18 | 3.31% | 68.58% | 2.27% | 7.48% | 7.72% | 7.60% | 6.78% | 0.82% |
| Consolidated Edison, Inc. | ED | 5.00 | 3.40 | 32.00% | 60.50 | 8.26% | 2.64% | 334.00 | 344.00 | 0.74% | $ 90.50 | $ 73.30 | $ 81.90 | 53.65 | 1.53 | 1.13% | 34.49% | 0.39% | 3.03% | 2.24% | 2.63% | 6.07% | -3.44% |
| Dominion Energy Inc | D | 5.00 | 4.05 | 19.00% | 39.75 | 12.58% | 2.39% | 824.00 | 862.00 | 1.13% | $ 83.70 | $ 67.40 | $ 75.55 | 34.55 | 2.19 | 2.48% | 54.27% | 1.35% | 3.74% | -3.05% | 0.34% | 23.49% | -23.15% |
| DTE Energy Company | DTE | 7.25 | 4.95 | 31.72% | 75.75 | 9.57% | 3.04% | 194.00 | 212.00 | 2.24% | $ 134.40 | $ 107.30 | $ 120.85 | 61.00 | 1.98 | 4.44% | 49.52% | 2.20% | 5.24% | 6.14% | 5.69% | 3.78% | 1.91% |
| Edison International | EIX | 5.25 | 2.90 | 44.76% | 47.75 | 10.99% | 4.92% | 365.00 | 385.00 | 1.34% | $ 76.40 | $ 53.40 | $ 64.90 | 37.90 | 1.71 | 2.30% | 41.60% | 0.96% | 5.88% | 6.68% | 6.28% | 3.08% | 3.20% |
| El Paso Electric Company | EE | 2.75 | 1.95 | 29.09% | 34.00 | 8.09% | 2.35% | 40.90 | 43.00 | 1.26% | $ 74.40 | $ 48.00 | $ 61.20 | 29.65 | 2.06 | 2.60% | 51.55% | 1.34% | 3.69% | 5.32% | 4.51% | 0.46% | 4.05% |
| Entergy Corp. | ETR | 6.75 | 4.30 | 36.30% | 58.25 | 11.59% | 4.21% | 199.00 | 210.00 | 1.35% | $ 122.10 | $ 83.20 | $ 102.65 | 48.65 | 2.11 | 2.86% | 52.61% | 1.50% | 5.71% | 3.85% | 4.78% | 8.90% | -4.12% |
| Eversource Energy | ES | 4.25 | 2.65 | 37.65% | 46.25 | 9.19% | 3.46% | 324.00 | 350.00 | 1.95% | $ 86.60 | $ 63.10 | $ 74.85 | 37.70 | 1.99 | 3.87% | 49.63% | 1.92% | 5.38% | 5.39% | 5.39% | 5.35% | 0.04% |
| FirstEnergy Corp | FE | 3.00 | 1.90 | 36.67% | 18.00 | 16.67% | 6.11% | 540.00 | 550.00 | 0.46% | $ 49.10 | $ 36.30 | $ 42.70 | 13.75 | 3.11 | 1.43% | 67.80% | 0.97% | 7.08% | 0.82% | 3.95% | 18.92% | -14.97% |
| Hawaiian Electric Industries, Inc. | HE | 2.25 | 1.50 | 33.33% | 24.00 | 9.38% | 3.13% | 109.00 | 113.00 | 0.91% | $ 47.60 | $ 35.10 | $ 41.35 | 20.45 | 2.02 | 1.83% | 50.54% | 0.92% | 4.05% | 3.96% | 4.00% | 4.32% | -0.31% |
| IDACORP Inc. | IDA | 5.25 | 3.35 | 36.19% | 56.25 | 9.33% | 3.38% | 50.40 | 50.40 | 0.00% | $ 114.00 | $ 89.30 | $ 101.65 | 48.85 | 2.08 | 0.00% | 51.94% | 0.00% | 3.38% | 3.87% | 3.62% | 4.22% | -0.60% |
| MGE Energy Inc | MGEE | 3.25 | 1.70 | 47.69% | 30.25 | 10.74% | 5.12% | 34.67 | 34.67 | 0.00% | $ 80.80 | $ 56.70 | $ 68.75 | 24.75 | 2.78 | 0.00% | 64.00% | 0.00% | 5.12% | 4.73% | 4.93% | 6.25% | -1.33% |
| NextEra Energy, Inc. | NEE | 11.50 | 7.00 | 39.13% | 93.25 | 12.33% | 4.83% | 489.00 | 495.00 | 0.31% | $ 239.90 | $ 168.70 | $ 204.30 | 75.05 | 2.72 | 0.83% | 63.26% | 0.53% | 5.35% | 3.32% | 4.34% | 12.81% | -8.48% |
| NorthWestern Corporation | NWE | 3.75 | 2.70 | 28.00% | 44.50 | 8.43% | 2.36% | 50.50 | 51.60 | 0.54% | $ 76.70 | $ 57.30 | $ 67.00 | 40.20 | 1.67 | 0.90% | 40.00% | 0.36% | 2.72% | 3.47% | 3.09% | 1.38% | 1.71% |
| OGE Energy Corp. | OGE | 2.75 | 1.85 | 32.73% | 24.00 | 11.46% | 3.75% | 200.00 | 200.00 | 0.00% | $ 45.80 | $ 38.00 | $ 41.90 | 20.70 | 2.02 | 0.00% | 50.60% | 0.00% | 3.75% | 3.57% | 3.66% | 5.14% | -1.48% |
| Otter Tail Corporation | OTTR | 2.50 | 1.65 | 34.00% | 23.25 | 10.75% | 3.66% | 40.00 | 41.80 | 1.11% | $ 57.70 | $ 45.90 | $ 51.80 | 19.25 | 2.69 | 2.98% | 62.84% | 1.87% | 5.53% | 5.77% | 5.65% | 3.84% | 1.80% |
| Portland General Electric Company | POR | 3.00 | 1.95 | 35.00% | 32.75 | 9.16% | 3.21% | 89.40 | 90.00 | 0.17% | $ 58.40 | $ 44.00 | $ 51.20 | 28.90 | 1.77 | 0.30% | 43.55% | 0.13% | 3.34% | 3.17% | 3.25% | 5.74% | -2.48% |
| Pinnacle West Capital Corporation | PNW | 5.50 | 3.80 | 30.91% | 54.75 | 10.05% | 3.11% | 113.00 | 118.00 | 1.09% | $ 99.80 | $ 81.60 | $ 90.70 | 47.70 | 1.90 | 2.07% | 47.41% | 0.98% | 4.09% | 4.04% | 4.06% | 5.14% | -1.08% |
| PNM Resources, Inc. | PNM | 2.50 | 1.50 | 40.00% | 28.00 | 8.93% | 3.57% | 79.65 | 90.00 | 3.10% | $ 53.00 | $ 39.70 | $ 46.35 | 20.80 | 2.23 | 6.91% | 55.12% | 3.81% | 7.38% | 8.71% | 8.05% | 3.25% | 4.80% |
| Public Service Enterprie Group, Inc. | PEG | 4.00 | 2.30 | 42.50% | 36.25 | 11.03% | 4.69% | 505.00 | 505.00 | 0.00% | $ 63.90 | $ 50.00 | $ 56.95 | 29.70 | 1.92 | 0.00% | 47.85% | 0.00% | 4.69% | 6.13% | 5.41% | 1.97% | 3.44% |
| SEMPRA Energy | SRE | 9.00 | 5.25 | 41.67% | 77.50 | 11.61% | 4.84% | 290.00 | 320.00 | 2.49% | $ 154.50 | $ 106.10 | $ 130.30 | 61.25 | 2.13 | 5.30% | 52.99% | 2.81% | 7.65% | 6.04% | 6.84% | 11.37% | -4.53% |
| Southern Company | SO | 3.75 | 2.78 | 25.87% | 30.25 | 12.40% | 3.21% | 1050.00 | 1080.00 | 0.71% | $ 63.10 | $ 43.30 | $ 53.20 | 26.20 | 2.03 | 1.44% | 50.75% | 0.73% | 3.93% | 3.17% | 3.55% | 4.87% | -1.32% |
| WEC Energy Group, Inc. | WEC | 4.50 | 3.00 | 33.33% | 36.75 | 12.24% | 4.08% | 315.50 | 315.50 | 0.00% | $ 98.20 | $ 67.20 | $ 82.70 | 32.05 | 2.58 | 0.00% | 61.25% | 0.00% | 4.08% | 3.65% | 3.87% | 6.26% | -2.39% |
| Xcel Energy Inc. | XEL | 3.25 | 2.05 | 36.92% | 31.00 | 10.48% | 3.87% | 525.00 | 546.00 | 0.99% | $ 66.10 | $ 47.70 | $ 56.90 | 25.15 | 2.26 | 2.23% | 55.80% | 1.24% | 5.11% | 5.14% | 5.13% | 5.74% | -0.61% |
| | | | Average: | 35.41% | | 10.65% | 0.0377 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | Mean: | 4.89% | 4.38% | 4.63% | 6.51% | -1.88% |
| | | | | | | | | | | | | | | | | | | Median: | 5.06% | 4.38% | 4.64% | 5.25% | -0.84% |

Number of underestimates: 17
Number of overestimates: 11

Notes:
[1] Source: Value Line
[2] Source: Value Line
[3] Equals 1 - [2] / [1]
[4] Source: Value Line
[5] Equals [1] / [4]
[6] Equals [3] x [5]
[7] Source: Value Line
[8] Source: Value Line
[9] Equals ([8] / [7]) ^ 0.25 - 1
[10] Source: Value Line
[11] Source: Value Line
[12] Equals Average ([10], [11])
[13] Source: Value Line
[14] Equals [12] / [13]
[15] Equals [9] x [14]
[16] Equals 1 - (1 / [14])
[17] Equals [15] x [16]
[18] Equals [6] + [17]
[19] Source: DWD-21 SGR for 2019
[20] Equals Average ([18], [19])

Mr. O'Donnell's Proxy Group Capital Structure - Consolidated

| | | % Common Equity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE, Inc. | ALE | 60.72% | 59.04% | 58.64% | 60.15% | 59.15% | 59.05% | 60.03% | 58.97% | 59.47% |
| Alliant Energy Corporation | LNT | 47.24% | 46.29% | 46.55% | 46.64% | 46.55% | 45.90% | 51.05% | 51.02% | 47.65% |
| Ameren Corporation | AEE | 48.15% | 48.57% | 48.29% | 49.26% | 50.14% | 49.24% | 51.66% | 50.32% | 49.45% |
| American Electric Power Co. | AEP | 43.50% | 43.30% | 44.44% | 46.51% | 47.68% | 48.66% | 49.52% | 48.19% | 46.48% |
| CMS Energy Corporation | CMS | 28.96% | 29.92% | 30.18% | 30.80% | 34.68% | 33.31% | 33.60% | 32.52% | 31.75% |
| Consolidated Edison, Inc. | ED | 49.45% | 49.15% | 49.44% | 48.88% | 50.65% | 50.69% | 51.52% | 51.14% | 50.12% |
| Dominion Energy, Inc. | D | 43.40% | 39.81% | 41.92% | 39.23% | 36.46% | 36.00% | 36.24% | 35.65% | 38.59% |
| Duke Energy Corporation | DUK | 43.03% | 43.66% | 43.85% | 46.15% | 45.98% | 46.02% | 46.02% | 45.98% | 45.09% |
| Edison International | EIX | 42.66% | 39.35% | 38.99% | 41.68% | 45.26% | 45.97% | 46.67% | 50.06% | 43.83% |
| El Paso Electric Company | EE | 47.73% | 45.66% | 47.27% | 47.51% | 46.36% | 45.11% | 48.35% | 48.85% | 47.11% |
| Entergy Corporation | ETR | 36.80% | 35.97% | 34.02% | 36.27% | 34.74% | 35.03% | 33.81% | 35.79% | 35.31% |
| Eversource Energy | ES | 46.35% | 46.68% | 47.42% | 47.22% | 47.25% | 47.19% | 48.21% | 48.48% | 47.35% |
| FirstEnergy Corporation | FE | 27.03% | 27.30% | 26.61% | 27.32% | 28.85% | 30.94% | 29.64% | 17.36% | 26.88% |
| Hawaiian Electric Industries | HE | 51.16% | 50.63% | 50.09% | 53.50% | 53.77% | 53.40% | 54.66% | 56.27% | 52.93% |
| IDACORP, Inc. | IDA | 57.30% | 56.70% | 56.47% | 56.37% | 56.35% | 55.56% | 55.18% | 56.32% | 56.28% |
| MGE Energy, Inc. | MGEE | 62.63% | 62.06% | 61.91% | 62.34% | 62.16% | 65.62% | 66.46% | 66.15% | 63.67% |
| NextEra Energy, Inc. | NEE | 50.31% | 50.70% | 53.39% | 55.85% | 55.88% | 53.80% | 53.82% | 47.16% | 52.61% |
| NorthWestern Corporation | NWE | 47.72% | 47.98% | 48.63% | 47.79% | 48.26% | 48.30% | 47.37% | 49.77% | 48.23% |
| OGE Energy Corp. | OGE | 56.36% | 55.28% | 57.44% | 58.03% | 58.18% | 60.87% | 60.58% | 58.34% | 58.14% |
| Otter Tail Corporation | OTTR | 55.43% | 55.12% | 54.95% | 55.26% | 55.14% | 54.78% | 54.55% | 58.70% | 55.49% |
| Pinnacle West Capital Corp. | PNW | 52.43% | 51.44% | 51.53% | 52.96% | 54.40% | 54.56% | 53.92% | 51.11% | 52.79% |
| PNM Resources, Inc. | PNM | 39.31% | 36.60% | 36.75% | 38.74% | 45.26% | 44.80% | 42.56% | 43.74% | 40.97% |
| Portland General Electric Company | POR | 50.55% | 49.93% | 53.48% | 53.50% | 53.89% | 53.69% | 50.24% | 49.90% | 51.90% |
| Public Service Enterprise Group Incorporated | PEG | 50.34% | 50.31% | 52.38% | 52.19% | 52.66% | 53.09% | 53.88% | 53.43% | 52.29% |
| Sempra Energy | SRE | 39.68% | 37.38% | 38.85% | 36.87% | 38.28% | 36.89% | 37.39% | 43.52% | 38.61% |
| Southern Company | SO | 38.64% | 39.39% | 38.53% | 37.77% | 37.52% | 35.75% | 35.70% | 35.21% | 37.31% |
| WEC Energy Group | WEC | 47.89% | 50.14% | 49.05% | 49.48% | 51.74% | 51.36% | 52.87% | 51.96% | 50.56% |
| Xcel Energy Inc. | XEL | 41.54% | 41.10% | 41.02% | 43.61% | 43.96% | 43.21% | 44.32% | 44.10% | 42.86% |
| Mean | | 46.65% | 46.05% | 46.50% | 47.21% | 47.90% | 47.81% | 48.21% | 47.86% | 47.27% |

Mr. O'Donnell's Proxy Group Capital Structure - Consolidated

| | | % Long-Term Debt | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE, Inc. | ALE | 39.28% | 40.96% | 41.36% | 39.85% | 40.85% | 40.95% | 39.97% | 41.03% | 40.53% |
| Alliant  Energy Corporation | LNT | 52.76% | 53.71% | 53.45% | 53.36% | 53.45% | 54.10% | 48.95% | 48.98% | 52.35% |
| Ameren Corporation | AEE | 51.85% | 51.43% | 51.71% | 50.74% | 49.86% | 50.76% | 48.34% | 49.68% | 50.55% |
| American Electric Power Co. | AEP | 56.50% | 56.70% | 55.56% | 53.49% | 52.32% | 51.34% | 50.48% | 51.81% | 53.52% |
| CMS Energy Corporation | CMS | 71.04% | 70.08% | 69.82% | 69.20% | 65.32% | 66.69% | 66.40% | 67.48% | 68.25% |
| Consolidated Edison, Inc. | ED | 50.55% | 50.85% | 50.56% | 51.12% | 49.35% | 49.31% | 48.48% | 48.86% | 49.88% |
| Dominion Energy, Inc. | D | 56.60% | 60.19% | 58.08% | 60.77% | 63.54% | 64.00% | 63.76% | 64.35% | 61.41% |
| Duke Energy Corporation | DUK | 56.97% | 56.34% | 56.15% | 53.85% | 54.02% | 53.98% | 53.98% | 54.02% | 54.91% |
| Edison International | EIX | 57.34% | 60.65% | 61.01% | 58.32% | 54.74% | 54.03% | 53.33% | 49.94% | 56.17% |
| El Paso Electric Company | EE | 52.27% | 54.34% | 52.73% | 52.49% | 53.64% | 54.89% | 51.65% | 51.15% | 52.89% |
| Entergy Corporation | ETR | 63.20% | 64.03% | 65.98% | 63.73% | 65.26% | 64.97% | 66.19% | 64.21% | 64.69% |
| Eversource Energy | ES | 53.65% | 53.32% | 52.58% | 52.78% | 52.75% | 52.81% | 51.79% | 51.52% | 52.65% |
| FirstEnergy Corporation | FE | 72.97% | 72.70% | 73.39% | 72.68% | 71.15% | 69.06% | 70.36% | 82.64% | 73.12% |
| Hawaiian Electric Industries | HE | 48.84% | 49.37% | 49.91% | 46.50% | 46.23% | 46.60% | 45.34% | 43.73% | 47.07% |
| IDACORP, Inc. | IDA | 42.70% | 43.30% | 43.53% | 43.63% | 43.65% | 44.44% | 44.82% | 43.68% | 43.72% |
| MGE Energy, Inc. | MGEE | 37.37% | 37.94% | 38.09% | 37.66% | 37.84% | 34.38% | 33.54% | 33.85% | 36.33% |
| NextEra Energy, Inc. | NEE | 49.69% | 49.30% | 46.61% | 44.15% | 44.12% | 46.20% | 46.18% | 52.84% | 47.39% |
| NorthWestern Corporation | NWE | 52.28% | 52.02% | 51.37% | 52.21% | 51.74% | 51.70% | 52.63% | 50.23% | 51.77% |
| OGE Energy Corp. | OGE | 43.64% | 44.72% | 42.56% | 41.97% | 41.82% | 39.13% | 39.42% | 41.66% | 41.86% |
| Otter Tail Corporation | OTTR | 44.57% | 44.88% | 45.05% | 44.74% | 44.86% | 45.22% | 45.45% | 41.30% | 44.51% |
| Pinnacle West Capital Corp. | PNW | 47.57% | 48.56% | 48.47% | 47.04% | 45.60% | 45.44% | 46.08% | 48.89% | 47.21% |
| PNM Resources, Inc. | PNM | 60.69% | 63.40% | 63.25% | 61.26% | 54.74% | 55.20% | 57.44% | 56.26% | 59.03% |
| Portland General Electric Company | POR | 49.45% | 50.07% | 46.52% | 46.50% | 46.11% | 46.31% | 49.76% | 50.10% | 48.10% |
| Public Service Enterprise Group Incorporated | PEG | 49.66% | 49.69% | 47.62% | 47.81% | 47.34% | 46.91% | 46.12% | 46.57% | 47.71% |
| Sempra Energy | SRE | 60.32% | 62.62% | 61.15% | 63.13% | 61.72% | 63.11% | 62.61% | 56.48% | 61.39% |
| Southern Company | SO | 61.36% | 60.61% | 61.47% | 62.23% | 62.48% | 64.25% | 64.30% | 64.79% | 62.69% |
| WEC Energy Group | WEC | 52.11% | 49.86% | 50.95% | 50.52% | 48.26% | 48.64% | 47.13% | 48.04% | 49.44% |
| Xcel Energy Inc. | XEL | 58.46% | 58.90% | 58.98% | 56.39% | 56.04% | 56.79% | 55.68% | 55.90% | 57.14% |
| Mean | | 53.35% | 53.95% | 53.50% | 52.79% | 52.10% | 52.19% | 51.79% | 52.14% | 52.73% |

Mr. O'Donnell's Proxy Group Capital Structure - Operating Company Level

| | | % Common Equity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Company | Ticker | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE, Inc. | ALE | 58.68% | 59.66% | 59.53% | 59.12% | 58.50% | 58.84% | 63.09% | 62.51% | 59.99% |
| Alliant Energy Corporation | LNT | 51.73% | 50.38% | 53.18% | 53.11% | 51.13% | 51.00% | 49.74% | 49.77% | 51.26% |
| Ameren Corporation | AEE | 53.67% | 53.03% | 52.81% | 52.69% | 53.22% | 52.01% | 53.04% | 52.65% | 52.89% |
| American Electric Power Co. | AEP | 49.91% | 48.80% | 49.62% | 49.40% | 48.68% | 48.52% | 48.60% | 48.91% | 49.06% |
| CMS Energy Corporation | CMS | 51.70% | 53.64% | 52.52% | 50.27% | 53.01% | 52.86% | 53.13% | 52.25% | 52.42% |
| Consolidated Edison, Inc. | ED | 66.56% | 66.06% | 65.83% | 65.31% | 65.59% | 65.82% | 66.50% | 66.16% | 65.98% |
| Dominion Energy, Inc. | D | 53.56% | 50.98% | 50.47% | 48.75% | 51.63% | 51.12% | 50.17% | 50.62% | 50.91% |
| Duke Energy Corporation | DUK | 52.89% | 54.48% | 53.14% | 54.35% | 55.03% | 54.94% | 54.46% | 54.30% | 54.20% |
| Edison International | EIX | 50.14% | 48.40% | 45.15% | 46.90% | 49.82% | 50.05% | 50.63% | 53.08% | 49.27% |
| El Paso Electric Company | EE | 49.23% | 47.99% | 49.01% | 47.88% | 48.57% | 47.32% | 49.46% | 49.95% | 48.68% |
| Entergy Corporation | ETR | 49.10% | 48.19% | 48.81% | 50.11% | 49.96% | 49.95% | 48.60% | 48.97% | 49.21% |
| Eversource Energy | ES | 49.53% | 49.38% | 54.22% | 53.28% | 51.03% | 50.14% | 54.05% | 54.60% | 52.03% |
| FirstEnergy Corporation | FE | 55.88% | 55.95% | 56.46% | 56.61% | 58.05% | 57.49% | 56.37% | 55.73% | 56.57% |
| Hawaiian Electric Industries | HE | 58.43% | 58.17% | 58.06% | 57.98% | 56.09% | 55.78% | 57.44% | 57.42% | 57.42% |
| IDACORP, Inc. | IDA | 55.20% | 54.58% | 54.36% | 54.25% | 54.25% | 53.44% | 51.37% | 54.22% | 53.96% |
| MGE Energy, Inc. | MGEE | 59.66% | 58.84% | 58.46% | 57.90% | 57.36% | 60.66% | 60.20% | 59.73% | 59.10% |
| NextEra Energy, Inc. | NEE | 56.15% | 61.22% | 61.05% | 64.37% | 64.78% | 60.84% | 61.23% | 59.93% | 61.20% |
| NorthWestern Corporation | NWE | 47.80% | 48.07% | 48.74% | 47.88% | 48.36% | 48.41% | 47.48% | 49.89% | 48.33% |
| OGE Energy Corp. | OGE | 54.96% | 53.47% | 55.38% | 53.20% | 53.05% | 54.25% | 53.59% | 53.36% | 53.91% |
| Otter Tail Corporation | OTTR | 55.43% | 53.75% | 53.90% | 53.58% | 53.49% | 53.11% | 52.67% | 57.34% | 54.16% |
| Pinnacle West Capital Corp. | PNW | 54.25% | 54.41% | 54.48% | 54.36% | 53.68% | 53.71% | 53.18% | 53.14% | 53.90% |
| PNM Resources, Inc. | PNM | 45.33% | 43.86% | 43.45% | 45.63% | 48.01% | 46.68% | 46.20% | 46.06% | 45.65% |
| Portland General Electric Company | POR | 51.78% | 51.56% | 50.60% | 50.19% | 50.51% | 50.29% | 50.14% | 49.80% | 50.61% |
| Public Service Enterprise Group Incorporated | PEG | 54.65% | 54.31% | 55.14% | 54.24% | 53.69% | 53.93% | 54.20% | 53.41% | 54.20% |
| Sempra Energy | SRE | 56.17% | 56.30% | 53.82% | 53.29% | 53.13% | 54.39% | 54.20% | 53.27% | 54.32% |
| Southern Company | SO | 52.36% | 52.93% | 52.80% | 54.21% | 51.50% | 50.31% | 49.98% | 47.67% | 51.47% |
| WEC Energy Group | WEC | 55.79% | 56.71% | 55.73% | 53.46% | 58.30% | 57.72% | 61.62% | 54.62% | 56.74% |
| Xcel Energy Inc. | XEL | 53.98% | 54.70% | 54.51% | 54.22% | 53.37% | 53.63% | 54.15% | 53.95% | 54.06% |
| Mean | | 53.73% | 53.57% | 53.62% | 53.45% | 53.71% | 53.47% | 53.77% | 53.69% | 53.62% |

Operating Company Capital Structure

| | | % Common Equity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Operating Company | Parent | 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
| ALLETE (Minnesota Power) | ALE | 59.33% | 60.94% | 60.87% | 61.39% | 60.43% | 60.33% | 60.38% | 60.04% | 60.46% |
| Superior Water, Light and Power Company | ALE | 58.03% | 58.38% | 58.19% | 56.86% | 56.58% | 57.34% | 65.80% | 64.99% | 59.52% |
| Interstate Power and Light Company | LNT | 50.06% | 51.76% | 53.33% | 53.52% | 49.64% | 50.47% | 49.92% | 50.31% | 51.13% |
| Wisconsin Power and Light Company | LNT | 53.40% | 49.01% | 53.03% | 52.69% | 52.62% | 51.52% | 49.57% | 49.23% | 51.38% |
| Ameren Illinois Company | AEE | 54.46% | 54.05% | 53.65% | 52.86% | 53.18% | 52.74% | 54.24% | 53.38% | 53.57% |
| Union Electric Company | AEE | 52.88% | 52.00% | 51.96% | 52.52% | 53.26% | 51.28% | 51.84% | 51.92% | 52.21% |
| AEP Texas Inc. | AEP | 46.97% | 46.32% | 47.54% | 45.38% | 43.80% | 43.20% | 46.75% | 45.14% | 45.64% |
| Appalachian Power Company | AEP | 48.74% | 48.19% | 47.77% | 49.51% | 49.30% | 48.93% | 49.35% | 48.72% | 48.81% |
| Indiana Michigan Power Company | AEP | 46.51% | 45.83% | 45.43% | 44.62% | 44.53% | 44.15% | 46.64% | 46.33% | 45.50% |
| Kentucky Power Company | AEP | 46.94% | 46.50% | 46.42% | 45.72% | 45.28% | 44.89% | 44.40% | 43.52% | 45.46% |
| Kingsport Power Company | AEP | 54.24% | 50.18% | 51.54% | 50.79% | 50.71% | 47.69% | 47.28% | 46.53% | 49.87% |
| Ohio Power Company | AEP | 53.63% | 52.92% | 58.86% | 57.80% | 56.85% | 57.11% | 52.91% | 58.63% | 56.09% |
| Public Service Company of Oklahoma | AEP | 49.89% | 48.02% | 47.19% | 49.16% | 49.55% | 48.59% | 48.10% | 48.50% | 48.62% |
| Southwestern Electric Power Company | AEP | 48.63% | 47.45% | 47.59% | 46.97% | 43.43% | 47.91% | 47.72% | 48.52% | 47.28% |
| Wheeling Power Company | AEP | 53.66% | 53.83% | 54.27% | 54.62% | 54.70% | 54.19% | 54.27% | 54.26% | 54.23% |
| Consumers Energy Company | CMS | 51.70% | 53.64% | 52.52% | 50.27% | 53.01% | 52.86% | 53.13% | 52.25% | 52.42% |
| Consolidated Edison Company of New York, Inc. | ED | 49.29% | 48.92% | 48.30% | 47.52% | 48.33% | 46.72% | 48.66% | 48.22% | 48.24% |
| Orange and Rockland Utilities, Inc. | ED | 50.40% | 49.25% | 49.21% | 48.41% | 48.44% | 50.74% | 50.83% | 50.25% | 49.69% |
| Rockland Electric Company | ED | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Virginia Electric and Power Company | D | 53.33% | 53.30% | 52.42% | 52.62% | 53.64% | 52.81% | 51.03% | 51.71% | 52.61% |
| Dominion Energy South Carolina, Inc. | D | 53.80% | 48.67% | 48.52% | 44.88% | 49.63% | 49.44% | 49.30% | 49.54% | 49.22% |
| Duke Energy Carolinas, LLC | DUK | 51.80% | 52.94% | 52.32% | 51.78% | 52.64% | 52.10% | 51.70% | 52.98% | 52.28% |
| Duke Energy Florida, LLC | DUK | 52.82% | 51.55% | 50.56% | 50.04% | 49.65% | 48.79% | 49.92% | 49.25% | 50.32% |
| Duke Energy Indiana, LLC | DUK | 51.52% | 54.83% | 54.29% | 53.26% | 52.79% | 52.64% | 52.54% | 51.94% | 52.98% |
| Duke Energy Kentucky, Inc. | DUK | 45.44% | 53.04% | 52.81% | 51.95% | 56.58% | 55.79% | 53.72% | 53.11% | 52.80% |
| Duke Energy Ohio, Inc. | DUK | 64.90% | 64.45% | 59.29% | 68.09% | 67.73% | 67.10% | 66.06% | 66.24% | 65.48% |
| Duke Energy Progress, LLC | DUK | 50.86% | 50.09% | 49.60% | 51.00% | 50.76% | 53.22% | 52.82% | 52.27% | 51.33% |
| Southern California Edison Company | EIX | 50.14% | 48.40% | 45.15% | 46.90% | 49.82% | 50.05% | 50.63% | 53.08% | 49.27% |
| El Paso Electric Company | EE | 49.23% | 47.99% | 49.01% | 47.88% | 48.57% | 47.32% | 49.46% | 49.95% | 48.68% |
| Entergy Arkansas, Inc. | ETR | 47.72% | 46.49% | 47.04% | 49.42% | 49.38% | 48.29% | 45.88% | 45.95% | 47.52% |
| Entergy Louisiana, LLC | ETR | 47.13% | 46.32% | 45.79% | 47.37% | 46.77% | 46.97% | 44.58% | 47.43% | 46.55% |
| Entergy Mississippi, Inc. | ETR | 48.35% | 44.93% | 49.41% | 49.11% | 50.10% | 49.10% | 48.32% | 47.85% | 48.40% |
| Entergy New Orleans, LLC | ETR | 53.69% | 52.40% | 51.69% | 51.19% | 50.93% | 54.02% | 53.43% | 53.16% | 52.56% |
| Entergy Texas, Inc. | ETR | 48.63% | 50.79% | 50.13% | 53.46% | 52.61% | 51.38% | 50.79% | 50.45% | 51.03% |
| Connecticut Light and Power Company | ES | 54.12% | 55.38% | 58.18% | 56.18% | 54.49% | 53.85% | 50.40% | 53.82% | 54.55% |
| NSTAR Electric Company | ES | 53.81% | 52.74% | 56.08% | 55.74% | 55.50% | 54.51% | 53.83% | 53.85% | 54.51% |
| Public Service Company of New Hampshire | ES | 40.64% | 40.02% | 48.38% | 47.92% | 43.11% | 42.06% | 57.93% | 57.30% | 47.17% |
| Western Massachusetts Electric Company | ES | NA | NA | NA | NA | NA | NA | NA | 53.43% | 53.43% |
| Cleveland Electric Illuminating Company | FE | 55.74% | 55.49% | 55.54% | 55.44% | 56.50% | 56.31% | 55.48% | 55.27% | 55.72% |
| Jersey Central Power & Light Company | FE | 68.74% | 68.23% | 68.08% | 69.46% | 69.34% | 68.81% | 65.52% | 65.30% | 67.93% |
| Metropolitan Edison Company | FE | 49.72% | 48.46% | 47.78% | 53.21% | 54.25% | 53.10% | 52.18% | 52.33% | 51.38% |
| Monongahela Power Company | FE | 49.98% | 49.07% | 49.05% | 48.87% | 50.71% | 51.53% | 50.57% | 49.15% | 49.87% |
| Ohio Edison Company | FE | 69.16% | 71.42% | 70.82% | 69.93% | 69.14% | 67.33% | 66.89% | 64.91% | 68.70% |
| Pennsylvania Electric Company | FE | 51.78% | 50.93% | 53.85% | 53.89% | 54.01% | 53.90% | 53.09% | 52.06% | 52.94% |
| Pennsylvania Power Company | FE | 53.09% | 51.71% | 50.69% | 49.03% | 58.27% | 56.89% | 55.70% | 53.82% | 53.65% |
| Potomac Edison Company | FE | 53.69% | 52.99% | 53.29% | 52.35% | 52.92% | 52.65% | 52.64% | 51.59% | 52.77% |
| Toledo Edison Company | FE | 60.76% | 60.57% | 60.78% | 60.43% | 62.25% | 62.25% | 60.60% | 60.04% | 60.96% |
| West Penn Power Company | FE | 46.11% | 50.63% | 54.68% | 53.50% | 53.14% | 52.09% | 51.09% | 52.82% | 51.76% |
| Hawaii Electric Light Company, Inc. | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hawaiian Electric Company, Inc. | HE | 58.43% | 58.17% | 58.06% | 57.98% | 56.09% | 55.78% | 57.44% | 57.42% | 57.42% |
| Maui Electric Company, Limited | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Idaho Power Co. | IDA | 55.20% | 54.58% | 54.36% | 54.25% | 54.25% | 53.44% | 51.37% | 54.22% | 53.96% |
| Madison Gas and Electric Company | MGEE | 59.66% | 58.84% | 58.46% | 57.90% | 57.36% | 60.66% | 60.20% | 59.73% | 59.10% |
| Florida Power & Light Company | NEE | 59.78% | 61.30% | 64.03% | 64.37% | 64.78% | 60.84% | 61.23% | 59.93% | 62.03% |
| Gulf Power Company | NEE | 52.52% | 61.15% | 58.06% | NA | NA | NA | NA | NA | 57.24% |
| NorthWestern Corporation | NWE | 47.80% | 48.07% | 48.74% | 47.88% | 48.36% | 48.41% | 47.48% | 49.89% | 48.33% |
| Oklahoma Gas and Electric Company | OGE | 54.96% | 53.47% | 55.38% | 53.20% | 53.05% | 54.25% | 53.59% | 53.36% | 53.91% |
| Otter Tail Power Company | OTTR | 55.43% | 53.75% | 53.90% | 53.58% | 53.49% | 53.11% | 52.67% | 57.34% | 54.16% |
| Arizona Public Service Company | PNW | 54.25% | 54.41% | 54.48% | 54.36% | 53.68% | 53.71% | 53.18% | 53.14% | 53.90% |
| Public Service Company of New Mexico | PNM | 45.33% | 43.86% | 43.45% | 45.63% | 48.01% | 46.68% | 46.20% | 46.06% | 45.65% |
| Portland General Electric Company | POR | 51.78% | 51.56% | 50.60% | 50.19% | 50.51% | 50.29% | 50.14% | 49.80% | 50.61% |
| Public Service Electric and Gas Company | PEG | 54.65% | 54.31% | 55.14% | 54.24% | 53.69% | 53.93% | 54.20% | 53.41% | 54.20% |
| Oncor Electric Delivery Company LLC | SRE | 54.91% | 57.43% | 59.79% | 59.47% | 59.29% | 62.31% | 60.34% | 58.86% | 59.05% |
| San Diego Gas & Electric Co. | SRE | 57.43% | 55.17% | 56.60% | 55.79% | 55.17% | 54.47% | 55.92% | 55.09% | 55.71% |
| Sharyland Utilities, LLC | SRE | NA | NA | 45.05% | 44.62% | 44.92% | 46.39% | 46.34% | 45.86% | 45.53% |
| Alabama Power Company | SO | 51.45% | 52.54% | 52.23% | 47.77% | 48.13% | 47.51% | 48.86% | 47.07% | 49.44% |
| Georgia Power Company | SO | 55.38% | 56.39% | 56.43% | 59.02% | 57.27% | 54.97% | 53.81% | 50.06% | 55.42% |
| Mississippi Power Company | SO | 50.23% | 49.87% | 49.73% | 50.35% | 45.28% | 43.87% | 43.00% | 39.34% | 46.46% |
| Gulf Power Company | SO | NA | NA | NA | 59.73% | 55.34% | 54.90% | 54.27% | 54.19% | 55.69% |
| Upper Michigan Energy Resources Corporation | WEC | 56.09% | 54.45% | 52.54% | 47.01% | 55.08% | 54.53% | 70.04% | 49.85% | 54.95% |
| Wisconsin Electric Power Company | WEC | 56.92% | 56.64% | 55.78% | 56.03% | 59.25% | 59.09% | 56.47% | 55.94% | 57.01% |
| Wisconsin Public Service Corporation | WEC | 54.37% | 59.04% | 58.88% | 57.33% | 60.59% | 59.53% | 58.35% | 58.06% | 58.27% |
| Northern States Power Company - MN | XEL | 51.79% | 53.66% | 53.64% | 52.81% | 52.64% | 52.61% | 52.59% | 52.38% | 52.77% |
| Northern States Power Company - WI | XEL | 53.56% | 53.49% | 53.59% | 53.60% | 48.45% | 53.85% | 53.79% | 53.36% | 52.96% |
| Public Service Company of Colorado | XEL | 56.35% | 57.53% | 56.68% | 56.31% | 56.08% | 54.17% | 56.67% | 56.50% | 56.29% |
| Southwestern Public Service Company | XEL | 54.21% | 54.14% | 54.13% | 54.17% | 56.29% | 53.88% | 53.54% | 53.55% | 54.24% |
| Mean | | 53.63% | 53.59% | 53.79% | 53.65% | 53.83% | 53.59% | 53.74% | 53.37% | 53.66% |

Source: S&P Global Market Intelligence

Mr. O'Donnell's Proxy Group Capital Structure - Operating Company Level

| Company | Ticker | % Long-Term Debt 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | 41.32% | 40.34% | 40.47% | 40.88% | 41.50% | 41.16% | 36.91% | 37.49% | 40.01% |
| Alliant Energy Corporation | LNT | 48.27% | 49.62% | 46.82% | 46.89% | 48.87% | 49.00% | 50.26% | 50.23% | 48.74% |
| Ameren Corporation | AEE | 46.33% | 46.97% | 47.19% | 47.31% | 46.78% | 47.99% | 46.96% | 47.35% | 47.11% |
| American Electric Power Co. | AEP | 50.09% | 51.20% | 50.38% | 50.60% | 51.32% | 51.48% | 51.40% | 51.09% | 50.94% |
| CMS Energy Corporation | CMS | 48.30% | 46.36% | 47.48% | 49.73% | 46.99% | 47.14% | 46.87% | 47.75% | 47.58% |
| Consolidated Edison, Inc. | ED | 33.44% | 33.94% | 34.17% | 34.69% | 34.41% | 34.18% | 33.50% | 33.84% | 34.02% |
| Dominion Energy, Inc. | D | 46.44% | 49.02% | 49.53% | 51.25% | 48.37% | 48.88% | 49.83% | 49.38% | 49.09% |
| Duke Energy Corporation | DUK | 47.11% | 45.52% | 46.86% | 45.65% | 44.97% | 45.06% | 45.54% | 45.70% | 45.80% |
| Edison International | EIX | 49.86% | 51.60% | 54.85% | 53.10% | 50.18% | 49.95% | 49.37% | 46.92% | 50.73% |
| El Paso Electric Company | EE | 50.77% | 52.01% | 50.99% | 52.12% | 51.43% | 52.68% | 50.54% | 50.05% | 51.32% |
| Entergy Corporation | ETR | 50.90% | 51.81% | 51.19% | 49.89% | 50.04% | 50.05% | 51.40% | 51.03% | 50.79% |
| Eversource Energy | ES | 50.47% | 50.62% | 45.78% | 46.72% | 48.97% | 49.86% | 45.95% | 45.40% | 47.97% |
| FirstEnergy Corporation | FE | 44.12% | 44.05% | 43.54% | 43.39% | 41.95% | 42.51% | 43.63% | 44.27% | 43.43% |
| Hawaiian Electric Industries | HE | 41.57% | 41.83% | 41.94% | 42.02% | 43.91% | 44.22% | 42.56% | 42.58% | 42.58% |
| IDACORP, Inc. | IDA | 44.80% | 45.42% | 45.64% | 45.75% | 45.75% | 46.56% | 48.63% | 45.78% | 46.04% |
| MGE Energy, Inc. | MGEE | 40.34% | 41.16% | 41.54% | 42.10% | 42.64% | 39.34% | 39.80% | 40.27% | 40.90% |
| NextEra Energy, Inc. | NEE | 43.85% | 38.78% | 38.95% | 35.63% | 35.22% | 39.16% | 38.77% | 40.07% | 38.80% |
| NorthWestern Corporation | NWE | 52.20% | 51.93% | 51.26% | 52.12% | 51.64% | 51.59% | 52.52% | 50.11% | 51.67% |
| OGE Energy Corp. | OGE | 45.04% | 46.53% | 44.62% | 46.80% | 46.95% | 45.75% | 46.41% | 46.64% | 46.09% |
| Otter Tail Corporation | OTTR | 44.57% | 46.25% | 46.10% | 46.42% | 46.51% | 46.89% | 47.33% | 42.66% | 45.84% |
| Pinnacle West Capital Corp. | PNW | 45.75% | 45.59% | 45.52% | 45.64% | 46.32% | 46.29% | 46.82% | 46.86% | 46.10% |
| PNM Resources, Inc. | PNM | 54.67% | 56.14% | 56.55% | 54.37% | 51.99% | 53.32% | 53.80% | 53.94% | 54.35% |
| Portland General Electric Company | POR | 48.22% | 48.44% | 49.40% | 49.81% | 49.49% | 49.71% | 49.86% | 50.20% | 49.39% |
| Public Service Enterprise Group Incorporated | PEG | 45.35% | 45.69% | 44.86% | 45.76% | 46.31% | 46.07% | 45.80% | 46.59% | 45.80% |
| Sempra Energy | SRE | 43.83% | 43.70% | 46.18% | 46.71% | 46.87% | 45.61% | 45.80% | 46.73% | 45.68% |
| Southern Company | SO | 47.64% | 47.07% | 47.20% | 45.79% | 48.50% | 49.69% | 50.02% | 52.33% | 48.53% |
| WEC Energy Group | WEC | 44.21% | 43.29% | 44.27% | 46.54% | 41.70% | 42.28% | 38.38% | 45.38% | 43.26% |
| Xcel Energy Inc. | XEL | 46.02% | 45.30% | 45.49% | 45.78% | 46.63% | 46.37% | 45.85% | 46.05% | 45.94% |
| Mean | | 46.27% | 46.43% | 46.38% | 46.55% | 46.29% | 46.53% | 46.23% | 46.31% | 46.38% |

Operating Company Capital Structure

| Operating Company | Parent | % Long-Term Debt 2019Q3 | 2019Q2 | 2019Q1 | 2018Q4 | 2018Q3 | 2018Q2 | 2018Q1 | 2017Q4 | Average |
|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE (Minnesota Power) | ALE | 40.67% | 39.06% | 39.13% | 38.61% | 39.57% | 39.67% | 39.62% | 39.96% | 39.54% |
| Superior Water, Light and Power Company | ALE | 41.97% | 41.62% | 41.81% | 43.14% | 43.42% | 42.66% | 34.20% | 35.01% | 40.48% |
| Interstate Power and Light Company | LNT | 49.94% | 48.24% | 46.67% | 46.48% | 50.36% | 49.53% | 50.08% | 49.69% | 48.87% |
| Wisconsin Power and Light Company | LNT | 46.60% | 50.99% | 46.97% | 47.31% | 47.38% | 48.48% | 50.43% | 50.77% | 48.62% |
| Ameren Illinois Company | AEE | 45.54% | 45.95% | 46.35% | 47.14% | 46.82% | 47.26% | 45.76% | 46.62% | 46.43% |
| Union Electric Company | AEE | 47.12% | 48.00% | 48.04% | 47.48% | 46.74% | 48.72% | 48.16% | 48.08% | 47.79% |
| AEP Texas Inc. | AEP | 53.03% | 53.68% | 52.46% | 54.62% | 56.20% | 56.80% | 53.25% | 54.86% | 54.36% |
| Appalachian Power Company | AEP | 51.26% | 51.81% | 52.23% | 50.49% | 50.70% | 51.07% | 50.65% | 51.28% | 51.19% |
| Indiana Michigan Power Company | AEP | 53.49% | 54.17% | 54.57% | 55.38% | 55.47% | 55.85% | 53.36% | 53.67% | 54.50% |
| Kentucky Power Company | AEP | 53.06% | 53.50% | 53.58% | 54.28% | 54.72% | 55.11% | 55.60% | 56.48% | 54.54% |
| Kingsport Power Company | AEP | 45.76% | 49.82% | 48.46% | 49.21% | 49.29% | 52.31% | 52.72% | 53.47% | 50.13% |
| Ohio Power Company | AEP | 46.37% | 47.08% | 41.14% | 42.20% | 43.15% | 42.89% | 47.09% | 41.37% | 43.91% |
| Public Service Company of Oklahoma | AEP | 50.11% | 51.98% | 52.81% | 50.84% | 50.45% | 51.41% | 51.90% | 51.50% | 51.38% |
| Southwestern Electric Power Company | AEP | 51.37% | 52.55% | 52.41% | 53.03% | 56.57% | 52.09% | 52.28% | 51.48% | 52.72% |
| Wheeling Power Company | AEP | 46.34% | 46.17% | 45.73% | 45.38% | 45.30% | 45.81% | 45.73% | 45.74% | 45.77% |
| Consumers Energy Company | CMS | 48.30% | 46.36% | 47.48% | 49.73% | 46.99% | 47.14% | 46.87% | 47.75% | 47.58% |
| Consolidated Edison Company of New York, Inc. | ED | 50.71% | 51.08% | 51.70% | 52.48% | 51.67% | 53.28% | 51.34% | 51.78% | 51.76% |
| Orange and Rockland Utilities, Inc. | ED | 49.60% | 50.75% | 50.79% | 51.59% | 51.56% | 49.26% | 49.17% | 49.75% | 50.31% |
| Rockland Electric Company | ED | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Virginia Electric and Power Company | D | 46.67% | 46.70% | 47.58% | 47.38% | 46.36% | 47.19% | 48.97% | 48.29% | 47.39% |
| Dominion Energy South Carolina, Inc. | D | 46.20% | 51.33% | 51.48% | 55.12% | 50.37% | 50.56% | 50.70% | 50.46% | 50.78% |
| Duke Energy Carolinas, LLC | DUK | 48.20% | 47.06% | 47.68% | 48.22% | 47.36% | 47.90% | 48.30% | 47.02% | 47.72% |
| Duke Energy Florida, LLC | DUK | 47.18% | 48.45% | 49.44% | 49.96% | 50.35% | 51.21% | 50.08% | 50.75% | 49.68% |
| Duke Energy Indiana, LLC | DUK | 48.48% | 45.17% | 45.71% | 46.74% | 47.21% | 47.36% | 47.46% | 48.06% | 47.02% |
| Duke Energy Kentucky, Inc. | DUK | 54.56% | 46.96% | 47.19% | 48.05% | 43.42% | 44.21% | 46.28% | 46.89% | 47.20% |
| Duke Energy Ohio, Inc. | DUK | 35.10% | 35.55% | 40.71% | 31.91% | 32.27% | 32.90% | 33.94% | 33.76% | 34.52% |
| Duke Energy Progress, LLC | DUK | 49.14% | 49.91% | 50.40% | 49.00% | 49.24% | 46.78% | 47.18% | 47.73% | 48.67% |
| Southern California Edison Company | EIX | 49.86% | 51.60% | 54.85% | 53.10% | 50.18% | 49.95% | 49.37% | 46.92% | 50.73% |
| El Paso Electric Company | EE | 50.77% | 52.01% | 50.99% | 52.12% | 51.43% | 52.68% | 50.54% | 50.05% | 51.32% |
| Entergy Arkansas, Inc. | ETR | 52.28% | 53.51% | 52.96% | 50.58% | 50.62% | 51.71% | 54.12% | 54.05% | 52.48% |
| Entergy Louisiana, LLC | ETR | 52.87% | 53.68% | 54.21% | 52.63% | 53.23% | 53.03% | 55.42% | 52.57% | 53.45% |
| Entergy Mississippi, Inc. | ETR | 51.65% | 55.07% | 50.59% | 50.89% | 49.90% | 50.90% | 51.68% | 52.15% | 51.60% |
| Entergy New Orleans, LLC | ETR | 46.31% | 47.60% | 48.31% | 48.81% | 49.07% | 45.98% | 46.57% | 46.84% | 47.44% |
| Entergy Texas, Inc. | ETR | 51.37% | 49.21% | 49.87% | 46.54% | 47.39% | 48.62% | 49.21% | 49.55% | 48.97% |
| Connecticut Light and Power Company | ES | 45.88% | 44.62% | 41.82% | 43.82% | 45.51% | 46.15% | 49.60% | 46.18% | 45.45% |
| NSTAR Electric Company | ES | 46.19% | 47.26% | 43.92% | 44.26% | 44.50% | 45.49% | 46.17% | 46.15% | 45.49% |
| Public Service Company of New Hampshire | ES | 59.36% | 59.98% | 51.62% | 52.08% | 56.89% | 57.94% | 42.07% | 42.70% | 52.83% |
| Western Massachusetts Electric Company | ES | NA | NA | NA | NA | NA | NA | NA | 46.57% | 46.57% |
| Cleveland Electric Illuminating Company | FE | 44.26% | 44.51% | 44.46% | 44.56% | 43.50% | 43.69% | 44.52% | 44.73% | 44.28% |
| Jersey Central Power & Light Company | FE | 31.26% | 31.77% | 31.92% | 30.54% | 30.66% | 31.19% | 34.48% | 34.70% | 32.07% |
| Metropolitan Edison Company | FE | 50.28% | 51.54% | 52.22% | 46.79% | 45.75% | 46.90% | 47.82% | 47.67% | 48.62% |
| Monongahela Power Company | FE | 50.02% | 50.93% | 50.95% | 51.13% | 49.29% | 48.47% | 49.43% | 50.85% | 50.13% |
| Ohio Edison Company | FE | 30.84% | 28.58% | 29.18% | 30.07% | 30.86% | 32.67% | 33.11% | 35.09% | 31.30% |
| Pennsylvania Electric Company | FE | 48.22% | 49.07% | 46.15% | 46.11% | 45.99% | 46.10% | 46.91% | 47.94% | 47.06% |
| Pennsylvania Power Company | FE | 46.91% | 48.29% | 49.31% | 50.97% | 41.73% | 43.11% | 44.30% | 46.18% | 46.35% |
| Potomac Edison Company | FE | 46.31% | 47.01% | 46.71% | 47.65% | 47.08% | 47.35% | 47.36% | 48.41% | 47.23% |
| Toledo Edison Company | FE | 39.24% | 39.43% | 39.22% | 39.57% | 37.75% | 37.75% | 39.40% | 39.96% | 39.04% |
| West Penn Power Company | FE | 53.89% | 49.37% | 45.32% | 46.50% | 46.86% | 47.91% | 48.91% | 47.18% | 48.24% |
| Hawaii Electric Light Company, Inc. | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hawaiian Electric Company, Inc. | HE | 41.57% | 41.83% | 41.94% | 42.02% | 43.91% | 44.22% | 42.56% | 42.58% | 42.58% |
| Maui Electric Company, Limited | HE | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Idaho Power Co. | IDA | 44.80% | 45.42% | 45.64% | 45.75% | 45.75% | 46.56% | 48.63% | 45.78% | 46.04% |
| Madison Gas and Electric Company | MGEE | 40.34% | 41.16% | 41.54% | 42.10% | 42.64% | 39.34% | 39.80% | 40.27% | 40.90% |
| Florida Power & Light Company | NEE | 40.22% | 38.70% | 35.97% | 35.63% | 35.22% | 39.16% | 38.77% | 40.07% | 37.97% |
| Gulf Power Company | NEE | 47.48% | 38.85% | 41.94% | NA | NA | NA | NA | NA | 42.76% |
| NorthWestern Corporation | NWE | 52.20% | 51.93% | 51.26% | 52.12% | 51.64% | 51.59% | 52.52% | 50.11% | 51.67% |
| Oklahoma Gas and Electric Company | OGE | 45.04% | 46.53% | 44.62% | 46.80% | 46.95% | 45.75% | 46.41% | 46.64% | 46.09% |
| Otter Tail Power Company | OTTR | 44.57% | 46.25% | 46.10% | 46.42% | 46.51% | 46.89% | 47.33% | 42.66% | 45.84% |
| Arizona Public Service Company | PNW | 45.75% | 45.59% | 45.52% | 45.64% | 46.32% | 46.29% | 46.82% | 46.86% | 46.10% |
| Public Service Company of New Mexico | PNM | 54.67% | 56.14% | 56.55% | 54.37% | 51.99% | 53.32% | 53.80% | 53.94% | 54.35% |
| Portland General Electric Company | POR | 48.22% | 48.44% | 49.40% | 49.81% | 49.49% | 49.71% | 49.86% | 50.20% | 49.39% |
| Public Service Electric and Gas Company | PEG | 45.35% | 45.69% | 44.86% | 45.76% | 46.31% | 46.07% | 45.80% | 46.59% | 45.80% |
| Oncor Electric Delivery Company LLC | SRE | 45.09% | 42.57% | 40.21% | 40.53% | 40.71% | 37.69% | 39.66% | 41.14% | 40.95% |
| San Diego Gas & Electric Co. | SRE | 42.57% | 44.83% | 43.40% | 44.21% | 44.83% | 45.53% | 44.08% | 44.91% | 44.29% |
| Sharyland Utilities, LLC | SRE | NA | NA | 54.95% | 55.38% | 55.08% | 53.61% | 53.66% | 54.14% | 54.47% |
| Alabama Power Company | SO | 48.55% | 47.46% | 47.77% | 52.23% | 51.87% | 52.49% | 51.14% | 52.93% | 50.56% |
| Georgia Power Company | SO | 44.62% | 43.61% | 43.57% | 40.98% | 42.73% | 45.03% | 46.19% | 49.94% | 44.58% |
| Mississippi Power Company | SO | 49.77% | 50.13% | 50.27% | 49.65% | 54.72% | 56.13% | 57.00% | 60.66% | 53.54% |
| Gulf Power Company | SO | NA | NA | NA | 40.27% | 44.66% | 45.10% | 45.73% | 45.81% | 44.31% |
| Upper Michigan Energy Resources Corporation | WEC | 43.91% | 45.55% | 47.46% | 52.99% | 44.92% | 45.47% | 29.96% | 50.15% | 45.05% |
| Wisconsin Electric Power Company | WEC | 43.08% | 43.36% | 44.22% | 43.97% | 40.75% | 40.91% | 43.53% | 44.06% | 42.99% |
| Wisconsin Public Service Corporation | WEC | 45.63% | 40.96% | 41.12% | 42.67% | 39.41% | 40.47% | 41.65% | 41.94% | 41.73% |
| Northern States Power Company - MN | XEL | 48.21% | 46.34% | 46.36% | 47.19% | 47.36% | 47.39% | 47.41% | 47.62% | 47.23% |
| Northern States Power Company - WI | XEL | 46.44% | 46.51% | 46.41% | 46.40% | 51.55% | 46.15% | 46.21% | 46.64% | 47.04% |
| Public Service Company of Colorado | XEL | 43.65% | 42.47% | 43.32% | 43.69% | 43.92% | 45.83% | 43.33% | 43.50% | 43.71% |
| Southwestern Public Service Company | XEL | 45.79% | 45.86% | 45.87% | 45.83% | 43.71% | 46.12% | 46.46% | 46.45% | 45.76% |
| Mean | | 46.37% | 46.41% | 46.21% | 46.35% | 46.17% | 46.41% | 46.26% | 46.63% | 46.34% |

Recently Authorized ROEs by RRA Ranking

| State | Company | Case Identification | Service | Case Type | Date | Return on Equity (%) | RRA Rank | Electric Utilities Top Third (Average/1 and higher) | Electric Utilities Middle Third (Average/2) | Electric Utilities Bottom Third (Average/3 and lower) |
|---|---|---|---|---|---|---|---|---|---|---|
| Washington | Avista Corp. | D-UE-150204 | Electric | Vertically Integrated | 1/6/2016 | 9.50 | Average / 3 | | | 9.50 |
| Arkansas | Entergy Arkansas LLC | D-15-015-U | Electric | Vertically Integrated | 2/23/2016 | 9.75 | Average / 3 | | | 9.75 |
| Indiana | Indianapolis Power & Light Co. | Ca-44576 | Electric | Vertically Integrated | 3/16/2016 | 9.85 | Above Average / 3 | 9.85 | | |
| New Mexico | El Paso Electric Co. | C-15-00127-UT | Electric | Vertically Integrated | 6/8/2016 | 9.48 | Below Average / 1 | | | 9.48 |
| Indiana | Northern IN Public Svc Co. | Ca-44688 | Electric | Vertically Integrated | 7/18/2016 | 9.98 | Above Average / 3 | 9.98 | | |
| Tennessee | Kingsport Power Company | D-16-00001 | Electric | Vertically Integrated | 8/9/2016 | 9.85 | Average / 1 | 9.85 | | |
| Arizona | UNS Electric Inc. | D-E-04204A-15-0142 | Electric | Vertically Integrated | 8/18/2016 | 9.50 | Average / 3 | | | 9.50 |
| Washington | PacifiCorp | D-UE-152253 | Electric | Vertically Integrated | 9/1/2016 | 9.50 | Average / 3 | | | 9.50 |
| Michigan | Upper Peninsula Power Co. | C-U-17895 | Electric | Vertically Integrated | 9/8/2016 | 10.00 | Average / 1 | 10.00 | | |
| New Mexico | Public Service Co. of NM | C-15-00261-UT | Electric | Vertically Integrated | 9/28/2016 | 9.58 | Below Average / 1 | | | 9.58 |
| Wisconsin | Madison Gas and Electric Co. | D-3270-UR-121 (Elec) | Electric | Vertically Integrated | 11/9/2016 | 9.80 | Above Average / 2 | 9.80 | | |
| Oklahoma | Public Service Co. of OK | Ca-PUD201500208 | Electric | Vertically Integrated | 11/10/2016 | 9.50 | Average / 2 | | 9.50 | |
| Wisconsin | Wisconsin Power and Light Co | D-6680-UR-120 (Elec) | Electric | Vertically Integrated | 11/18/2016 | 10.00 | Above Average / 2 | 10.00 | | |
| Florida | Florida Power & Light Co. | D-160021-EI | Electric | Vertically Integrated | 11/29/2016 | 10.55 | Above Average / 3 | 10.55 | | |
| California | Lbrty Utilities (CalPeco Elect | A-15-05-008 | Electric | Vertically Integrated | 12/1/2016 | 10.00 | Average / 1 | 10.00 | | |
| South Carolina | Duke Energy Progress LLC | D-2016-227-E | Electric | Vertically Integrated | 12/7/2016 | 10.10 | Average / 1 | 10.10 | | |
| Colorado | Black Hills Colorado Electric | D-16AL-0326E | Electric | Vertically Integrated | 12/19/2016 | 9.37 | Average / 1 | 9.37 | | |
| Nevada | Sierra Pacific Power Co. | D-16-06006 | Electric | Vertically Integrated | 12/22/2016 | 9.60 | Average / 2 | | 9.60 | |
| North Carolina | Virginia Electric & Power Co. | D-E-22, Sub 532 | Electric | Vertically Integrated | 12/22/2016 | 9.90 | Average / 1 | 9.90 | | |
| Idaho | Avista Corp. | C-AVU-E-16-03 | Electric | Vertically Integrated | 12/28/2016 | 9.50 | Average / 2 | | 9.50 | |
| Wyoming | MDU Resources Group Inc. | D-20004-117-ER-16 | Electric | Vertically Integrated | 1/18/2017 | 9.45 | Average / 2 | | 9.45 | |
| Michigan | DTE Electric Co. | C-U-18014 | Electric | Vertically Integrated | 1/31/2017 | 10.10 | Average / 1 | 10.10 | | |
| Arizona | Tucson Electric Power Co. | D-E-01933A-15-0322 | Electric | Vertically Integrated | 2/24/2017 | 9.75 | Average / 3 | | | 9.75 |
| Michigan | Consumers Energy Co. | C-U-17990 | Electric | Vertically Integrated | 2/28/2017 | 10.10 | Average / 1 | 10.10 | | |
| Minnesota | Otter Tail Power Co. | D-E-017/GR-15-1033 | Electric | Vertically Integrated | 3/2/2017 | 9.41 | Average / 2 | | 9.41 | |
| Oklahoma | Oklahoma Gas and Electric Co. | Ca-PUD201500273 | Electric | Vertically Integrated | 3/20/2017 | 9.50 | Average / 2 | | 9.50 | |
| Florida | Gulf Power Co. | D-160186-EI | Electric | Vertically Integrated | 4/4/2017 | 10.25 | Above Average / 3 | 10.25 | | |
| Missouri | Kansas City Power & Light | C-ER-2016-0285 | Electric | Vertically Integrated | 5/3/2017 | 9.50 | Average / 2 | | 9.50 | |
| Minnesota | Northern States Power Co. - MN | D-E-002/GR-15-826 | Electric | Vertically Integrated | 5/11/2017 | 9.20 | Average / 2 | | 9.20 | |
| Arkansas | Oklahoma Gas and Electric Co. | D-16-052-U | Electric | Vertically Integrated | 5/18/2017 | 9.50 | Average / 1 | 9.50 | | |
| North Dakota | MDU Resources Group Inc. | C-PU-16-666 | Electric | Vertically Integrated | 6/16/2017 | 9.65 | Average / 1 | 9.65 | | |
| Kentucky | Kentucky Utilities Co. | C-2016-00370 | Electric | Vertically Integrated | 6/22/2017 | 9.70 | Average / 1 | 9.70 | | |
| Kentucky | Louisville Gas & Electric Co. | C-2016-00371 (elec.) | Electric | Vertically Integrated | 6/22/2017 | 9.70 | Average / 1 | 9.70 | | |
| Arizona | Arizona Public Service Co. | D-E-01345A-16-0036 | Electric | Vertically Integrated | 8/15/2017 | 10.00 | Average / 3 | | | 10.00 |
| California | San Diego Gas & Electric Co. | Advice No. 3120-E | Electric | Vertically Integrated | 10/26/2017 | 10.20 | Above Average / 3 | 10.20 | | |
| California | Pacific Gas and Electric Co. | Advise No. 3887-G/5148-E | Electric | Vertically Integrated | 10/26/2017 | 10.25 | Above Average / 3 | 10.25 | | |
| California | Southern California Edison Co. | Advice No. 3665-E | Electric | Vertically Integrated | 10/26/2017 | 10.30 | Above Average / 3 | 10.30 | | |
| Florida | Tampa Electric Co. | D-20170210-EI | Electric | Vertically Integrated | 11/6/2017 | 10.25 | Above Average / 2 | 10.25 | | |
| Alaska | Alaska Electric Light Power | D-U-16-086 | Electric | Vertically Integrated | 11/15/2017 | 11.95 | Below Average / 1 | | | 11.95 |
| Washington | Puget Sound Energy Inc. | D-UE-170033 | Electric | Vertically Integrated | 12/5/2017 | 9.50 | Average / 3 | | | 9.50 |
| Wisconsin | Northern States Power Co - WI | D-4220-UR-123 (Elec) | Electric | Vertically Integrated | 12/7/2017 | 9.80 | Above Average / 2 | 9.80 | | |
| Texas | Southwestern Electric Power Co | D-46449 | Electric | Vertically Integrated | 12/14/2017 | 9.60 | Average / 3 | | | 9.60 |
| Texas | El Paso Electric Co. | D-46831 | Electric | Vertically Integrated | 12/14/2017 | 9.65 | Average / 3 | | | 9.65 |
| Oregon | Portland General Electric Co. | D-UE-319 | Electric | Vertically Integrated | 12/18/2017 | 9.50 | Average / 2 | | 9.50 | |
| New Mexico | Public Service Co. of NM | C-16-00276-UT | Electric | Vertically Integrated | 12/20/2017 | 9.58 | Below Average / 2 | | | 9.58 |
| Vermont | Green Mountain Power Corp. | C-17-3112-INV | Electric | Vertically Integrated | 12/21/2017 | 9.10 | Average / 2 | | 9.10 | |
| Idaho | Avista Corp. | C-AVU-E-17-01 | Electric | Vertically Integrated | 12/28/2017 | 9.50 | Average / 2 | | 9.50 | |
| Nevada | Nevada Power Co. | D-17-06003 | Electric | Vertically Integrated | 12/29/2017 | 9.51 | Average / 2 | | 9.51 | |

| State | Company | Case Identification | Service | Case Type | Date | Return on Equity (%) | RRA Rank | Top Third (Average/1 and higher) | Middle Third (Average/2) | Bottom Third (Average/3 and lower) |
|---|---|---|---|---|---|---|---|---|---|---|
| Kentucky | Kentucky Power Co. | C-2017-00179 | Electric | Vertically Integrated | 1/18/2018 | 9.70 | Average / 1 | 9.70 | | |
| Oklahoma | Public Service Co. of OK | Ca-PUD201700151 | Electric | Vertically Integrated | 1/31/2018 | 9.30 | Average / 3 | | | 9.30 |
| Iowa | Interstate Power & Light Co. | D-RPU-2017-0001 | Electric | Vertically Integrated | 2/2/2018 | 9.98 | Average / 1 | 9.98 | | |
| North Carolina | Duke Energy Progress LLC | D-E-2, Sub 1142 | Electric | Vertically Integrated | 2/23/2018 | 9.90 | Average / 1 | 9.90 | | |
| Minnesota | ALLETE (Minnesota Power) | D-E-015/GR-16-664 | Electric | Vertically Integrated | 3/12/2018 | 9.25 | Average / 2 | | 9.25 | |
| Michigan | Consumers Energy Co. | C-U-18322 | Electric | Vertically Integrated | 3/29/2018 | 10.00 | Above Average / 3 | 10.00 | | |
| Michigan | Indiana Michigan Power Co. | C-U-18370 | Electric | Vertically Integrated | 4/12/2018 | 9.90 | Above Average / 3 | 9.90 | | |
| Kentucky | Duke Energy Kentucky Inc. | C-2017-00321 | Electric | Vertically Integrated | 4/13/2018 | 9.73 | Average / 1 | 9.73 | | |
| Michigan | DTE Electric Co. | C-U-18255 | Electric | Vertically Integrated | 4/18/2018 | 10.00 | Above Average / 3 | 10.00 | | |
| Washington | Avista Corp. | D-UE-170485 | Electric | Vertically Integrated | 4/26/2018 | 9.50 | Average / 3 | | | 9.50 |
| Indiana | Indiana Michigan Power Co. | Ca-44967 | Electric | Vertically Integrated | 5/30/2018 | 9.95 | Average / 1 | 9.95 | | |
| Hawaii | Hawaiian Electric Co. | D-2016-0328 | Electric | Vertically Integrated | 6/22/2018 | 9.50 | Average / 2 | | 9.50 | |
| North Carolina | Duke Energy Carolinas LLC | D-E-7, Sub 1146 | Electric | Vertically Integrated | 6/22/2018 | 9.90 | Average / 1 | 9.90 | | |
| Hawaii | Hawaii Electric Light Co | D-2015-0170 | Electric | Vertically Integrated | 6/29/2018 | 9.50 | Average / 2 | | 9.50 | |
| New Mexico | Southwestern Public Service Co | C-17-00255-UT | Electric | Vertically Integrated | 9/5/2018 | 9.56 | Below Average / 2 | | | 9.56 |
| Wisconsin | Wisconsin Power and Light Co | D-6680-UR-121 (Elec) | Electric | Vertically Integrated | 9/14/2018 | 10.00 | Above Average / 2 | 10.00 | | |
| Wisconsin | Madison Gas and Electric Co. | D-3270-UR-122 (Elec) | Electric | Vertically Integrated | 9/20/2018 | 9.80 | Above Average / 2 | 9.80 | | |
| North Dakota | Otter Tail Power Co. | C-PU-17-398 | Electric | Vertically Integrated | 9/26/2018 | 9.77 | Average / 1 | 9.77 | | |
| Kansas | Westar Energy Inc. | D-18-WSEE-328-RTS | Electric | Vertically Integrated | 9/27/2018 | 9.30 | Below Average / 1 | | | 9.30 |
| Indiana | Indianapolis Power & Light Co. | Ca-45029 | Electric | Vertically Integrated | 10/31/2018 | 9.99 | Average / 1 | 9.99 | | |
| Kansas | Kansas City Power & Light | D-18-KCPE-480-RTS | Electric | Vertically Integrated | 12/13/2018 | 9.30 | Below Average / 1 | | | 9.30 |
| Oregon | Portland General Electric Co. | D-UE-335 | Electric | Vertically Integrated | 12/14/2018 | 9.50 | Average / 2 | | 9.50 | |
| Michigan | Consumers Energy Co. | C-U-20134 | Electric | Vertically Integrated | 1/9/2019 | 10.00 | Above Average / 3 | 10.00 | | |
| West Virginia | Appalachian Power Co. | C-18-0646-E-42T | Electric | Vertically Integrated | 2/27/2019 | 9.75 | Below Average / 2 | | | 9.75 |
| Oklahoma | Public Service Co. of OK | Ca-PUD201800097 | Electric | Vertically Integrated | 3/14/2019 | 9.40 | Average / 3 | | | 9.40 |
| Kentucky | Kentucky Utilities Co. | C-2018-00294 | Electric | Vertically Integrated | 4/30/2019 | 9.73 | Average / 1 | 9.73 | | |
| Kentucky | Louisville Gas & Electric Co. | C-2018-00295 (elec.) | Electric | Vertically Integrated | 4/30/2019 | 9.73 | Average / 1 | 9.73 | | |
| South Carolina | Duke Energy Carolinas LLC | D-2018-319-E | Electric | Vertically Integrated | 5/1/2019 | 9.50 | Average / 3 | | | 9.50 |
| Michigan | DTE Electric Co. | C-U-20162 | Electric | Vertically Integrated | 5/2/2019 | 10.00 | Above Average / 3 | 10.00 | | |
| South Carolina | Duke Energy Progress LLC | D-2018-318-E | Electric | Vertically Integrated | 5/8/2019 | 9.50 | Average / 3 | | | 9.50 |
| South Dakota | Otter Tail Power Co. | D-EL18-021 | Electric | Vertically Integrated | 5/14/2019 | 8.75 | Average / 2 | | 8.75 | |
| Hawaii | Maui Electric Company Ltd | D-2017-0150 | Electric | Vertically Integrated | 5/16/2019 | 9.50 | Average / 2 | | 9.50 | |
| Michigan | Upper Peninsula Power Co. | C-U-20276 | Electric | Vertically Integrated | 5/23/2019 | 9.90 | Above Average / 3 | 9.90 | | |
| Vermont | Green Mountain Power Corp. | C-19-1932-TF | Electric | Vertically Integrated | 8/29/2019 | 9.06 | Average / 3 | | | 9.06 |
| Wisconsin | Northern States Power Co - WI | D- 4220-UR-124 (Elec) | Electric | Vertically Integrated | 9/4/2019 | 10.00 | Above Average / 2 | 10.00 | | |
| Montana | NorthWestern Corp. | D2018.2.12 | Electric | Vertically Integrated | 12/20/2019 | 9.65 | Below Average / 1 | | | 9.65 |
| Wisconsin | Wisconsin Electric Power Co. | D-05-UR-109 (WEP-Elec) | Electric | Vertically Integrated | 10/31/2019 | 10.00 | Above Average / 2 | 10.00 | | |
| Wisconsin | Wisconsin Public Service Corp. | D-6690-UR-126 (Elec) | Electric | Vertically Integrated | 10/31/2019 | 10.00 | Above Average / 2 | 10.00 | | |
| Louisiana - NOCC | Entergy New Orleans LLC | D-UD-18-07 (elec.) | Electric | Vertically Integrated | 11/7/2019 | 9.35 | Average / 2 | | 9.35 | |
| Idaho | Avista Corp. | C-AVU-E-1904 | Electric | Vertically Integrated | 11/29/2019 | 9.50 | Average / 2 | | 9.50 | |
| Indiana | Northern IN Public Svc Co. | Ca-45159 | Electric | Vertically Integrated | 12/4/2019 | 9.75 | Average / 1 | 9.75 | | |
| Georgia | Georgia Power Co. | D-42516 | Electric | Vertically Integrated | 12/17/2019 | 10.50 | Above Average / 2 | 10.50 | | |
| California | San Diego Gas & Electric Co. | A-19-04-017 (Elec) | Electric | Vertically Integrated | 12/19/2019 | 10.20 | Average / 2 | | 10.20 | |
| California | Pacific Gas and Electric Co. | A-19-04-015 | Electric | Vertically Integrated | 12/19/2019 | 10.25 | Average / 2 | | 10.25 | |
| California | Southern California Edison Co. | A-19-04-014 | Electric | Vertically Integrated | 12/19/2019 | 10.30 | Average / 2 | | 10.30 | |
| Arkansas | Southwestern Electric Power Co | D-19-008-U | Electric | Vertically Integrated | 12/20/2019 | 9.45 | Average / 1 | 9.45 | | |
| Montana | NorthWestern Corp. | D2018.2.12 | Electric | Vertically Integrated | 12/20/2019 | 9.65 | Below Average / 1 | | | 9.65 |
| Nevada | Sierra Pacific Power Co. | D-19-06002 | Electric | Vertically Integrated | 12/24/2019 | 9.50 | Average / 2 | | 9.50 | |
| Iowa | Interstate Power & Light Co. | D-RPU-2019-0001 | Electric | Vertically Integrated | 1/8/2020 | 10.02 | Average / 1 | 10.02 | | |
| Michigan | Indiana Michigan Power Co. | C-U-20359 | Electric | Vertically Integrated | 1/23/2020 | 9.86 | Above Average / 3 | 9.86 | | |

| State | Company | Case Identification | Service | Case Type | Date | Return on Equity (%) | RRA Rank | Top Third (Average/1 and higher) | Middle Third (Average/2) | Bottom Third (Average/3 and lower) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Cases | 98 | | 49 | 24 | 25 |
| | | | | | Mean | 9.75 | | 9.93 | 9.52 | 9.63 |
| | | | | | Median | 9.73 | | 9.98 | 9.50 | 9.50 |
| | | | | | Maximum | 11.95 | | 10.55 | 10.30 | 11.95 |
| | | | | | Minimum | 8.75 | | 9.37 | 8.75 | 9.06 |
| | | | | | 2019 Mean | 9.74 | | | | |
| Source: Regulatory Research Associates | | | | | 2019 Median | 9.74 | | | | |

Constant Growth Discounted Cash Flow Model
30 Day Average Stock Price

| Company | Ticker | [1] Annualized Dividend | [2] Average Stock Price | [3] Dividend Yield | [4] Expected Dividend Yield | [5] Zacks Earnings Growth | [6] First Call Earnings Growth | [7] Value Line Earnings Growth | [8] Average Earnings Growth | [9] Low ROE | [10] Mean ROE | [11] High ROE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | $2.47 | $57.07 | 4.33% | 4.46% | NA | 7.00% | 5.50% | 6.25% | 9.95% | 10.71% | 11.48% |
| Alliant Energy Corporation | LNT | $1.52 | $48.56 | 3.13% | 3.22% | 5.50% | 5.30% | 6.50% | 5.77% | 8.51% | 8.99% | 9.73% |
| Ameren Corporation | AEE | $1.98 | $72.11 | 2.75% | 2.83% | 6.80% | 5.90% | 6.00% | 6.23% | 8.73% | 9.06% | 9.64% |
| American Electric Power Company, Inc. | AEP | $2.80 | $82.01 | 3.41% | 3.51% | 5.80% | 5.88% | 5.00% | 5.56% | 8.50% | 9.07% | 9.39% |
| Avangrid, Inc. | AGR | $1.76 | $42.83 | 4.11% | 4.23% | 5.50% | 6.40% | 6.00% | 5.97% | 9.72% | 10.20% | 10.64% |
| Avista Corporation | AVA | $1.62 | $37.52 | 4.32% | 4.41% | 5.20% | 6.00% | 1.00% | 4.07% | 5.34% | 8.47% | 10.45% |
| CMS Energy Corporation | CMS | $1.63 | $58.02 | 2.81% | 2.91% | 6.90% | 7.16% | 7.50% | 7.19% | 9.81% | 10.10% | 10.41% |
| DTE Energy Company | DTE | $4.05 | $107.49 | 3.77% | 3.87% | 5.50% | 5.84% | 5.00% | 5.45% | 8.86% | 9.32% | 9.72% |
| Evergy, Inc | EVRG | $2.02 | $60.72 | 3.33% | 3.39% | 5.00% | 3.90% | 3.00% | 3.97% | 6.38% | 7.36% | 8.41% |
| Hawaiian Electric Industries, Inc. | HE | $1.32 | $37.59 | 3.51% | 3.56% | 1.70% | 3.30% | 3.50% | 2.83% | 5.24% | 6.39% | 7.07% |
| NextEra Energy, Inc. | NEE | $5.60 | $246.01 | 2.28% | 2.37% | 7.80% | 8.07% | 10.00% | 8.62% | 10.17% | 11.00% | 12.39% |
| NorthWestern Corporation | NWE | $2.40 | $57.60 | 4.17% | 4.23% | 3.40% | 3.70% | 2.50% | 3.20% | 6.72% | 7.43% | 7.94% |
| OGE Energy Corp. | OGE | $1.55 | $31.40 | 4.94% | 5.01% | 3.70% | 2.40% | 3.00% | 3.03% | 7.40% | 8.04% | 8.73% |
| Otter Tail Corporation | OTTR | $1.48 | $40.68 | 3.64% | 3.75% | NA | 9.00% | 3.50% | 6.25% | 7.20% | 10.00% | 12.80% |
| Pinnacle West Capital Corporation | PNW | $3.13 | $75.46 | 4.15% | 4.25% | 5.20% | 4.48% | 4.50% | 4.73% | 8.72% | 8.97% | 9.46% |
| PNM Resources, Inc. | PNM | $1.23 | $39.47 | 3.12% | 3.21% | 6.10% | 5.65% | 6.00% | 5.92% | 8.85% | 9.12% | 9.31% |
| Portland General Electric Company | POR | $1.54 | $44.55 | 3.46% | 3.53% | 5.30% | 4.15% | 4.00% | 4.48% | 7.53% | 8.02% | 8.85% |
| Southern Company | SO | $2.56 | $55.56 | 4.61% | 4.70% | 4.00% | 4.52% | 3.00% | 3.84% | 7.68% | 8.54% | 9.23% |
| WEC Energy Group, Inc. | WEC | $2.53 | $89.55 | 2.83% | 2.91% | 5.90% | 5.90% | 6.00% | 5.93% | 8.81% | 8.84% | 8.91% |
| Xcel Energy Inc. | XEL | $1.72 | $63.77 | 2.70% | 2.78% | 5.90% | 6.00% | 6.00% | 5.97% | 8.68% | 8.74% | 8.78% |
| PROXY GROUP MEAN | | | | 3.57% | 3.66% | 5.29% | 5.53% | 4.88% | 5.26% | 8.14% | 8.92% | 9.67% |
| PROXY GROUP MEDIAN | | | | 3.48% | 3.55% | 5.50% | 5.86% | 5.00% | 5.66% | 8.60% | 8.98% | 9.42% |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-trading day average as of June 30, 2020
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
90 Day Average Stock Price

| Company | Ticker | [1] Annualized Dividend | [2] Average Stock Price | [3] Dividend Yield | [4] Expected Dividend Yield | [5] Zacks Earnings Growth | [6] First Call Earnings Growth | [7] Value Line Earnings Growth | [8] Average Earnings Growth | [9] Low ROE | [10] Mean ROE | [11] High ROE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | $2.47 | $59.85 | 4.13% | 4.26% | NA | 7.00% | 5.50% | 6.25% | 9.74% | 10.51% | 11.27% |
| Alliant Energy Corporation | LNT | $1.52 | $49.41 | 3.08% | 3.16% | 5.50% | 5.30% | 6.50% | 5.77% | 8.46% | 8.93% | 9.68% |
| Ameren Corporation | AEE | $1.98 | $73.85 | 2.68% | 2.76% | 6.80% | 5.90% | 6.00% | 6.23% | 8.66% | 9.00% | 9.57% |
| American Electric Power Company, Inc. | AEP | $2.80 | $83.47 | 3.35% | 3.45% | 5.80% | 5.88% | 5.00% | 5.56% | 8.44% | 9.01% | 9.33% |
| Avangrid, Inc. | AGR | $1.76 | $44.31 | 3.97% | 4.09% | 5.50% | 6.40% | 6.00% | 5.97% | 9.58% | 10.06% | 10.50% |
| Avista Corporation | AVA | $1.62 | $41.52 | 3.90% | 3.98% | 5.20% | 6.00% | 1.00% | 4.07% | 4.92% | 8.05% | 10.02% |
| CMS Energy Corporation | CMS | $1.63 | $58.87 | 2.77% | 2.87% | 6.90% | 7.16% | 7.50% | 7.19% | 9.76% | 10.05% | 10.37% |
| DTE Energy Company | DTE | $4.05 | $103.46 | 3.91% | 4.02% | 5.50% | 5.84% | 5.00% | 5.45% | 9.01% | 9.47% | 9.87% |
| Evergy, Inc | EVRG | $2.02 | $59.79 | 3.38% | 3.45% | 5.00% | 3.90% | 3.00% | 3.97% | 6.43% | 7.41% | 8.46% |
| Hawaiian Electric Industries, Inc. | HE | $1.32 | $40.34 | 3.27% | 3.32% | 1.70% | 3.30% | 3.50% | 2.83% | 5.00% | 6.15% | 6.83% |
| NextEra Energy, Inc. | NEE | $5.60 | $239.32 | 2.34% | 2.44% | 7.80% | 8.07% | 10.00% | 8.62% | 10.23% | 11.06% | 12.46% |
| NorthWestern Corporation | NWE | $2.40 | $60.34 | 3.98% | 4.04% | 3.40% | 3.70% | 2.50% | 3.20% | 6.53% | 7.24% | 7.75% |
| OGE Energy Corp. | OGE | $1.55 | $31.87 | 4.86% | 4.94% | 3.70% | 2.40% | 3.00% | 3.03% | 7.32% | 7.97% | 8.65% |
| Otter Tail Corporation | OTTR | $1.48 | $42.98 | 3.44% | 3.55% | NA | 9.00% | 3.50% | 6.25% | 7.00% | 9.80% | 12.60% |
| Pinnacle West Capital Corporation | PNW | $3.13 | $78.10 | 4.01% | 4.10% | 5.20% | 4.48% | 4.50% | 4.73% | 8.58% | 8.83% | 9.31% |
| PNM Resources, Inc. | PNM | $1.23 | $40.77 | 3.02% | 3.11% | 6.10% | 5.65% | 6.00% | 5.92% | 8.75% | 9.02% | 9.21% |
| Portland General Electric Company | POR | $1.54 | $47.53 | 3.24% | 3.31% | 5.30% | 4.15% | 4.00% | 4.48% | 7.30% | 7.80% | 8.63% |
| Southern Company | SO | $2.56 | $56.31 | 4.55% | 4.63% | 4.00% | 4.52% | 3.00% | 3.84% | 7.61% | 8.47% | 9.17% |
| WEC Energy Group, Inc. | WEC | $2.53 | $91.42 | 2.77% | 2.85% | 5.90% | 5.90% | 6.00% | 5.93% | 8.75% | 8.78% | 8.85% |
| Xcel Energy Inc. | XEL | $1.72 | $62.99 | 2.73% | 2.81% | 5.90% | 6.00% | 6.00% | 5.97% | 8.71% | 8.78% | 8.81% |
| PROXY GROUP MEAN | | | | 3.47% | 3.56% | 5.29% | 5.53% | 4.88% | 5.26% | 8.04% | 8.82% | 9.57% |
| PROXY GROUP MEDIAN | | | | 3.37% | 3.45% | 5.50% | 5.86% | 5.00% | 5.66% | 8.52% | 8.88% | 9.32% |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 90-trading day average as of June 30, 2020
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
180 Day Average Stock Price

| Company | Ticker | [1] Annualized Dividend | [2] Average Stock Price | [3] Dividend Yield | [4] Expected Dividend Yield | [5] Zacks Earnings Growth | [6] First Call Earnings Growth | [7] Value Line Earnings Growth | [8] Average Earnings Growth | [9] Low ROE | [10] Mean ROE | [11] High ROE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE, Inc. | ALE | $2.47 | $70.98 | 3.48% | 3.59% | NA | 7.00% | 5.50% | 6.25% | 9.08% | 9.84% | 10.60% |
| Alliant Energy Corporation | LNT | $1.52 | $52.11 | 2.92% | 3.00% | 5.50% | 5.30% | 6.50% | 5.77% | 8.29% | 8.77% | 9.51% |
| Ameren Corporation | AEE | $1.98 | $75.79 | 2.61% | 2.69% | 6.80% | 5.90% | 6.00% | 6.23% | 8.59% | 8.93% | 9.50% |
| American Electric Power Company, Inc. | AEP | $2.80 | $89.34 | 3.13% | 3.22% | 5.80% | 5.88% | 5.00% | 5.56% | 8.21% | 8.78% | 9.11% |
| Avangrid, Inc. | AGR | $1.76 | $47.51 | 3.70% | 3.82% | 5.50% | 6.40% | 6.00% | 5.97% | 9.31% | 9.78% | 10.22% |
| Avista Corporation | AVA | $1.62 | $44.96 | 3.60% | 3.68% | 5.20% | 6.00% | 1.00% | 4.07% | 4.62% | 7.74% | 9.71% |
| CMS Energy Corporation | CMS | $1.63 | $61.26 | 2.66% | 2.76% | 6.90% | 7.16% | 7.50% | 7.19% | 9.65% | 9.94% | 10.26% |
| DTE Energy Company | DTE | $4.05 | $115.97 | 3.49% | 3.59% | 5.50% | 5.84% | 5.00% | 5.45% | 8.58% | 9.03% | 9.43% |
| Evergy, Inc | EVRG | $2.02 | $62.79 | 3.22% | 3.28% | 5.00% | 3.90% | 3.00% | 3.97% | 6.27% | 7.25% | 8.30% |
| Hawaiian Electric Industries, Inc. | HE | $1.32 | $43.17 | 3.06% | 3.10% | 1.70% | 3.30% | 3.50% | 2.83% | 4.78% | 5.93% | 6.61% |
| NextEra Energy, Inc. | NEE | $5.60 | $241.87 | 2.32% | 2.42% | 7.80% | 8.07% | 10.00% | 8.62% | 10.21% | 11.04% | 12.43% |
| NorthWestern Corporation | NWE | $2.40 | $66.72 | 3.60% | 3.65% | 3.40% | 3.70% | 2.50% | 3.20% | 6.14% | 6.85% | 7.36% |
| OGE Energy Corp. | OGE | $1.55 | $37.90 | 4.09% | 4.15% | 3.70% | 2.40% | 3.00% | 3.03% | 6.54% | 7.19% | 7.87% |
| Otter Tail Corporation | OTTR | $1.48 | $47.68 | 3.10% | 3.20% | NA | 9.00% | 3.50% | 6.25% | 6.66% | 9.45% | 12.24% |
| Pinnacle West Capital Corporation | PNW | $3.13 | $84.95 | 3.68% | 3.77% | 5.20% | 4.48% | 4.50% | 4.73% | 8.25% | 8.50% | 8.98% |
| PNM Resources, Inc. | PNM | $1.23 | $45.91 | 2.68% | 2.76% | 6.10% | 5.65% | 6.00% | 5.92% | 8.40% | 8.67% | 8.86% |
| Portland General Electric Company | POR | $1.54 | $52.38 | 2.94% | 3.01% | 5.30% | 4.15% | 4.00% | 4.48% | 7.00% | 7.49% | 8.32% |
| Southern Company | SO | $2.56 | $60.23 | 4.25% | 4.33% | 4.00% | 4.52% | 3.00% | 3.84% | 7.31% | 8.17% | 8.87% |
| WEC Energy Group, Inc. | WEC | $2.53 | $92.38 | 2.74% | 2.82% | 5.90% | 5.90% | 6.00% | 5.93% | 8.72% | 8.75% | 8.82% |
| Xcel Energy Inc. | XEL | $1.72 | $63.55 | 2.71% | 2.79% | 5.90% | 6.00% | 6.00% | 5.97% | 8.69% | 8.75% | 8.79% |
| PROXY GROUP MEAN | | | | 3.20% | 3.28% | 5.29% | 5.53% | 4.88% | 5.26% | 7.76% | 8.54% | 9.29% |
| PROXY GROUP MEDIAN | | | | 3.12% | 3.21% | 5.50% | 5.86% | 5.00% | 5.66% | 8.27% | 8.75% | 9.04% |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 180-trading day average as of June 30, 2020
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

| [1] S&P 500 Est. Required Market Return | [2] Current 30-Year Treasury (30-day average) | [3] Implied Market Risk Premium |
|---|---|---|
| 13.21% | 1.47% | 11.73% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Agilent Technologies Inc | A | 27,286.66 | 0.10% | 0.80% | 10.30% | 11.14% | 0.0112% |
| American Airlines Group Inc | AAL | 6,640.99 | 0.02% | 0.77% | -19.74% | -19.05% | -0.0047% |
| Advance Auto Parts Inc | AAP | 9,843.47 | 0.04% | 0.58% | 10.47% | 11.07% | 0.0040% |
| Apple Inc | AAPL | 1,581,165.41 | 5.83% | 0.88% | 11.00% | 11.93% | 0.6958% |
| AbbVie Inc | ABBV | 173,027.92 | 0.64% | 4.79% | 3.15% | 8.01% | 0.0511% |
| AmerisourceBergen Corp | ABC | 20,496.90 | 0.08% | 1.67% | 4.17% | 5.86% | 0.0044% |
| ABIOMED Inc | ABMD | 10,859.80 | N/A | 0.00% | N/A | N/A | N/A |
| Abbott Laboratories | ABT | 161,725.53 | 0.60% | 1.58% | 8.10% | 9.74% | 0.0581% |
| Accenture PLC | ACN | 136,810.19 | 0.50% | 1.49% | 9.83% | 11.40% | 0.0575% |
| Adobe Inc | ADBE | 208,803.08 | 0.77% | 0.00% | 16.35% | 16.35% | 0.1259% |
| Analog Devices Inc | ADI | 45,183.59 | 0.17% | 1.95% | 12.13% | 14.19% | 0.0236% |
| Archer-Daniels-Midland Cc | ADM | 22,164.30 | 0.08% | 3.63% | 9.10% | 12.89% | 0.0105% |
| Automatic Data Processing Inc | ADP | 63,989.11 | 0.24% | 2.35% | 12.30% | 14.80% | 0.0349% |
| Autodesk Inc | ADSK | 52,429.66 | 0.19% | 0.00% | 31.35% | 31.35% | 0.0606% |
| Ameren Corp | AEE | 17,360.43 | 0.06% | 2.86% | 7.06% | 10.02% | 0.0064% |
| American Electric Power Co Inc | AEP | 39,468.24 | 0.15% | 3.55% | 6.42% | 10.08% | 0.0147% |
| AES Corp/The | AES | 9,634.51 | 0.04% | 4.00% | 6.99% | 11.14% | 0.0040% |
| Aflac Inc | AFL | 25,851.81 | 0.10% | 3.14% | 1.55% | 4.71% | 0.0045% |
| American International Group Inc | AIG | 26,855.04 | 0.10% | 4.13% | 13.57% | 17.98% | 0.0178% |
| Apartment Investment and Management Cc | AIV | 5,603.25 | 0.02% | 4.36% | 3.77% | 8.21% | 0.0017% |
| Assurant Inc | AIZ | 6,161.48 | N/A | 2.50% | N/A | N/A | N/A |
| Arthur J Gallagher & Co | AJG | 18,484.10 | 0.07% | 1.84% | 8.88% | 10.80% | 0.0074% |
| Akamai Technologies Inc | AKAM | 17,377.97 | 0.06% | 0.00% | 11.80% | 11.80% | 0.0076% |
| Albemarle Corp | ALB | 8,208.86 | 0.03% | 1.95% | 10.02% | 12.06% | 0.0037% |
| Align Technology Inc | ALGN | 21,615.71 | 0.08% | 0.00% | 12.87% | 12.87% | 0.0103% |
| Alaska Air Group Inc | ALK | 4,444.95 | N/A | 1.05% | N/A | N/A | N/A |
| Allstate Corp/The | ALL | 30,466.12 | 0.11% | 2.17% | 7.33% | 9.58% | 0.0108% |
| Allegion plc | ALLE | 9,426.75 | 0.03% | 0.96% | 6.17% | 7.16% | 0.0025% |
| Alexion Pharmaceuticals Inc | ALXN | 24,785.67 | 0.09% | 0.00% | 11.37% | 11.37% | 0.0104% |
| Applied Materials Inc | AMAT | 55,401.17 | 0.20% | 1.42% | 14.04% | 15.56% | 0.0318% |
| Amcor PLC | AMCR | 16,075.01 | 0.06% | 4.54% | 8.90% | 13.65% | 0.0081% |
| Advanced Micro Devices Inc | AMD | 61,616.33 | 0.23% | 0.00% | 20.33% | 20.33% | 0.0462% |
| AMETEK Inc | AME | 20,504.35 | 0.08% | 0.74% | 9.16% | 9.94% | 0.0075% |
| Amgen Inc | AMGN | 138,744.03 | 0.51% | 2.68% | 7.89% | 10.68% | 0.0546% |
| Ameriprise Financial Inc | AMP | 18,355.48 | 0.07% | 2.74% | 3.90% | 6.70% | 0.0045% |
| American Tower Corp | AMT | 114,612.45 | 0.42% | 1.74% | 15.64% | 17.52% | 0.0740% |
| Amazon.com Inc | AMZN | 1,376,033.29 | 5.07% | 0.00% | 26.48% | 26.48% | 1.3440% |
| Arista Networks Inc | ANET | 15,900.22 | 0.06% | 0.00% | 8.38% | 8.38% | 0.0049% |
| ANSYS Inc | ANSS | 24,970.76 | 0.09% | 0.00% | 11.30% | 11.30% | 0.0104% |
| Anthem Inc | ANTM | 66,301.49 | 0.24% | 1.29% | 12.67% | 14.04% | 0.0343% |
| Aon PLC | AON | 44,506.89 | 0.16% | 0.93% | 11.05% | 12.03% | 0.0198% |
| A O Smith Corp | AOS | 7,592.93 | 0.03% | 2.05% | 8.00% | 10.13% | 0.0028% |
| Apache Corp | APA | 5,095.25 | 0.02% | 2.41% | -26.07% | -23.97% | -0.0045% |
| Air Products and Chemicals Inc | APD | 53,327.56 | 0.20% | 2.07% | 11.69% | 13.88% | 0.0273% |
| Amphenol Corp | APH | 28,349.64 | 0.10% | 1.02% | 8.12% | 9.18% | 0.0096% |
| Aptiv PLC | APTV | 21,038.67 | 0.08% | 0.22% | 10.69% | 10.92% | 0.0085% |
| Alexandria Real Estate Equities Inc | ARE | 20,475.11 | 0.08% | 2.57% | 4.08% | 6.70% | 0.0051% |
| Atmos Energy Corp | ATO | 12,179.78 | 0.04% | 2.31% | 7.51% | 9.90% | 0.0044% |
| Activision Blizzard Inc | ATVI | 58,479.85 | 0.22% | 0.52% | 12.58% | 13.13% | 0.0283% |
| AvalonBay Communities Inc | AVB | 21,762.69 | 0.08% | 4.09% | 3.41% | 7.57% | 0.0061% |
| Broadcom Inc | AVGO | 126,933.70 | 0.47% | 4.12% | 9.37% | 13.68% | 0.0641% |
| Avery Dennison Corp | AVY | 9,508.26 | 0.04% | 2.01% | 4.50% | 6.55% | 0.0023% |
| American Water Works Co Inc | AWK | 23,290.41 | 0.09% | 1.68% | 8.20% | 9.95% | 0.0085% |
| American Express Co | AXP | 76,633.29 | 0.28% | 1.83% | 8.68% | 10.59% | 0.0299% |
| AutoZone Inc | AZO | 26,352.18 | 0.10% | 0.00% | 7.70% | 7.70% | 0.0075% |
| Boeing Co/The | BA | 103,440.84 | 0.38% | 1.12% | 118.28% | 120.07% | 0.4581% |
| Bank of America Corp | BAC | 206,045.76 | 0.76% | 3.09% | 9.25% | 12.49% | 0.0949% |
| Baxter International Inc | BAX | 43,670.44 | 0.16% | 0.92% | 11.00% | 11.97% | 0.0193% |
| Best Buy Co Inc | BBY | 22,542.63 | 0.08% | 2.52% | 4.65% | 7.23% | 0.0060% |
| Becton Dickinson and Cc | BDX | 69,335.77 | 0.26% | 1.47% | 8.14% | 9.66% | 0.0247% |
| Franklin Resources Inc | BEN | 10,386.57 | 0.04% | 5.15% | -3.02% | 2.06% | 0.0008% |
| Brown-Forman Corp | BF/B | 29,415.09 | 0.11% | 1.11% | 4.93% | 6.07% | 0.0066% |
| Biogen Inc | BIIB | 43,660.81 | 0.16% | 0.00% | 1.13% | 1.13% | 0.0018% |
| Bio-Rad Laboratories Inc | BIO | 13,312.07 | 0.05% | 0.00% | 4.00% | 4.00% | 0.0020% |
| Bank of New York Mellon Corp/The | BK | 34,222.37 | 0.13% | 3.24% | 4.43% | 7.74% | 0.0098% |
| Booking Holdings Inc | BKNG | 65,175.93 | 0.24% | 0.00% | 13.20% | 13.20% | 0.0317% |
| Baker Hughes Co | BKR | 15,889.60 | 0.06% | 4.72% | 17.77% | 22.91% | 0.0134% |
| BlackRock Inc | BLK | 83,464.27 | 0.31% | 2.67% | 4.24% | 6.97% | 0.0215% |
| Ball Corp | BLL | 22,653.96 | 0.08% | 0.83% | 6.07% | 6.92% | 0.0058% |

| | | [4] | [5] | [6] | [7] | [8] | [9] |
|---|---|---|---|---|---|---|---|
| Company | Ticker | Market Capitalization ($million) | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| Bristol-Myers Squibb Co | BMY | 133,046.16 | 0.49% | 3.06% | 9.90% | 13.11% | 0.0643% |
| Broadridge Financial Solutions Inc | BR | 14,488.82 | 0.05% | 1.71% | 6.50% | 8.27% | 0.0044% |
| Berkshire Hathaway Inc | BRK/B | 433,463.33 | 1.60% | 0.00% | -3.10% | -3.10% | -0.0496% |
| Boston Scientific Corp | BSX | 50,161.43 | 0.19% | 0.00% | 9.75% | 9.75% | 0.0180% |
| BorgWarner Inc | BWA | 7,318.04 | 0.03% | 1.99% | 9.30% | 11.38% | 0.0031% |
| Boston Properties Inc | BXP | 14,042.26 | 0.05% | 4.38% | 3.97% | 8.44% | 0.0044% |
| Citigroup Inc | C | 106,379.98 | 0.39% | 4.00% | -1.53% | 2.44% | 0.0096% |
| Conagra Brands Inc | CAG | 17,130.47 | 0.06% | 2.42% | 7.90% | 10.42% | 0.0066% |
| Cardinal Health Inc | CAH | 15,238.77 | 0.06% | 3.74% | 4.84% | 8.67% | 0.0049% |
| Carrier Global Corp | CARR | 19,246.05 | 0.07% | 0.12% | 4.50% | 4.62% | 0.0033% |
| Caterpillar Inc | CAT | 68,466.77 | 0.25% | 3.34% | 7.83% | 11.31% | 0.0286% |
| Chubb Ltd | CB | 57,150.85 | 0.21% | 2.43% | 9.37% | 11.91% | 0.0251% |
| Cboe Global Markets Inc | CBOE | 10,234.71 | 0.04% | 1.60% | 6.81% | 8.46% | 0.0032% |
| CBRE Group Inc | CBRE | 15,156.24 | 0.06% | 0.00% | 8.45% | 8.45% | 0.0047% |
| Crown Castle International Corp | CCI | 69,743.32 | 0.26% | 2.92% | 17.63% | 20.81% | 0.0535% |
| Carnival Corp | CCL | 11,751.20 | 0.04% | 4.65% | -11.65% | -7.27% | -0.0032% |
| Cadence Design Systems Inc | CDNS | 26,790.78 | 0.10% | 0.00% | 11.09% | 11.09% | 0.0110% |
| CDW Corp/DE | CDW | 16,534.52 | 0.06% | 1.31% | 13.10% | 14.49% | 0.0088% |
| Celanese Corp | CE | 10,207.88 | 0.04% | 2.93% | 3.61% | 6.59% | 0.0025% |
| Cerner Corp | CERN | 20,863.10 | 0.08% | 0.56% | 11.91% | 12.50% | 0.0096% |
| CF Industries Holdings Inc | CF | 6,016.26 | 0.02% | 4.26% | 11.05% | 15.55% | 0.0035% |
| Citizens Financial Group Inc | CFG | 10,767.86 | 0.04% | 6.16% | -0.15% | 6.01% | 0.0024% |
| Church & Dwight Co Inc | CHD | 19,007.51 | 0.07% | 1.25% | 7.87% | 9.16% | 0.0064% |
| CH Robinson Worldwide Inc | CHRW | 10,642.26 | 0.04% | 2.59% | 8.37% | 11.07% | 0.0043% |
| Charter Communications Inc | CHTR | 121,450.42 | 0.45% | 0.00% | 42.98% | 42.98% | 0.1925% |
| Cigna Corp | CI | 69,239.28 | 0.26% | 0.05% | 11.09% | 11.15% | 0.0285% |
| Cincinnati Financial Corp | CINF | 10,296.12 | N/A | 4.04% | N/A | N/A | N/A |
| Colgate-Palmolive Co | CL | 62,749.27 | 0.23% | 2.44% | 5.25% | 7.75% | 0.0179% |
| Clorox Co/The | CLX | 27,626.10 | 0.10% | 1.92% | 5.12% | 7.09% | 0.0072% |
| Comerica Inc | CMA | 5,297.22 | 0.02% | 7.07% | -0.20% | 6.86% | 0.0013% |
| Comcast Corp | CMCSA | 177,910.86 | 0.66% | 2.34% | 5.13% | 7.54% | 0.0495% |
| CME Group Inc | CME | 58,284.94 | 0.21% | 3.69% | 8.39% | 12.23% | 0.0263% |
| Chipotle Mexican Grill Inc | CMG | 29,351.10 | 0.11% | 0.00% | 15.17% | 15.17% | 0.0164% |
| Cummins Inc | CMI | 25,560.37 | 0.09% | 3.09% | 3.26% | 6.40% | 0.0060% |
| CMS Energy Corp | CMS | 16,721.06 | 0.06% | 2.79% | 6.87% | 9.75% | 0.0060% |
| Centene Corp | CNC | 36,803.67 | 0.14% | 0.00% | 13.27% | 13.27% | 0.0180% |
| CenterPoint Energy Inc | CNP | 9,383.82 | 0.03% | 3.83% | -3.49% | 0.28% | 0.0001% |
| Capital One Financial Corp | COF | 28,497.86 | 0.11% | 2.57% | 1.00% | 3.58% | 0.0038% |
| Cabot Oil & Gas Corp | COG | 6,847.53 | 0.03% | 2.33% | 23.75% | 26.36% | 0.0067% |
| Cooper Cos Inc/The | COO | 15,127.40 | 0.06% | 0.02% | 8.03% | 8.05% | 0.0045% |
| ConocoPhillips | COP | 45,063.31 | N/A | 4.01% | N/A | N/A | N/A |
| Costco Wholesale Corp | COST | 133,874.40 | 0.49% | 0.90% | 6.87% | 7.80% | 0.0385% |
| Coty Inc | COTY | 3,411.04 | 0.01% | 8.10% | -1.77% | 6.26% | 0.0008% |
| Campbell Soup Co | CPB | 14,996.42 | 0.06% | 2.85% | 8.89% | 11.87% | 0.0066% |
| Copart Inc | CPRT | 19,549.92 | N/A | 0.00% | N/A | N/A | N/A |
| salesforce.com Inc | CRM | 168,784.33 | 0.62% | 0.00% | 19.08% | 19.08% | 0.1188% |
| Cisco Systems Inc | CSCO | 196,927.89 | 0.73% | 3.04% | 5.50% | 8.63% | 0.0627% |
| CSX Corp | CSX | 53,383.59 | 0.20% | 1.51% | 8.41% | 9.98% | 0.0197% |
| Cintas Corp | CTAS | 27,714.81 | 0.10% | 0.93% | 9.95% | 10.93% | 0.0112% |
| CenturyLink Inc | CTL | 11,007.95 | 0.04% | 9.99% | -1.33% | 8.59% | 0.0035% |
| Cognizant Technology Solutions Corp | CTSH | 30,715.76 | 0.11% | 1.52% | 10.40% | 12.00% | 0.0136% |
| Corteva Inc | CTVA | 20,073.30 | 0.07% | 1.91% | 9.69% | 11.69% | 0.0087% |
| Citrix Systems Inc | CTXS | 18,259.58 | 0.07% | 0.94% | 9.33% | 10.32% | 0.0070% |
| CVS Health Corp | CVS | 84,921.69 | 0.31% | 3.08% | 7.36% | 10.54% | 0.0330% |
| Chevron Corp | CVX | 166,590.50 | 0.61% | 5.99% | 38.90% | 46.06% | 0.2830% |
| Concho Resources Inc | CXO | 10,130.13 | 0.04% | 1.55% | 1.23% | 2.79% | 0.0010% |
| Dominion Energy Inc | D | 68,130.40 | 0.25% | 4.65% | 4.96% | 9.73% | 0.0244% |
| Delta Air Lines Inc | DAL | 17,889.94 | 0.07% | 1.15% | -6.43% | -5.32% | -0.0035% |
| DuPont de Nemours Inc | DD | 38,986.65 | 0.14% | 2.29% | 1.82% | 4.13% | 0.0059% |
| Deere & Co | DE | 49,165.73 | 0.18% | 1.93% | 0.41% | 2.34% | 0.0042% |
| Discover Financial Services | DFS | 15,342.61 | 0.06% | 3.55% | 15.51% | 19.33% | 0.0109% |
| Dollar General Corp | DG | 47,955.53 | 0.18% | 0.76% | 11.63% | 12.42% | 0.0220% |
| Quest Diagnostics Inc | DGX | 15,240.08 | 0.06% | 1.96% | 5.65% | 7.67% | 0.0043% |
| DR Horton Inc | DHI | 20,158.17 | 0.07% | 1.26% | 10.55% | 11.87% | 0.0088% |
| Danaher Corp | DHR | 125,186.12 | 0.46% | 0.40% | 8.52% | 8.94% | 0.0413% |
| Walt Disney Co/The | DIS | 201,416.80 | 0.74% | 0.85% | 4.08% | 4.94% | 0.0367% |
| Discovery Inc | DISCA | 14,585.08 | 0.05% | 0.00% | -3.45% | -3.45% | -0.0019% |
| DISH Network Corp | DISH | 18,088.68 | 0.07% | 0.00% | 1.62% | 1.62% | 0.0011% |
| Digital Realty Trust Inc | DLR | 39,334.12 | 0.15% | 3.16% | 19.70% | 23.17% | 0.0336% |
| Dollar Tree Inc | DLTR | 21,986.70 | 0.08% | 0.00% | 8.86% | 8.86% | 0.0072% |
| Dover Corp | DOV | 13,899.52 | 0.05% | 2.06% | 10.30% | 12.46% | 0.0064% |
| Dow Inc | DOW | 30,271.63 | 0.11% | 6.97% | 2.22% | 9.27% | 0.0103% |
| Domino's Pizza Inc | DPZ | 14,451.71 | 0.05% | 0.84% | 13.16% | 14.05% | 0.0075% |
| Duke Realty Corp | DRE | 13,037.04 | 0.05% | 2.66% | -0.65% | 2.00% | 0.0010% |
| Darden Restaurants Inc | DRI | 9,840.95 | 0.04% | 2.67% | 10.33% | 13.13% | 0.0048% |
| DTE Energy Co | DTE | 20,651.29 | 0.08% | 3.79% | 5.87% | 9.77% | 0.0074% |
| Duke Energy Corp | DUK | 58,719.15 | 0.22% | 4.85% | 4.16% | 9.11% | 0.0197% |
| DaVita Inc | DVA | 9,639.25 | 0.04% | 0.76% | 9.56% | 10.35% | 0.0037% |
| Devon Energy Corp | DVN | 4,339.82 | 0.02% | 3.69% | -9.15% | -5.62% | -0.0009% |
| DXC Technology Co | DXC | 4,186.90 | 0.02% | 1.62% | -17.84% | -16.37% | -0.0025% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| DexCom Inc | DXCM | 37,436.61 | 0.14% | 0.00% | 30.99% | 30.99% | 0.0428% |
| Electronic Arts Inc | EA | 38,124.73 | 0.14% | 0.00% | 8.00% | 8.00% | 0.0112% |
| eBay Inc | EBAY | 36,855.50 | 0.14% | 1.22% | 12.04% | 13.34% | 0.0181% |
| Ecolab Inc | ECL | 57,541.65 | 0.21% | 0.96% | 7.90% | 8.90% | 0.0189% |
| Consolidated Edison Inc | ED | 24,031.96 | 0.09% | 4.24% | 3.35% | 7.66% | 0.0068% |
| Equifax Inc | EFX | 20,863.68 | 0.08% | 0.91% | 7.46% | 8.40% | 0.0065% |
| Edison Internationa | EIX | 20,526.00 | 0.08% | 4.67% | 4.54% | 9.32% | 0.0071% |
| Estee Lauder Cos Inc/The | EL | 67,924.54 | 0.25% | 0.77% | 8.83% | 9.63% | 0.0241% |
| Eastman Chemical Co | EMN | 9,463.68 | 0.03% | 3.78% | 1.92% | 5.73% | 0.0020% |
| Emerson Electric Co | EMR | 37,061.39 | 0.14% | 3.18% | 6.51% | 9.80% | 0.0134% |
| EOG Resources Inc | EOG | 29,486.45 | 0.11% | 2.87% | 1.45% | 4.34% | 0.0047% |
| Equinix Inc | EQIX | 62,163.78 | 0.23% | 1.51% | 18.80% | 20.45% | 0.0469% |
| Equity Residential | EQR | 21,888.43 | 0.08% | 4.06% | 3.41% | 7.54% | 0.0061% |
| Eversource Energy | ES | 28,523.70 | 0.11% | 2.73% | 6.82% | 9.64% | 0.0101% |
| Essex Property Trust Inc | ESS | 14,991.70 | 0.06% | 3.61% | 3.90% | 7.58% | 0.0042% |
| E*TRADE Financial Corp | ETFC | 10,994.77 | 0.04% | 1.15% | -11.58% | -10.49% | -0.0043% |
| Eaton Corp PLC | ETN | 34,992.00 | 0.13% | 3.35% | 9.03% | 12.53% | 0.0162% |
| Entergy Corp | ETR | 18,777.19 | 0.07% | 3.98% | 4.72% | 8.80% | 0.0061% |
| Evergy Inc | EVRG | 13,438.61 | 0.05% | 3.46% | 6.90% | 10.48% | 0.0052% |
| Edwards Lifesciences Corp | EW | 42,825.00 | 0.16% | 0.00% | 13.75% | 13.75% | 0.0217% |
| Exelon Corp | EXC | 35,343.91 | 0.13% | 4.21% | 0.50% | 4.72% | 0.0062% |
| Expeditors International of Washington | EXPD | 12,655.05 | 0.05% | 1.41% | 6.50% | 7.95% | 0.0037% |
| Expedia Group Inc | EXPE | 11,588.79 | 0.04% | 0.41% | 10.00% | 10.44% | 0.0045% |
| Extra Space Storage Inc | EXR | 11,923.73 | 0.04% | 3.92% | 1.50% | 5.45% | 0.0024% |
| Ford Motor Co | F | 24,180.40 | 0.09% | 3.09% | 13.51% | 16.81% | 0.0150% |
| Diamondback Energy Inc | FANG | 6,599.86 | 0.02% | 3.44% | 17.94% | 21.68% | 0.0053% |
| Fastenal Co | FAST | 24,607.13 | 0.09% | 2.34% | 14.45% | 16.96% | 0.0154% |
| Facebook Inc | FB | 647,452.82 | 2.39% | 0.00% | 22.16% | 22.16% | 0.5292% |
| Fortune Brands Home & Security Inc | FBHS | 8,818.95 | 0.03% | 1.50% | 9.35% | 10.93% | 0.0036% |
| Freeport-McMoRan Inc | FCX | 16,799.30 | 0.06% | 0.43% | 136.19% | 136.92% | 0.0848% |
| FedEx Corp | FDX | 36,632.44 | N/A | 1.86% | N/A | N/A | N/A |
| FirstEnergy Corp | FE | 21,009.21 | 0.08% | 4.02% | 0.65% | 4.68% | 0.0036% |
| F5 Networks Inc | FFIV | 8,493.85 | 0.03% | 0.00% | 4.02% | 4.02% | 0.0013% |
| Fidelity National Information Services | FIS | 82,845.34 | 0.31% | 1.07% | 19.58% | 20.75% | 0.0634% |
| Fiserv Inc | FISV | 65,355.06 | 0.24% | 0.00% | 13.86% | 13.86% | 0.0334% |
| Fifth Third Bancorp | FITB | 13,725.66 | 0.05% | 5.59% | 9.77% | 15.64% | 0.0079% |
| FLIR Systems Inc | FLIR | 5,308.27 | N/A | 1.76% | N/A | N/A | N/A |
| Flowserve Corp | FLS | 3,711.19 | 0.01% | 2.81% | 3.00% | 5.85% | 0.0008% |
| FleetCor Technologies Inc | FLT | 21,078.78 | 0.08% | 0.00% | 13.20% | 13.20% | 0.0103% |
| FMC Corp | FMC | 12,895.53 | 0.05% | 1.77% | 9.63% | 11.48% | 0.0055% |
| Fox Corp | FOX | 16,197.01 | 0.06% | 1.71% | -4.08% | -2.40% | -0.0014% |
| First Republic Bank/CA | FRC | 18,154.77 | 0.07% | 0.75% | 9.11% | 9.89% | 0.0066% |
| Federal Realty Investment Trust | FRT | 6,444.69 | 0.02% | 4.94% | 3.16% | 8.18% | 0.0019% |
| TechnipFMC PLC | FTI | 3,066.40 | 0.01% | 2.00% | 9.50% | 11.60% | 0.0013% |
| Fortinet Inc | FTNT | 22,189.50 | 0.08% | 0.00% | 15.10% | 15.10% | 0.0124% |
| Fortive Corp | FTV | 22,791.68 | 0.08% | 0.43% | 8.67% | 9.11% | 0.0077% |
| General Dynamics Corp | GD | 42,874.77 | 0.16% | 2.90% | 4.58% | 7.54% | 0.0119% |
| General Electric Co | GE | 59,742.64 | 0.22% | 0.59% | 6.07% | 6.67% | 0.0147% |
| Gilead Sciences Inc | GILD | 96,511.49 | 0.36% | 3.46% | 0.87% | 4.34% | 0.0155% |
| General Mills Inc | GIS | 37,368.46 | 0.14% | 3.18% | 5.87% | 9.14% | 0.0126% |
| Globe Life Inc | GL | 7,900.89 | 0.03% | 0.97% | 5.06% | 6.05% | 0.0018% |
| Corning Inc | GLW | 19,708.55 | 0.07% | 3.36% | 4.13% | 7.56% | 0.0055% |
| General Motors Co | GM | 36,206.23 | 0.13% | 1.40% | 13.21% | 14.70% | 0.0196% |
| Alphabet Inc | GOOG | 966,394.01 | 3.56% | 0.00% | 14.18% | 14.18% | 0.5055% |
| Genuine Parts Co | GPC | 12,544.87 | 0.05% | 3.60% | 1.82% | 5.45% | 0.0025% |
| Global Payments Inc | GPN | 50,734.31 | 0.19% | 0.40% | 17.45% | 17.89% | 0.0335% |
| Gap Inc/The | GPS | 4,713.20 | 0.02% | 2.44% | 4.47% | 6.96% | 0.0012% |
| Garmin Ltd | GRMN | 18,624.24 | 0.07% | 2.46% | 6.90% | 9.44% | 0.0065% |
| Goldman Sachs Group Inc/The | GS | 70,844.40 | 0.26% | 2.55% | 3.50% | 6.09% | 0.0159% |
| WW Grainger Inc | GWW | 16,797.49 | 0.06% | 1.93% | 9.47% | 11.48% | 0.0071% |
| Halliburton Co | HAL | 11,387.06 | 0.04% | 3.70% | 12.95% | 16.89% | 0.0071% |
| Hasbro Inc | HAS | 10,269.00 | 0.04% | 3.65% | 14.34% | 18.24% | 0.0069% |
| Huntington Bancshares Inc/OH | HBAN | 9,163.46 | 0.03% | 6.66% | -9.27% | -2.92% | -0.0010% |
| Hanesbrands Inc | HBI | 3,929.32 | 0.01% | 4.75% | 0.84% | 5.61% | 0.0008% |
| HCA Healthcare Inc | HCA | 32,769.29 | 0.12% | 0.31% | 8.66% | 8.98% | 0.0109% |
| Home Depot Inc/The | HD | 269,429.23 | 0.99% | 2.34% | 7.47% | 9.89% | 0.0983% |
| Hess Corp | HES | 15,913.13 | 0.06% | 1.97% | -23.46% | -21.72% | -0.0127% |
| HollyFrontier Corp | HFC | 4,727.07 | 0.02% | 4.79% | -2.81% | 1.91% | 0.0003% |
| Hartford Financial Services Group Inc/Th | HIG | 13,803.79 | 0.05% | 3.39% | 9.50% | 13.05% | 0.0066% |
| Huntington Ingalls Industries Inc | HII | 7,062.35 | 0.03% | 2.44% | 40.00% | 42.92% | 0.0112% |
| Hilton Worldwide Holdings Inc | HLT | 20,364.86 | 0.08% | 0.20% | 1.28% | 1.48% | 0.0011% |
| Hologic Inc | HOLX | 14,717.72 | 0.05% | 0.00% | 8.85% | 8.85% | 0.0048% |
| Honeywell International Inc | HON | 101,480.17 | 0.37% | 2.42% | 6.81% | 9.31% | 0.0349% |
| Hewlett Packard Enterprise Co | HPE | 12,500.69 | 0.05% | 4.96% | 2.00% | 7.01% | 0.0032% |
| HP Inc | HPQ | 24,924.15 | 0.09% | 4.04% | 4.77% | 8.91% | 0.0082% |
| H&R Block Inc | HRB | 2,748.55 | 0.01% | 7.28% | 10.00% | 17.65% | 0.0018% |
| Hormel Foods Corp | HRL | 26,015.20 | 0.10% | 1.91% | 0.76% | 2.68% | 0.0026% |
| Henry Schein Inc | HSIC | 8,335.53 | 0.03% | 0.00% | -1.20% | -1.20% | -0.0004% |
| Host Hotels & Resorts Inc | HST | 7,606.51 | 0.03% | 2.51% | -9.60% | -7.21% | -0.0020% |
| Hershey Co/The | HSY | 26,962.21 | 0.10% | 2.48% | 6.83% | 9.40% | 0.0093% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Humana Inc | HUM | 51,262.90 | 0.19% | 0.64% | 11.56% | 12.24% | 0.0231% |
| Howmet Aerospace Inc | HWM | 6,912.24 | 0.03% | 0.13% | 50.90% | 51.06% | 0.0130% |
| International Business Machines Corp | IBM | 107,230.71 | 0.40% | 5.46% | 2.67% | 8.21% | 0.0325% |
| Intercontinental Exchange Inc | ICE | 50,125.52 | 0.18% | 1.30% | 9.16% | 10.51% | 0.0194% |
| IDEXX Laboratories Inc | IDXX | 28,041.47 | 0.10% | 0.00% | 9.41% | 9.41% | 0.0097% |
| IDEX Corp | IEX | 11,914.93 | 0.04% | 1.32% | 11.33% | 12.72% | 0.0056% |
| International Flavors & Fragrances Inc | IFF | 13,084.99 | 0.05% | 2.42% | 4.95% | 7.43% | 0.0036% |
| Illumina Inc | ILMN | 54,441.45 | 0.20% | 0.00% | 18.06% | 18.06% | 0.0363% |
| Incyte Corp | INCY | 22,600.32 | 0.08% | 0.00% | 31.72% | 31.72% | 0.0264% |
| IHS Markit Ltd | INFO | 29,959.13 | 0.11% | 0.72% | 12.15% | 12.91% | 0.0143% |
| Intel Corp | INTC | 253,320.22 | 0.93% | 2.18% | 5.93% | 8.17% | 0.0764% |
| Intuit Inc | INTU | 77,237.86 | 0.28% | 0.71% | 13.20% | 13.95% | 0.0397% |
| International Paper Co | IP | 13,838.98 | 0.05% | 5.83% | 4.40% | 10.36% | 0.0053% |
| Interpublic Group of Cos Inc/The | IPG | 6,685.77 | 0.02% | 5.62% | 0.19% | 5.82% | 0.0014% |
| IPG Photonics Corp | IPGP | 8,505.09 | 0.03% | 0.00% | 23.11% | 23.11% | 0.0072% |
| IQVIA Holdings Inc | IQV | 27,093.94 | 0.10% | 0.00% | 11.20% | 11.20% | 0.0112% |
| Ingersoll Rand Inc | IR | 12,054.84 | 0.04% | 0.36% | 10.20% | 10.57% | 0.0047% |
| Iron Mountain Inc | IRM | 7,513.74 | 0.03% | 9.52% | 0.06% | 9.57% | 0.0027% |
| Intuitive Surgical Inc | ISRG | 66,452.31 | 0.25% | 0.00% | 6.77% | 6.77% | 0.0166% |
| Gartner Inc | IT | 10,819.62 | 0.04% | 0.00% | 10.00% | 10.00% | 0.0040% |
| Illinois Tool Works Inc | ITW | 55,240.72 | 0.20% | 2.47% | 5.27% | 7.80% | 0.0159% |
| Invesco Ltd | IVZ | 4,937.72 | 0.02% | 6.99% | -10.95% | -4.35% | -0.0008% |
| Jacobs Engineering Group Inc | J | 11,032.71 | 0.04% | 0.88% | 7.25% | 8.16% | 0.0033% |
| JB Hunt Transport Services Inc | JBHT | 12,691.13 | 0.05% | 0.93% | 13.05% | 14.04% | 0.0066% |
| Johnson Controls International plc | JCI | 25,395.46 | 0.09% | 3.15% | 9.10% | 12.39% | 0.0116% |
| Jack Henry & Associates Inc | JKHY | 14,099.54 | 0.05% | 0.89% | 12.10% | 13.05% | 0.0068% |
| Johnson & Johnson | JNJ | 370,503.03 | 1.37% | 2.83% | 5.44% | 8.35% | 0.1141% |
| Juniper Networks Inc | JNPR | 7,574.71 | 0.03% | 3.48% | 7.86% | 11.47% | 0.0032% |
| JPMorgan Chase & Co | JPM | 286,602.97 | 1.06% | 3.86% | 5.70% | 9.67% | 0.1022% |
| Kellogg Co | K | 22,636.78 | 0.08% | 3.50% | 2.48% | 6.02% | 0.0050% |
| KeyCorp | KEY | 11,880.44 | 0.04% | 6.08% | 17.60% | 24.22% | 0.0106% |
| Keysight Technologies Inc | KEYS | 18,849.59 | 0.07% | 0.00% | 7.83% | 7.83% | 0.0054% |
| Kraft Heinz Co/The | KHC | 38,964.26 | 0.14% | 5.02% | 1.17% | 6.21% | 0.0089% |
| Kimco Realty Corp | KIM | 5,553.63 | 0.02% | 4.41% | 4.15% | 8.65% | 0.0018% |
| KLA Corp | KLAC | 30,153.91 | 0.11% | 1.59% | 10.54% | 12.21% | 0.0136% |
| Kimberly-Clark Corp | KMB | 48,136.34 | 0.18% | 3.00% | 4.36% | 7.42% | 0.0132% |
| Kinder Morgan Inc | KMI | 34,306.76 | 0.13% | 6.94% | 4.55% | 11.65% | 0.0147% |
| CarMax Inc | KMX | 14,574.74 | 0.05% | 0.00% | 9.93% | 9.93% | 0.0053% |
| Coca-Cola Co/The | KO | 191,895.75 | 0.71% | 3.67% | 2.76% | 6.48% | 0.0459% |
| Kroger Co/The | KR | 26,332.79 | 0.10% | 1.97% | 5.46% | 7.48% | 0.0073% |
| Kohl's Corp | KSS | 3,276.19 | 0.01% | 3.38% | 1.25% | 4.65% | 0.0006% |
| Kansas City Southern | KSU | 14,185.57 | 0.05% | 1.06% | 11.65% | 12.77% | 0.0067% |
| Loews Corp | L | 9,650.25 | N/A | 0.00% | N/A | N/A | N/A |
| L Brands Inc | LB | 4,159.10 | 0.02% | 2.20% | 11.50% | 13.83% | 0.0021% |
| Leidos Holdings Inc | LDOS | 13,305.24 | 0.05% | 1.49% | 10.36% | 11.92% | 0.0058% |
| Leggett & Platt Inc | LEG | 4,649.53 | N/A | 4.59% | N/A | N/A | N/A |
| Lennar Corp | LEN | 18,655.99 | 0.07% | 0.54% | 9.74% | 10.30% | 0.0071% |
| Laboratory Corp of America Holdings | LH | 16,145.89 | 0.06% | 0.00% | 5.18% | 5.18% | 0.0031% |
| L3Harris Technologies Inc | LHX | 36,626.72 | 0.14% | 2.00% | 16.64% | 18.80% | 0.0254% |
| Linde PLC | LIN | 111,397.06 | 0.41% | 1.79% | 9.50% | 11.38% | 0.0468% |
| LKQ Corp | LKQ | 7,963.96 | 0.03% | 0.00% | 2.60% | 2.60% | 0.0008% |
| Eli Lilly and Co | LLY | 157,030.03 | 0.58% | 1.81% | 15.63% | 17.58% | 0.1018% |
| Lockheed Martin Corp | LMT | 102,336.45 | 0.38% | 2.68% | 7.48% | 10.26% | 0.0387% |
| Lincoln National Corp | LNC | 7,108.73 | 0.03% | 4.43% | 9.00% | 13.62% | 0.0036% |
| Alliant Energy Corp | LNT | 11,936.26 | 0.04% | 3.16% | 5.46% | 8.71% | 0.0038% |
| Lowe's Cos Inc | LOW | 102,015.97 | 0.38% | 1.78% | 18.20% | 20.14% | 0.0758% |
| Lam Research Corp | LRCX | 46,954.17 | 0.17% | 1.45% | 10.47% | 11.99% | 0.0208% |
| Southwest Airlines Co | LUV | 20,145.20 | 0.07% | 0.53% | -2.58% | -2.06% | -0.0015% |
| Las Vegas Sands Corp | LVS | 34,780.25 | 0.13% | 1.71% | 9.10% | 10.89% | 0.0140% |
| Lamb Weston Holdings Inc | LW | 9,336.27 | 0.03% | 1.34% | -1.07% | 0.26% | 0.0001% |
| LyondellBasell Industries NV | LYB | 21,931.17 | 0.08% | 6.43% | 5.50% | 12.11% | 0.0098% |
| Live Nation Entertainment Inc | LYV | 9,542.48 | N/A | 0.00% | N/A | N/A | N/A |
| Mastercard Inc | MA | 296,806.02 | 1.09% | 0.50% | 15.30% | 15.84% | 0.1734% |
| Mid-America Apartment Communities Inc | MAA | 13,112.65 | N/A | 3.49% | N/A | N/A | N/A |
| Marriott International Inc/MD | MAR | 27,798.46 | 0.10% | 0.65% | -1.62% | -0.97% | -0.0010% |
| Masco Corp | MAS | 13,243.16 | 0.05% | 1.07% | 9.98% | 11.10% | 0.0054% |
| McDonald's Corp | MCD | 137,163.81 | 0.51% | 2.74% | 6.95% | 9.79% | 0.0495% |
| Microchip Technology Inc | MCHP | 25,835.97 | 0.10% | 1.40% | 11.57% | 13.05% | 0.0124% |
| McKesson Corp | MCK | 24,871.77 | 0.09% | 1.13% | 8.57% | 9.75% | 0.0089% |
| Moody's Corp | MCO | 51,511.88 | 0.19% | 0.80% | 9.75% | 10.59% | 0.0201% |
| Mondelez International Inc | MDLZ | 72,986.24 | 0.27% | 2.31% | 7.75% | 10.16% | 0.0273% |
| Medtronic PLC | MDT | 122,997.11 | 0.45% | 2.46% | 7.60% | 10.16% | 0.0461% |
| MetLife Inc | MET | 33,145.14 | 0.12% | 4.99% | 4.42% | 9.52% | 0.0116% |
| MGM Resorts International | MGM | 8,286.06 | 0.03% | 0.95% | 18.70% | 19.74% | 0.0060% |
| Mohawk Industries Inc | MHK | 7,293.42 | 0.03% | 0.00% | 9.00% | 9.00% | 0.0024% |
| McCormick & Co Inc/MD | MKC | 23,885.16 | 0.09% | 1.35% | 10.03% | 11.44% | 0.0101% |
| MarketAxess Holdings Inc | MKTX | 18,989.98 | N/A | 0.48% | N/A | N/A | N/A |
| Martin Marietta Materials Inc | MLM | 12,837.03 | 0.05% | 1.04% | 10.08% | 11.17% | 0.0053% |
| Marsh & McLennan Cos Inc | MMC | 54,782.68 | 0.20% | 1.72% | 9.83% | 11.64% | 0.0235% |
| 3M Co | MMM | 89,724.88 | 0.33% | 3.79% | 7.05% | 10.97% | 0.0363% |

| | | [4] | [5] | [6] | [7] | [8] | [9] |
|---|---|---|---|---|---|---|---|
| Company | Ticker | Market Capitalization ($million) | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| Monster Beverage Corp | MNST | 36,501.39 | 0.13% | 0.00% | 9.60% | 9.60% | 0.0129% |
| Altria Group Inc | MO | 72,940.95 | 0.27% | 8.59% | 6.05% | 14.90% | 0.0401% |
| Mosaic Co/The | MOS | 4,741.55 | 0.02% | 1.61% | 38.35% | 40.27% | 0.0070% |
| Marathon Petroleum Corp | MPC | 24,306.75 | 0.09% | 6.17% | 4.05% | 10.35% | 0.0093% |
| Merck & Co Inc | MRK | 195,188.75 | 0.72% | 3.11% | 8.23% | 11.46% | 0.0825% |
| Marathon Oil Corp | MRO | 4,836.71 | 0.02% | 1.52% | -21.75% | -20.39% | -0.0036% |
| Morgan Stanley | MS | 76,104.20 | 0.28% | 2.92% | 1.97% | 4.91% | 0.0138% |
| MSCI Inc | MSCI | 27,905.92 | 0.10% | 0.84% | 11.45% | 12.34% | 0.0127% |
| Microsoft Corp | MSFT | 1,543,305.92 | 5.69% | 0.99% | 13.84% | 14.90% | 0.8481% |
| Motorola Solutions Inc | MSI | 23,831.54 | 0.09% | 1.81% | 13.70% | 15.63% | 0.0137% |
| M&T Bank Corp | MTB | 13,336.51 | 0.05% | 4.24% | 0.41% | 4.65% | 0.0023% |
| Mettler-Toledo International Inc | MTD | 19,258.71 | 0.07% | 0.00% | 6.02% | 6.02% | 0.0043% |
| Micron Technology Inc | MU | 57,299.82 | 0.21% | 0.00% | 5.55% | 5.55% | 0.0117% |
| Maxim Integrated Products Inc | MXIM | 16,160.16 | 0.06% | 3.17% | 8.03% | 11.33% | 0.0068% |
| Mylan NV | MYL | 8,312.51 | 0.03% | 0.00% | 0.66% | 0.66% | 0.0002% |
| Noble Energy Inc | NBL | 4,298.10 | 0.02% | 1.89% | 12.54% | 14.54% | 0.0023% |
| Norwegian Cruise Line Holdings Ltd | NCLH | 4,211.78 | 0.02% | 0.00% | -16.18% | -16.18% | -0.0025% |
| Nasdaq Inc | NDAQ | 19,601.54 | 0.07% | 1.62% | 8.78% | 10.47% | 0.0076% |
| NextEra Energy Inc | NEE | 117,551.22 | 0.43% | 2.33% | 8.45% | 10.88% | 0.0472% |
| Newmont Corp | NEM | 49,551.57 | 0.18% | 1.55% | 12.75% | 14.40% | 0.0263% |
| Netflix Inc | NFLX | 200,128.43 | 0.74% | 0.00% | 31.97% | 31.97% | 0.2359% |
| NiSource Inc | NI | 8,704.86 | 0.03% | 3.73% | 4.66% | 8.48% | 0.0027% |
| NIKE Inc | NKE | 152,471.16 | 0.56% | 1.06% | 15.23% | 16.36% | 0.0920% |
| NortonLifeLock Inc | NLOK | 11,680.44 | 0.04% | 2.52% | 7.50% | 10.12% | 0.0044% |
| Nielsen Holdings PLC | NLSN | 5,297.23 | 0.02% | 1.62% | 12.00% | 13.71% | 0.0027% |
| Northrop Grumman Corp | NOC | 51,251.09 | 0.19% | 1.83% | 18.99% | 20.99% | 0.0397% |
| National Oilwell Varco Inc | NOV | 4,755.73 | N/A | 1.30% | N/A | N/A | N/A |
| ServiceNow Inc | NOW | 77,246.46 | 0.28% | 0.00% | 29.60% | 29.60% | 0.0843% |
| NRG Energy Inc | NRG | 7,947.47 | 0.03% | 3.69% | -13.96% | -10.53% | -0.0031% |
| Norfolk Southern Corp | NSC | 44,977.37 | 0.17% | 2.16% | 5.98% | 8.21% | 0.0136% |
| NetApp Inc | NTAP | 9,841.99 | 0.04% | 4.35% | 9.73% | 14.29% | 0.0052% |
| Northern Trust Corp | NTRS | 16,506.85 | 0.06% | 3.55% | -0.70% | 2.84% | 0.0017% |
| Nucor Corp | NUE | 12,469.99 | 0.05% | 3.89% | 5.25% | 9.24% | 0.0042% |
| NVIDIA Corp | NVDA | 233,644.65 | 0.86% | 0.16% | 18.78% | 18.96% | 0.1634% |
| NVR Inc | NVR | 11,994.88 | 0.04% | 0.00% | 2.44% | 2.44% | 0.0011% |
| Newell Brands Inc | NWL | 6,734.71 | 0.02% | 5.81% | -6.27% | -0.65% | -0.0002% |
| News Corp | NWS | 6,997.42 | 0.03% | 1.62% | 3.29% | 4.93% | 0.0013% |
| Realty Income Corp | O | 20,433.26 | 0.08% | 4.68% | 4.45% | 9.23% | 0.0070% |
| Old Dominion Freight Line Inc | ODFL | 20,002.83 | 0.07% | 0.36% | 8.74% | 9.11% | 0.0067% |
| ONEOK Inc | OKE | 14,749.89 | 0.05% | 11.26% | 5.68% | 17.26% | 0.0094% |
| Omnicom Group Inc | OMC | 11,699.85 | 0.04% | 4.72% | 0.90% | 5.64% | 0.0024% |
| Oracle Corp | ORCL | 169,606.05 | 0.63% | 1.76% | 9.00% | 10.84% | 0.0678% |
| O'Reilly Automotive Inc | ORLY | 31,298.73 | 0.12% | 0.00% | 11.23% | 11.23% | 0.0130% |
| Otis Worldwide Corp | OTIS | 24,624.90 | 0.09% | 1.37% | 4.80% | 6.20% | 0.0056% |
| Occidental Petroleum Corp | OXY | 16,470.33 | 0.06% | 7.41% | 12.20% | 20.06% | 0.0122% |
| Paycom Software Inc | PAYC | 18,139.67 | 0.07% | 0.00% | 19.70% | 19.70% | 0.0132% |
| Paychex Inc | PAYX | 27,172.69 | 0.10% | 3.28% | 6.55% | 9.94% | 0.0100% |
| People's United Financial Inc | PBCT | 4,913.29 | 0.02% | 6.21% | 2.00% | 8.28% | 0.0015% |
| PACCAR Inc | PCAR | 25,877.66 | 0.10% | 1.76% | 4.53% | 6.33% | 0.0060% |
| Healthpeak Properties Inc | PEAK | 14,834.73 | 0.05% | 5.37% | 3.51% | 8.97% | 0.0049% |
| Public Service Enterprise Group Inc | PEG | 24,856.54 | 0.09% | 3.99% | 4.28% | 8.35% | 0.0077% |
| PepsiCo Inc | PEP | 183,510.81 | 0.68% | 3.04% | 4.17% | 7.26% | 0.0492% |
| Pfizer Inc | PFE | 181,643.06 | 0.67% | 4.61% | 3.50% | 8.20% | 0.0549% |
| Principal Financial Group Inc | PFG | 11,376.47 | 0.04% | 5.44% | 4.68% | 10.25% | 0.0043% |
| Procter & Gamble Co/The | PG | 296,012.59 | 1.09% | 2.52% | 7.13% | 9.75% | 0.1064% |
| Progressive Corp/The | PGR | 46,896.39 | 0.17% | 2.48% | 6.00% | 8.55% | 0.0148% |
| Parker-Hannifin Corp | PH | 23,498.41 | 0.09% | 1.93% | 9.49% | 11.51% | 0.0100% |
| PulteGroup Inc | PHM | 9,125.09 | 0.03% | 1.40% | 6.49% | 7.94% | 0.0027% |
| Packaging Corp of America | PKG | 9,465.31 | 0.03% | 3.18% | 5.37% | 8.63% | 0.0030% |
| PerkinElmer Inc | PKI | 10,925.87 | 0.04% | 0.29% | 7.31% | 7.60% | 0.0031% |
| Prologis Inc | PLD | 68,931.86 | 0.25% | 2.47% | 5.17% | 7.71% | 0.0196% |
| Philip Morris International Inc | PM | 109,092.50 | 0.40% | 6.72% | 6.09% | 13.01% | 0.0524% |
| PNC Financial Services Group Inc/The | PNC | 44,636.44 | 0.16% | 4.37% | -5.84% | -1.59% | -0.0026% |
| Pentair PLC | PNR | 6,295.90 | 0.02% | 2.00% | 4.94% | 6.99% | 0.0016% |
| Pinnacle West Capital Corp | PNW | 8,244.65 | 0.03% | 4.31% | 4.90% | 9.31% | 0.0028% |
| PPG Industries Inc | PPG | 25,020.67 | 0.09% | 1.98% | 2.20% | 4.21% | 0.0039% |
| PPL Corp | PPL | 19,851.99 | 0.07% | 6.42% | -0.37% | 6.04% | 0.0044% |
| Perrigo Co PLC | PRGO | 7,534.04 | 0.03% | 1.66% | 2.00% | 3.68% | 0.0010% |
| Prudential Financial Inc | PRU | 24,055.50 | 0.09% | 7.01% | 7.00% | 14.26% | 0.0127% |
| Public Storage | PSA | 33,540.98 | 0.12% | 4.17% | 3.68% | 7.93% | 0.0098% |
| Phillips 66 | PSX | 31,396.91 | 0.12% | 5.08% | 10.15% | 15.49% | 0.0179% |
| PVH Corp | PVH | 3,413.43 | 0.01% | 0.11% | 2.44% | 2.55% | 0.0003% |
| Quanta Services Inc | PWR | 5,418.95 | N/A | 0.51% | N/A | N/A | N/A |
| Pioneer Natural Resources Co | PXD | 16,107.14 | 0.06% | 2.20% | 15.50% | 17.87% | 0.0106% |
| PayPal Holdings Inc | PYPL | 204,574.05 | 0.75% | 0.00% | 15.59% | 15.59% | 0.1176% |
| QUALCOMM Inc | QCOM | 102,604.68 | 0.38% | 2.78% | 17.12% | 20.13% | 0.0762% |
| Qorvo Inc | QRVO | 12,647.28 | 0.05% | 0.22% | 10.19% | 10.42% | 0.0049% |
| Royal Caribbean Cruises Ltd | RCL | 10,532.08 | 0.04% | 1.55% | 16.95% | 18.63% | 0.0072% |
| Everest Re Group Ltd | RE | 8,245.32 | 0.03% | 3.02% | 10.00% | 13.17% | 0.0040% |
| Regency Centers Corp | REG | 7,791.88 | 0.03% | 5.20% | 4.27% | 9.58% | 0.0028% |

| | | [4] | [5] | [6] | [7] | [8] | [9] |
|---|---|---|---|---|---|---|---|
| Company | Ticker | Market Capitalization ($million) | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| Regeneron Pharmaceuticals Inc | REGN | 63,852.01 | 0.24% | 0.00% | 9.46% | 9.46% | 0.0223% |
| Regions Financial Corp | RF | 10,671.64 | 0.04% | 5.65% | -1.84% | 3.76% | 0.0015% |
| Robert Half International Inc | RHI | 6,054.44 | 0.02% | 2.55% | 0.29% | 2.84% | 0.0006% |
| Raymond James Financial Inc | RJF | 9,431.81 | 0.03% | 2.11% | 3.50% | 5.64% | 0.0020% |
| Ralph Lauren Corp | RL | 5,269.19 | 0.02% | 2.58% | 4.77% | 7.41% | 0.0014% |
| ResMed Inc | RMD | 27,776.34 | 0.10% | 0.83% | 13.80% | 14.68% | 0.0150% |
| Rockwell Automation Inc | ROK | 24,670.50 | 0.09% | 1.92% | 7.18% | 9.17% | 0.0083% |
| Rollins Inc | ROL | 13,894.06 | N/A | 1.00% | N/A | N/A | N/A |
| Roper Technologies Inc | ROP | 40,533.04 | 0.15% | 0.53% | 12.33% | 12.89% | 0.0193% |
| Ross Stores Inc | ROST | 30,338.76 | 0.11% | 0.53% | 8.75% | 9.30% | 0.0104% |
| Republic Services Inc | RSG | 26,117.52 | 0.10% | 2.01% | 5.57% | 7.64% | 0.0074% |
| Raytheon Technologies Corp | RTX | 93,432.49 | 0.34% | 2.99% | -4.34% | -1.42% | -0.0049% |
| SBA Communications Corp | SBAC | 33,255.29 | 0.12% | 0.62% | 29.90% | 30.61% | 0.0375% |
| Starbucks Corp | SBUX | 85,975.20 | 0.32% | 2.25% | 13.08% | 15.47% | 0.0491% |
| Charles Schwab Corp/The | SCHW | 43,437.31 | 0.16% | 2.14% | -5.72% | -3.64% | -0.0058% |
| Sealed Air Corp | SEE | 5,113.52 | 0.02% | 1.96% | 2.08% | 4.06% | 0.0008% |
| Sherwin-Williams Co/The | SHW | 52,468.78 | 0.19% | 0.93% | 8.92% | 9.89% | 0.0191% |
| SVB Financial Group | SIVB | 11,102.65 | 0.04% | 0.00% | 10.00% | 10.00% | 0.0041% |
| J M Smucker Co/The | SJM | 12,066.91 | 0.04% | 3.40% | 0.73% | 4.15% | 0.0018% |
| Schlumberger Ltd | SLB | 25,521.88 | 0.09% | 4.56% | 36.00% | 41.38% | 0.0390% |
| SL Green Realty Corp | SLG | 3,823.13 | 0.01% | 7.10% | 4.34% | 11.60% | 0.0016% |
| Snap-on Inc | SNA | 7,528.61 | 0.03% | 3.11% | 4.06% | 7.24% | 0.0020% |
| Synopsys Inc | SNPS | 29,403.80 | 0.11% | 0.00% | 14.23% | 14.23% | 0.0154% |
| Southern Co/The | SO | 54,805.80 | 0.20% | 4.90% | 4.30% | 9.30% | 0.0188% |
| Simon Property Group Inc | SPG | 20,907.54 | 0.08% | 9.90% | 0.60% | 10.53% | 0.0081% |
| S&P Global Inc | SPGI | 79,371.73 | 0.29% | 0.81% | 7.80% | 8.64% | 0.0253% |
| Sempra Energy | SRE | 34,295.09 | 0.13% | 3.57% | 7.49% | 11.19% | 0.0142% |
| STERIS PLC | STE | 13,034.94 | 0.05% | 1.04% | 8.20% | 9.28% | 0.0045% |
| State Street Corp | STT | 22,366.83 | 0.08% | 3.27% | 1.39% | 4.69% | 0.0039% |
| Seagate Technology PLC | STX | 12,423.21 | 0.05% | 5.32% | 4.83% | 10.27% | 0.0047% |
| Constellation Brands Inc | STZ | 33,604.14 | 0.12% | 1.75% | 6.94% | 8.74% | 0.0108% |
| Stanley Black & Decker Inc | SWK | 21,482.23 | 0.08% | 1.91% | 11.00% | 13.01% | 0.0103% |
| Skyworks Solutions Inc | SWKS | 21,331.64 | 0.08% | 1.38% | 9.48% | 10.93% | 0.0086% |
| Synchrony Financial | SYF | 12,934.97 | 0.05% | 4.00% | -4.38% | -0.46% | -0.0002% |
| Stryker Corp | SYK | 67,639.45 | 0.25% | 1.29% | 8.10% | 9.44% | 0.0236% |
| Sysco Corp | SYY | 27,746.40 | 0.10% | 3.17% | 3.80% | 7.03% | 0.0072% |
| AT&T Inc | T | 215,388.75 | 0.79% | 6.90% | 4.42% | 11.47% | 0.0911% |
| Molson Coors Beverage Co | TAP | 7,694.05 | 0.03% | 3.83% | 1.58% | 5.44% | 0.0015% |
| TransDigm Group Inc | TDG | 23,902.67 | 0.09% | 7.35% | 6.18% | 13.75% | 0.0121% |
| Teledyne Technologies Inc | TDY | 11,400.55 | 0.04% | 0.00% | 10.10% | 10.10% | 0.0042% |
| TE Connectivity Ltd | TEL | 26,899.09 | 0.10% | 2.26% | 9.28% | 11.64% | 0.0115% |
| Truist Financial Corp | TFC | 50,599.64 | 0.19% | 4.81% | 2.10% | 6.97% | 0.0130% |
| Teleflex Inc | TFX | 16,897.92 | 0.06% | 0.37% | 12.75% | 13.14% | 0.0082% |
| Target Corp | TGT | 59,966.86 | 0.22% | 2.27% | 7.83% | 10.19% | 0.0225% |
| Tiffany & Co | TIF | 14,797.01 | 0.05% | 1.70% | 6.80% | 8.56% | 0.0047% |
| TJX Cos Inc/The | TJX | 60,564.67 | 0.22% | 1.01% | 8.60% | 9.65% | 0.0216% |
| Thermo Fisher Scientific Inc | TMO | 143,106.58 | 0.53% | 0.23% | 8.30% | 8.54% | 0.0451% |
| T-Mobile US Inc | TMUS | 129,229.00 | 0.48% | 0.00% | 5.00% | 5.00% | 0.0238% |
| Tapestry Inc | TPR | 3,666.59 | 0.01% | 8.04% | 8.05% | 16.42% | 0.0022% |
| T Rowe Price Group Inc | TROW | 28,102.29 | 0.10% | 2.90% | 1.59% | 4.51% | 0.0047% |
| Travelers Cos Inc/The | TRV | 28,835.93 | 0.11% | 2.97% | 9.10% | 12.21% | 0.0130% |
| Tractor Supply Co | TSCO | 15,238.89 | 0.06% | 1.10% | 12.01% | 13.17% | 0.0074% |
| Tyson Foods Inc | TSN | 21,753.56 | 0.08% | 2.85% | 1.83% | 4.70% | 0.0038% |
| Trane Technologies PLC | TT | 21,284.72 | 0.08% | 2.46% | -0.26% | 2.20% | 0.0017% |
| Take-Two Interactive Software Inc | TTWO | 15,902.99 | 0.06% | 0.00% | 6.33% | 6.33% | 0.0037% |
| Twitter Inc | TWTR | 23,374.10 | 0.09% | 0.00% | 32.77% | 32.77% | 0.0282% |
| Texas Instruments Inc | TXN | 116,529.59 | 0.43% | 2.85% | 10.70% | 13.71% | 0.0589% |
| Textron Inc | TXT | 7,486.12 | 0.03% | 0.24% | 2.83% | 3.08% | 0.0008% |
| Tyler Technologies Inc | TYL | 13,792.51 | 0.05% | 0.00% | 12.30% | 12.30% | 0.0063% |
| Under Armour Inc | UA | 4,199.30 | 0.02% | 0.00% | 18.35% | 18.35% | 0.0028% |
| United Airlines Holdings Inc | UAL | 10,052.36 | 0.04% | 0.00% | -7.98% | -7.98% | -0.0030% |
| UDR Inc | UDR | 11,022.84 | 0.04% | 3.84% | 6.01% | 9.96% | 0.0040% |
| Universal Health Services Inc | UHS | 7,888.82 | 0.03% | 0.43% | 6.67% | 7.11% | 0.0021% |
| Ulta Beauty Inc | ULTA | 11,454.93 | 0.04% | 0.00% | 8.70% | 8.70% | 0.0037% |
| UnitedHealth Group Inc | UNH | 279,724.53 | 1.03% | 1.54% | 12.40% | 14.03% | 0.1448% |
| Unum Group | UNM | 3,374.75 | 0.01% | 7.08% | 9.00% | 16.39% | 0.0020% |
| Union Pacific Corp | UNP | 114,725.50 | 0.42% | 2.30% | 9.40% | 11.81% | 0.0500% |
| United Parcel Service Inc | UPS | 95,856.79 | 0.35% | 3.64% | 6.09% | 9.83% | 0.0348% |
| United Rentals Inc | URI | 10,738.26 | 0.04% | 0.00% | -4.40% | -4.40% | -0.0017% |
| US Bancorp | USB | 55,461.56 | 0.20% | 4.57% | 6.43% | 11.15% | 0.0228% |
| Visa Inc | V | 375,425.45 | 1.38% | 0.62% | 13.52% | 14.18% | 0.1964% |
| Varian Medical Systems Inc | VAR | 11,126.65 | 0.04% | 0.00% | 8.40% | 8.40% | 0.0034% |
| VF Corp | VFC | 23,739.75 | 0.09% | 3.23% | 8.76% | 12.13% | 0.0106% |
| ViacomCBS Inc | VIAC | 14,469.68 | 0.05% | 4.13% | 3.21% | 7.40% | 0.0040% |
| Valero Energy Corp | VLO | 23,980.83 | 0.09% | 6.67% | -0.41% | 6.25% | 0.0055% |
| Vulcan Materials Co | VMC | 15,342.52 | 0.06% | 1.14% | 14.00% | 15.22% | 0.0086% |
| Vornado Realty Trust | VNO | 7,302.53 | 0.03% | 8.44% | -4.59% | 3.66% | 0.0010% |
| Verisk Analytics Inc | VRSK | 27,616.50 | 0.10% | 0.63% | 9.18% | 9.84% | 0.0100% |
| VeriSign Inc | VRSN | 23,897.03 | 0.09% | 0.00% | 3.20% | 3.20% | 0.0028% |
| Vertex Pharmaceuticals Inc | VRTX | 75,270.62 | 0.28% | 0.00% | 24.62% | 24.62% | 0.0684% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Ventas Inc | VTR | 13,662.00 | 0.05% | 6.64% | -0.29% | 6.34% | 0.0032% |
| Verizon Communications Inc | VZ | 228,127.69 | 0.84% | 4.51% | 2.63% | 7.19% | 0.0605% |
| Westinghouse Air Brake Technologies Corp | WAB | 10,954.92 | 0.04% | 0.87% | 7.66% | 8.55% | 0.0035% |
| Waters Corp | WAT | 11,168.33 | 0.04% | 0.00% | 3.89% | 3.89% | 0.0016% |
| Walgreens Boots Alliance Inc | WBA | 37,185.36 | 0.14% | 4.38% | 1.47% | 5.89% | 0.0081% |
| Western Digital Corp | WDC | 13,231.80 | 0.05% | 3.40% | -1.20% | 2.17% | 0.0011% |
| WEC Energy Group Inc | WEC | 27,647.84 | 0.10% | 2.88% | 6.41% | 9.39% | 0.0096% |
| Welltower Inc | WELL | 21,604.55 | 0.08% | 4.93% | -0.62% | 4.29% | 0.0034% |
| Wells Fargo & Co | WFC | 104,959.94 | 0.39% | 7.34% | 9.41% | 17.09% | 0.0661% |
| Whirlpool Corp | WHR | 8,051.98 | 0.03% | 3.80% | -3.07% | 0.67% | 0.0002% |
| Willis Towers Watson PLC | WLTW | 25,354.49 | 0.09% | 1.39% | 10.00% | 11.46% | 0.0107% |
| Waste Management Inc | WM | 44,866.36 | 0.17% | 2.05% | 5.23% | 7.33% | 0.0121% |
| Williams Cos Inc/The | WMB | 23,075.01 | 0.09% | 8.42% | 7.58% | 16.31% | 0.0139% |
| Walmart Inc | WMT | 339,211.38 | 1.25% | 1.81% | 3.95% | 5.79% | 0.0725% |
| W R Berkley Corp | WRB | 10,239.12 | 0.04% | 1.82% | 10.70% | 12.62% | 0.0048% |
| Westrock Co | WRK | 7,326.55 | 0.03% | 4.54% | -0.10% | 4.44% | 0.0012% |
| West Pharmaceutical Services Inc | WST | 16,720.22 | 0.06% | 0.29% | 9.60% | 9.91% | 0.0061% |
| Western Union Co/The | WU | 8,883.76 | 0.03% | 4.08% | 5.30% | 9.49% | 0.0031% |
| Weyerhaeuser Co | WY | 16,759.79 | 0.06% | 1.57% | 54.20% | 56.20% | 0.0347% |
| Wynn Resorts Ltd | WYNN | 8,035.11 | 0.03% | 1.34% | 20.00% | 21.48% | 0.0064% |
| Xcel Energy Inc | XEL | 32,823.18 | 0.12% | 2.75% | 6.04% | 8.87% | 0.0107% |
| Xilinx Inc | XLNX | 23,927.89 | 0.09% | 1.53% | 8.20% | 9.80% | 0.0086% |
| Exxon Mobil Corp | XOM | 189,085.61 | 0.70% | 7.80% | 16.97% | 25.43% | 0.1774% |
| DENTSPLY SIRONA Inc | XRAY | 9,652.68 | 0.04% | 0.84% | -1.32% | -0.48% | -0.0002% |
| Xerox Holdings Corp | XRX | 3,254.19 | 0.01% | 6.57% | 0.50% | 7.09% | 0.0009% |
| Xylem Inc/NY | XYL | 11,687.30 | 0.04% | 1.61% | 19.97% | 21.74% | 0.0094% |
| Yum! Brands Inc | YUM | 26,158.69 | 0.10% | 2.14% | 11.46% | 13.73% | 0.0132% |
| Zimmer Biomet Holdings Inc | ZBH | 24,683.90 | 0.09% | 0.83% | 2.36% | 3.20% | 0.0029% |
| Zebra Technologies Corp | ZBRA | 13,588.79 | 0.05% | 0.00% | 12.95% | 12.95% | 0.0065% |
| Zions Bancorp NA | ZION | 5,571.31 | 0.02% | 4.01% | -5.06% | -1.16% | -0.0002% |
| Zoetis Inc | ZTS | 65,085.88 | 0.24% | 0.58% | 6.08% | 6.68% | 0.0160% |
| | Total Market Capitalization: | 27,114,041.76 | | | | | 13.21% |

Notes:
[1] Equals sum of Col. [9]
[2] Source: Bloomberg Professional
[3] Equals [1] − [2]
[4] Source: Bloomberg Professional
[5] Equals weight in S&P 500 based on market capitalization
[6] Source: Bloomberg Professional
[7] Source: Bloomberg Professional
[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]
[9] Equals Col. [5] x Col. [8]

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

| [1] S&P 500 Est. Required Market Return | [2] Current 30-Year Treasury (30-day average) | [3] Implied Market Risk Premium |
|---|---|---|
| 13.77% | 1.47% | 12.30% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Agilent Technologies Inc | A | 26,698.82 | 0.10% | 0.83% | 10.50% | 11.37% | 0.0117% |
| American Airlines Group Inc | AAL | 5,514.45 | 0.02% | 0.00% | 2.00% | 2.00% | 0.0004% |
| Advance Auto Parts Inc | AAP | 9,881.44 | 0.04% | 0.70% | 11.00% | 11.74% | 0.0045% |
| Apple Inc | AAPL | 1,556,895.00 | 6.02% | 0.93% | 14.00% | 15.00% | 0.9032% |
| AbbVie Inc | ABBV | 140,490.90 | 0.54% | 4.96% | 10.50% | 15.72% | 0.0854% |
| AmerisourceBergen Corp | ABC | 20,099.31 | 0.08% | 1.70% | 7.00% | 8.76% | 0.0068% |
| ABIOMED Inc | ABMD | 10,902.01 | 0.04% | 0.00% | 10.50% | 10.50% | 0.0044% |
| Abbott Laboratories | ABT | 154,420.20 | 0.60% | 1.65% | 9.50% | 11.23% | 0.0671% |
| Accenture PLC | ACN | 128,737.40 | 0.50% | 1.62% | 7.50% | 9.18% | 0.0457% |
| Adobe Inc | ADBE | 207,206.40 | 0.80% | 0.00% | 19.50% | 19.50% | 0.1563% |
| Analog Devices Inc | ADI | 44,015.73 | 0.17% | 2.08% | 7.00% | 9.15% | 0.0156% |
| Archer-Daniels-Midland Cc | ADM | 21,822.60 | 0.08% | 3.66% | 9.00% | 12.82% | 0.0108% |
| Automatic Data Processing Inc | ADP | 62,252.23 | 0.24% | 2.62% | 12.00% | 14.78% | 0.0356% |
| Autodesk Inc | ADSK | 51,170.05 | N/A | 0.00% | N/A | N/A | N/A |
| Ameren Corp | AEE | 17,149.68 | 0.07% | 2.97% | 6.00% | 9.06% | 0.0060% |
| American Electric Power Co Inc | AEP | 39,968.24 | 0.15% | 3.62% | 5.00% | 8.71% | 0.0135% |
| AES Corp/The | AES | 9,202.31 | 0.04% | 4.12% | 24.00% | 28.61% | 0.0102% |
| Aflac Inc | AFL | 25,265.49 | 0.10% | 3.24% | 7.00% | 10.35% | 0.0101% |
| American International Group Inc | AIG | 26,097.12 | 0.10% | 4.22% | 28.50% | 33.32% | 0.0336% |
| Apartment Investment and Management Cc | AIV | 5,524.08 | 0.02% | 4.53% | -1.50% | 3.00% | 0.0006% |
| Assurant Inc | AIZ | 6,011.40 | 0.02% | 2.50% | 11.50% | 14.14% | 0.0033% |
| Arthur J Gallagher & Co | AJG | 17,970.29 | 0.07% | 1.90% | 13.50% | 15.53% | 0.0108% |
| Akamai Technologies Inc | AKAM | 16,375.01 | 0.06% | 0.00% | 14.00% | 14.00% | 0.0089% |
| Albemarle Corp | ALB | 7,795.31 | 0.03% | 2.10% | 4.00% | 6.14% | 0.0019% |
| Align Technology Inc | ALGN | 20,292.26 | 0.08% | 0.00% | 19.50% | 19.50% | 0.0153% |
| Alaska Air Group Inc | ALK | 4,215.70 | 0.02% | 0.00% | 2.00% | 2.00% | 0.0003% |
| Allstate Corp/The | ALL | 29,279.25 | 0.11% | 2.32% | 6.00% | 8.39% | 0.0095% |
| Allegion plc | ALLE | 9,021.69 | 0.03% | 1.31% | 9.00% | 10.37% | 0.0036% |
| Alexion Pharmaceuticals Inc | ALXN | 24,752.14 | 0.10% | 0.00% | 19.50% | 19.50% | 0.0187% |
| Applied Materials Inc | AMAT | 54,961.25 | 0.21% | 1.47% | 7.50% | 9.03% | 0.0192% |
| Amcor PLC | AMCR | 16,125.24 | N/A | 4.82% | N/A | N/A | N/A |
| Advanced Micro Devices Inc | AMD | 61,348.69 | 0.24% | 0.00% | 20.00% | 20.00% | 0.0475% |
| AMETEK Inc | AME | 19,694.44 | 0.08% | 0.84% | 12.50% | 13.39% | 0.0102% |
| Amgen Inc | AMGN | 136,715.90 | 0.53% | 2.88% | 6.50% | 9.47% | 0.0501% |
| Ameriprise Financial Inc | AMP | 17,489.01 | 0.07% | 2.91% | 11.00% | 14.07% | 0.0095% |
| American Tower Corp | AMT | 112,686.10 | 0.44% | 1.88% | 9.00% | 10.96% | 0.0478% |
| Amazon.com Inc | AMZN | 1,427,357.00 | 5.52% | 0.00% | 33.50% | 33.50% | 1.8498% |
| Arista Networks Inc | ANET | 15,830.81 | 0.06% | 0.00% | 5.50% | 5.50% | 0.0034% |
| ANSYS Inc | ANSS | 24,413.41 | 0.09% | 0.00% | 9.50% | 9.50% | 0.0090% |
| Anthem Inc | ANTM | 64,847.27 | 0.25% | 1.48% | 14.00% | 15.58% | 0.0391% |
| Aon PLC | AON | 43,338.18 | 0.17% | 0.96% | 7.50% | 8.50% | 0.0142% |
| A O Smith Corp | AOS | 7,269.03 | 0.03% | 2.13% | 6.00% | 8.19% | 0.0023% |
| Apache Corp | APA | 4,932.93 | 0.02% | 0.77% | 13.50% | 14.32% | 0.0027% |
| Air Products and Chemicals Inc | APD | 51,387.55 | 0.20% | 2.30% | 12.00% | 14.44% | 0.0287% |
| Amphenol Corp | APH | 27,995.10 | 0.11% | 1.06% | 9.00% | 10.11% | 0.0109% |
| Aptiv PLC | APTV | 19,017.20 | 0.07% | 0.00% | 9.50% | 9.50% | 0.0070% |
| Alexandria Real Estate Equities Inc | ARE | 18,148.24 | 0.07% | 2.59% | 16.50% | 19.30% | 0.0136% |
| Atmos Energy Corp | ATO | 12,103.70 | 0.05% | 2.45% | 7.00% | 9.54% | 0.0045% |
| Activision Blizzard Inc | ATVI | 58,222.68 | 0.23% | 0.54% | 8.00% | 8.56% | 0.0193% |
| AvalonBay Communities Inc | AVB | 21,317.41 | 0.08% | 4.29% | 4.50% | 8.89% | 0.0073% |
| Broadcom Inc | AVGO | 123,401.90 | 0.48% | 4.24% | 17.00% | 21.60% | 0.1031% |
| Avery Dennison Corp | AVY | 9,356.12 | 0.04% | 2.11% | 11.00% | 13.23% | 0.0048% |
| American Water Works Co Inc | AWK | 22,519.01 | 0.09% | 1.77% | 8.50% | 10.35% | 0.0090% |
| American Express Co | AXP | 76,861.40 | 0.30% | 1.80% | 7.50% | 9.37% | 0.0279% |
| AutoZone Inc | AZO | 25,687.70 | 0.10% | 0.00% | 13.00% | 13.00% | 0.0129% |
| Boeing Co/The | BA | 99,708.47 | 0.39% | 0.00% | -1.50% | -1.50% | -0.0058% |
| Bank of America Corp | BAC | 206,563.40 | 0.80% | 3.02% | 5.00% | 8.10% | 0.0647% |
| Baxter International Inc | BAX | 41,926.84 | 0.16% | 1.19% | 9.00% | 10.24% | 0.0166% |
| Best Buy Co Inc | BBY | 21,541.74 | 0.08% | 2.63% | 9.00% | 11.75% | 0.0098% |
| Becton Dickinson and Cc | BDX | 63,272.17 | 0.24% | 1.38% | 9.00% | 10.44% | 0.0256% |
| Franklin Resources Inc | BEN | 10,311.83 | 0.04% | 5.28% | 6.50% | 11.95% | 0.0048% |
| Brown-Forman Corp | BF/B | 30,514.52 | 0.12% | 1.10% | 11.00% | 12.16% | 0.0144% |
| Biogen Inc | BIIB | 50,266.94 | 0.19% | 0.00% | 7.00% | 7.00% | 0.0136% |
| Bio-Rad Laboratories Inc | BIO | 12,819.96 | 0.05% | 0.00% | 12.00% | 12.00% | 0.0060% |
| Bank of New York Mellon Corp/The | BK | 32,965.05 | 0.13% | 3.33% | 3.00% | 6.38% | 0.0081% |
| Booking Holdings Inc | BKNG | 65,910.81 | 0.25% | 0.00% | 7.00% | 7.00% | 0.0178% |
| Baker Hughes Co | BKR | 9,358.74 | 0.04% | 5.03% | 45.50% | 51.67% | 0.0187% |
| BlackRock Inc | BLK | 83,081.41 | 0.32% | 2.70% | 7.00% | 9.79% | 0.0315% |
| Ball Corp | BLL | 22,481.89 | 0.09% | 0.87% | 19.00% | 19.95% | 0.0174% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Bristol-Myers Squibb Co | BMY | 130,693.00 | 0.51% | 3.12% | 12.50% | 15.82% | 0.0800% |
| Broadridge Financial Solutions Inc | BR | 14,049.15 | 0.05% | 1.76% | 9.00% | 10.84% | 0.0059% |
| Berkshire Hathaway Inc | BRK/B | - | N/A | 0.00% | N/A | N/A | N/A |
| Boston Scientific Corp | BSX | 47,366.68 | 0.18% | 0.00% | 13.50% | 13.50% | 0.0247% |
| BorgWarner Inc | BWA | 6,878.55 | 0.03% | 2.05% | 3.50% | 5.59% | 0.0015% |
| Boston Properties Inc | BXP | 13,883.12 | 0.05% | 4.37% | 4.00% | 8.46% | 0.0045% |
| Citigroup Inc | C | 107,420.10 | 0.42% | 4.02% | 3.50% | 7.59% | 0.0315% |
| Conagra Brands Inc | CAG | 16,458.30 | 0.06% | 2.58% | 5.00% | 7.64% | 0.0049% |
| Cardinal Health Inc | CAH | 15,186.92 | 0.06% | 3.73% | 12.50% | 16.46% | 0.0097% |
| Carrier Global Corp | CARR | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Caterpillar Inc | CAT | 66,150.66 | 0.26% | 3.38% | 4.00% | 7.45% | 0.0191% |
| Chubb Ltd | CB | 56,949.10 | 0.22% | 2.47% | 9.50% | 12.09% | 0.0266% |
| Cboe Global Markets Inc | CBOE | 10,375.20 | 0.04% | 1.54% | 12.50% | 14.14% | 0.0057% |
| CBRE Group Inc | CBRE | 14,327.45 | 0.06% | 0.00% | 7.50% | 7.50% | 0.0042% |
| Crown Castle International Corp | CCI | 67,595.70 | 0.26% | 3.13% | 14.00% | 17.35% | 0.0454% |
| Carnival Corp | CCL | 11,920.00 | 0.05% | 0.00% | -2.50% | -2.50% | -0.0012% |
| Cadence Design Systems Inc | CDNS | 25,682.41 | 0.10% | 0.00% | 10.00% | 10.00% | 0.0099% |
| CDW Corp/DE | CDW | 15,865.03 | 0.06% | 1.36% | 11.00% | 12.43% | 0.0076% |
| Celanese Corp | CE | 9,808.28 | 0.04% | 2.99% | 7.00% | 10.09% | 0.0038% |
| Cerner Corp | CERN | 20,887.38 | 0.08% | 1.05% | 9.00% | 10.10% | 0.0082% |
| CF Industries Holdings Inc | CF | 6,030.45 | 0.02% | 4.49% | 26.50% | 31.58% | 0.0074% |
| Citizens Financial Group Inc | CFG | 10,272.22 | 0.04% | 6.48% | 1.50% | 8.03% | 0.0032% |
| Church & Dwight Co Inc | CHD | 18,738.89 | 0.07% | 1.26% | 8.00% | 9.31% | 0.0067% |
| CH Robinson Worldwide Inc | CHRW | 10,570.38 | 0.04% | 2.60% | 8.00% | 10.70% | 0.0044% |
| Charter Communications Inc | CHTR | 104,878.60 | 0.41% | 0.00% | 33.50% | 33.50% | 0.1359% |
| Cigna Corp | CI | 67,881.25 | 0.26% | 0.03% | 11.50% | 11.53% | 0.0303% |
| Cincinnati Financial Corp | CINF | 9,971.21 | 0.04% | 3.87% | 10.50% | 14.57% | 0.0056% |
| Colgate-Palmolive Co | CL | 61,695.71 | 0.24% | 2.44% | 5.00% | 7.50% | 0.0179% |
| Clorox Co/The | CLX | 26,699.45 | 0.10% | 2.09% | 4.50% | 6.64% | 0.0069% |
| Comerica Inc | CMA | 5,206.94 | 0.02% | 7.26% | 0.50% | 7.78% | 0.0016% |
| Comcast Corp | CMCSA | 175,627.30 | 0.68% | 2.39% | 9.50% | 12.00% | 0.0816% |
| CME Group Inc | CME | 59,900.67 | 0.23% | 2.03% | 2.50% | 4.56% | 0.0106% |
| Chipotle Mexican Grill Inc | CMG | 29,148.73 | 0.11% | 0.00% | 14.50% | 14.50% | 0.0164% |
| Cummins Inc | CMI | 24,574.97 | 0.10% | 3.15% | 4.00% | 7.21% | 0.0069% |
| CMS Energy Corp | CMS | 16,427.88 | 0.06% | 2.94% | 7.50% | 10.55% | 0.0067% |
| Centene Corp | CNC | 35,836.07 | 0.14% | 0.00% | 13.00% | 13.00% | 0.0180% |
| CenterPoint Energy Inc | CNP | 9,213.52 | 0.04% | 3.27% | 4.50% | 7.84% | 0.0028% |
| Capital One Financial Corp | COF | 29,804.60 | 0.12% | 2.44% | -0.50% | 1.93% | 0.0022% |
| Cabot Oil & Gas Corp | COG | 7,142.48 | 0.03% | 2.40% | 11.50% | 14.04% | 0.0039% |
| Cooper Cos Inc/The | COO | 13,816.25 | 0.05% | 0.02% | 11.00% | 11.02% | 0.0059% |
| ConocoPhillips | COP | 43,958.70 | 0.17% | 4.10% | 10.50% | 14.82% | 0.0252% |
| Costco Wholesale Corp | COST | 131,582.70 | 0.51% | 0.95% | 10.00% | 11.00% | 0.0560% |
| Coty Inc | COTY | 3,304.22 | 0.01% | 0.00% | 10.50% | 10.50% | 0.0013% |
| Campbell Soup Co | CPB | 15,781.78 | 0.06% | 2.87% | 1.50% | 4.39% | 0.0027% |
| Copart Inc | CPRT | 19,083.54 | 0.07% | 0.00% | 14.00% | 14.00% | 0.0103% |
| salesforce.com Inc | CRM | 166,809.40 | 0.65% | 0.00% | 31.50% | 31.50% | 0.2033% |
| Cisco Systems Inc | CSCO | 188,845.00 | 0.73% | 3.22% | 7.00% | 10.33% | 0.0755% |
| CSX Corp | CSX | 51,668.95 | 0.20% | 1.54% | 9.50% | 11.11% | 0.0222% |
| Cintas Corp | CTAS | 27,216.59 | 0.11% | 1.11% | 14.00% | 15.19% | 0.0160% |
| CenturyLink Inc | CTL | 10,691.71 | 0.04% | 10.27% | 2.50% | 12.90% | 0.0053% |
| Cognizant Technology Solutions Corp | CTSH | 29,105.80 | 0.11% | 1.64% | 4.00% | 5.67% | 0.0064% |
| Corteva Inc | CTVA | 19,509.98 | N/A | 2.15% | N/A | N/A | N/A |
| Citrix Systems Inc | CTXS | 17,487.05 | 0.07% | 0.99% | 9.00% | 10.03% | 0.0068% |
| CVS Health Corp | CVS | 82,449.90 | 0.32% | 3.17% | 6.00% | 9.27% | 0.0296% |
| Chevron Corp | CVX | 163,622.00 | 0.63% | 5.89% | 10.50% | 16.70% | 0.1057% |
| Concho Resources Inc | CXO | 10,151.95 | 0.04% | 1.55% | 6.00% | 7.60% | 0.0030% |
| Dominion Energy Inc | D | 69,284.63 | 0.27% | 4.59% | 10.50% | 15.33% | 0.0411% |
| Delta Air Lines Inc | DAL | 17,438.44 | 0.07% | 0.00% | 6.00% | 6.00% | 0.0040% |
| DuPont de Nemours Inc | DD | 37,819.74 | N/A | 2.41% | N/A | N/A | N/A |
| Deere & Co | DE | 47,082.15 | 0.18% | 2.02% | 5.00% | 7.07% | 0.0129% |
| Discover Financial Services | DFS | 15,563.20 | 0.06% | 3.46% | 4.50% | 8.04% | 0.0048% |
| Dollar General Corp | DG | 48,292.87 | 0.19% | 0.75% | 11.50% | 12.29% | 0.0230% |
| Quest Diagnostics Inc | DGX | 14,009.70 | 0.05% | 2.14% | 9.00% | 11.24% | 0.0061% |
| DR Horton Inc | DHI | 19,663.77 | 0.08% | 1.29% | 6.50% | 7.83% | 0.0060% |
| Danaher Corp | DHR | 119,507.60 | 0.46% | 0.42% | 15.00% | 15.45% | 0.0714% |
| Walt Disney Co/The | DIS | 199,596.70 | 0.77% | 0.00% | 5.50% | 5.50% | 0.0425% |
| Discovery Inc | DISCA | 11,012.04 | 0.04% | 0.00% | 15.00% | 15.00% | 0.0064% |
| DISH Network Corp | DISH | 18,008.58 | 0.07% | 0.00% | -1.00% | -1.00% | -0.0007% |
| Digital Realty Trust Inc | DLR | 29,250.32 | 0.11% | 3.26% | 8.50% | 11.90% | 0.0135% |
| Dollar Tree Inc | DLTR | 21,371.72 | 0.08% | 0.00% | 8.00% | 8.00% | 0.0066% |
| Dover Corp | DOV | 13,227.29 | 0.05% | 2.13% | 9.50% | 11.73% | 0.0060% |
| Dow Inc | DOW | 28,481.11 | N/A | 7.54% | N/A | N/A | N/A |
| Domino's Pizza Inc | DPZ | 14,658.74 | 0.06% | 0.83% | 13.00% | 13.88% | 0.0079% |
| Duke Realty Corp | DRE | 12,723.71 | 0.05% | 2.72% | -3.00% | -0.32% | -0.0002% |
| Darden Restaurants Inc | DRI | 8,555.48 | 0.03% | 0.00% | 4.00% | 4.00% | 0.0013% |
| DTE Energy Co | DTE | 20,276.27 | 0.08% | 4.06% | 5.00% | 9.16% | 0.0072% |
| Duke Energy Corp | DUK | 59,145.45 | 0.23% | 4.76% | 5.00% | 9.88% | 0.0226% |
| DaVita Inc | DVA | 9,400.91 | 0.04% | 0.00% | 11.50% | 11.50% | 0.0042% |
| Devon Energy Corp | DVN | 4,308.75 | 0.02% | 4.27% | 2.50% | 6.82% | 0.0011% |
| DXC Technology Co | DXC | 3,812.23 | 0.01% | 5.59% | 7.50% | 13.30% | 0.0020% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| DexCom Inc | DXCM | 36,709.33 | 0.14% | 0.00% | 51.50% | 51.50% | 0.0731% |
| Electronic Arts Inc | EA | 37,744.61 | 0.15% | 0.00% | 10.50% | 10.50% | 0.0153% |
| eBay Inc | EBAY | 34,187.77 | 0.13% | 1.33% | 7.00% | 8.38% | 0.0111% |
| Ecolab Inc | ECL | 56,877.36 | 0.22% | 0.96% | 8.50% | 9.50% | 0.0209% |
| Consolidated Edison Inc | ED | 23,891.02 | 0.09% | 4.32% | 3.00% | 7.38% | 0.0068% |
| Equifax Inc | EFX | 20,173.04 | 0.08% | 0.94% | 7.00% | 7.97% | 0.0062% |
| Edison Internationa | EIX | 19,762.19 | 0.08% | 4.78% | 12.00% | 17.07% | 0.0130% |
| Estee Lauder Cos Inc/The | EL | 67,587.38 | 0.26% | 0.00% | 11.50% | 11.50% | 0.0301% |
| Eastman Chemical Co | EMN | 9,081.11 | 0.04% | 3.95% | 5.00% | 9.05% | 0.0032% |
| Emerson Electric Co | EMR | 35,628.92 | 0.14% | 3.35% | 8.50% | 11.99% | 0.0165% |
| EOG Resources Inc | EOG | 28,490.71 | 0.11% | 3.11% | 10.50% | 13.77% | 0.0152% |
| Equinix Inc | EQIX | 59,257.84 | 0.23% | 1.59% | 16.00% | 17.72% | 0.0406% |
| Equity Residential | EQR | 21,363.65 | 0.08% | 4.19% | 1.00% | 5.21% | 0.0043% |
| Eversource Energy | ES | 27,726.99 | 0.11% | 2.79% | 6.50% | 9.38% | 0.0101% |
| Essex Property Trust Inc | ESS | 15,053.77 | 0.06% | 3.70% | 1.00% | 4.72% | 0.0027% |
| E*TRADE Financial Corp | ETFC | 10,678.05 | 0.04% | 1.16% | 5.50% | 6.69% | 0.0028% |
| Eaton Corp PLC | ETN | 33,604.00 | 0.13% | 3.48% | 4.00% | 7.55% | 0.0098% |
| Entergy Corp | ETR | 18,717.05 | 0.07% | 4.04% | 3.00% | 7.10% | 0.0051% |
| Evergy Inc | EVRG | 13,386.67 | N/A | 3.57% | N/A | N/A | N/A |
| Edwards Lifesciences Corp | EW | 41,810.06 | 0.16% | 0.00% | 13.50% | 13.50% | 0.0218% |
| Exelon Corp | EXC | 35,536.66 | 0.14% | 4.25% | 5.00% | 9.36% | 0.0129% |
| Expeditors International of Washington | EXPD | 12,235.13 | 0.05% | 1.41% | 5.50% | 6.95% | 0.0033% |
| Expedia Group Inc | EXPE | 11,452.97 | 0.04% | 0.00% | 12.00% | 12.00% | 0.0053% |
| Extra Space Storage Inc | EXR | 11,720.24 | 0.05% | 3.98% | 3.00% | 7.04% | 0.0032% |
| Ford Motor Co | F | 23,241.82 | 0.09% | 0.00% | 11.00% | 11.00% | 0.0099% |
| Diamondback Energy Inc | FANG | 6,612.49 | 0.03% | 3.58% | 4.50% | 8.16% | 0.0021% |
| Fastenal Co | FAST | 23,680.29 | 0.09% | 2.42% | 8.00% | 10.52% | 0.0096% |
| Facebook Inc | FB | 667,191.00 | 2.58% | 0.00% | 14.00% | 14.00% | 0.3614% |
| Fortune Brands Home & Security Inc | FBHS | 8,180.26 | 0.03% | 1.62% | 5.00% | 6.66% | 0.0021% |
| Freeport-McMoRan Inc | FCX | 16,732.31 | 0.06% | 0.00% | 17.00% | 17.00% | 0.0110% |
| FedEx Corp | FDX | 35,292.13 | 0.14% | 1.93% | 3.00% | 4.96% | 0.0068% |
| FirstEnergy Corp | FE | 20,467.46 | 0.08% | 4.18% | 8.50% | 12.86% | 0.0102% |
| F5 Networks Inc | FFIV | 8,185.52 | 0.03% | 0.00% | 6.50% | 6.50% | 0.0021% |
| Fidelity National Information Services | FIS | 81,496.79 | 0.32% | 1.06% | 28.50% | 29.71% | 0.0937% |
| Fiserv Inc | FISV | 65,115.14 | 0.25% | 0.00% | 14.00% | 14.00% | 0.0353% |
| Fifth Third Bancorp | FITB | 14,147.88 | 0.05% | 5.43% | 3.00% | 8.51% | 0.0047% |
| FLIR Systems Inc | FLIR | 5,076.65 | 0.02% | 1.75% | 7.50% | 9.32% | 0.0018% |
| Flowserve Corp | FLS | 3,348.61 | 0.01% | 3.10% | 12.50% | 15.79% | 0.0020% |
| FleetCor Technologies Inc | FLT | 20,640.34 | 0.08% | 0.00% | 14.00% | 14.00% | 0.0112% |
| FMC Corp | FMC | 12,508.46 | 0.05% | 1.90% | 11.00% | 13.00% | 0.0063% |
| Fox Corp | FOX | N/A | N/A | 0.00% | N/A | N/A | N/A |
| First Republic Bank/CA | FRC | 18,094.17 | 0.07% | 0.76% | 9.00% | 9.79% | 0.0069% |
| Federal Realty Investment Trust | FRT | 6,229.87 | 0.02% | 5.17% | 1.50% | 6.71% | 0.0016% |
| TechnipFMC PLC | FTI | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Fortinet Inc | FTNT | 21,842.06 | 0.08% | 0.00% | 21.00% | 21.00% | 0.0177% |
| Fortive Corp | FTV | 22,232.17 | 0.09% | 0.42% | 8.00% | 8.44% | 0.0073% |
| General Dynamics Corp | GD | 42,011.38 | 0.16% | 3.00% | 6.00% | 9.09% | 0.0148% |
| General Electric Co | GE | 57,118.51 | 0.22% | 0.61% | 8.00% | 8.63% | 0.0191% |
| Gilead Sciences Inc | GILD | 95,216.21 | 0.37% | 3.58% | 3.50% | 7.14% | 0.0263% |
| General Mills Inc | GIS | 36,523.68 | 0.14% | 3.30% | 4.00% | 7.37% | 0.0104% |
| Globe Life Inc | GL | 7,577.04 | 0.03% | 1.05% | 8.00% | 9.09% | 0.0027% |
| Corning Inc | GLW | 19,589.79 | 0.08% | 3.41% | 13.50% | 17.14% | 0.0130% |
| General Motors Co | GM | 36,177.60 | 0.14% | 0.00% | 3.50% | 3.50% | 0.0049% |
| Alphabet Inc | GOOG | 979,427.40 | 3.79% | 0.00% | 14.50% | 14.50% | 0.5494% |
| Genuine Parts Co | GPC | 12,213.56 | 0.05% | 3.73% | 6.50% | 10.35% | 0.0049% |
| Global Payments Inc | GPN | 49,907.76 | 0.19% | 0.47% | 11.50% | 12.00% | 0.0232% |
| Gap Inc/The | GPS | 3,886.66 | 0.02% | 0.00% | 2.50% | 2.50% | 0.0004% |
| Garmin Ltd | GRMN | 18,202.01 | 0.07% | 2.56% | 7.00% | 9.65% | 0.0068% |
| Goldman Sachs Group Inc/The | GS | 68,090.36 | 0.26% | 2.53% | 6.50% | 9.11% | 0.0240% |
| WW Grainger Inc | GWW | 15,761.83 | 0.06% | 1.95% | 7.00% | 9.02% | 0.0055% |
| Halliburton Co | HAL | 10,365.64 | 0.04% | 1.52% | 4.50% | 6.05% | 0.0024% |
| Hasbro Inc | HAS | 9,719.28 | 0.04% | 3.83% | 8.50% | 12.49% | 0.0047% |
| Huntington Bancshares Inc/OH | HBAN | 9,708.32 | 0.04% | 6.29% | 4.00% | 10.42% | 0.0039% |
| Hanesbrands Inc | HBI | 3,727.46 | 0.01% | 5.60% | 2.50% | 8.17% | 0.0012% |
| HCA Healthcare Inc | HCA | 31,644.00 | 0.12% | 0.00% | 10.50% | 10.50% | 0.0129% |
| Home Depot Inc/The | HD | 264,835.90 | 1.02% | 2.44% | 7.00% | 9.53% | 0.0976% |
| Hess Corp | HES | 15,038.46 | N/A | 2.04% | N/A | N/A | N/A |
| HollyFrontier Corp | HFC | 4,788.53 | 0.02% | 4.80% | 8.50% | 13.50% | 0.0025% |
| Hartford Financial Services Group Inc/Th | HIG | 13,551.38 | 0.05% | 3.43% | 11.50% | 15.13% | 0.0079% |
| Huntington Ingalls Industries Inc | HII | 6,772.41 | 0.03% | 2.46% | 7.50% | 10.05% | 0.0026% |
| Hilton Worldwide Holdings Inc | HLT | 20,284.83 | 0.08% | 0.00% | 14.00% | 14.00% | 0.0110% |
| Hologic Inc | HOLX | 13,857.65 | 0.05% | 0.00% | 9.50% | 9.50% | 0.0051% |
| Honeywell International Inc | HON | 97,100.67 | 0.38% | 2.60% | 8.00% | 10.70% | 0.0402% |
| Hewlett Packard Enterprise Co | HPE | 11,886.49 | 0.05% | 5.18% | 5.00% | 10.31% | 0.0047% |
| HP Inc | HPQ | 23,166.00 | 0.09% | 4.32% | 8.00% | 12.49% | 0.0112% |
| H&R Block Inc | HRB | 2,860.16 | 0.01% | 7.00% | 6.00% | 13.21% | 0.0015% |
| Hormel Foods Corp | HRL | 25,740.21 | 0.10% | 2.05% | 8.50% | 10.64% | 0.0106% |
| Henry Schein Inc | HSIC | 8,001.89 | 0.03% | 0.00% | 5.00% | 5.00% | 0.0015% |
| Host Hotels & Resorts Inc | HST | 7,833.13 | 0.03% | 0.00% | -9.00% | -9.00% | -0.0027% |
| Hershey Co/The | HSY | 26,640.57 | 0.10% | 2.54% | 4.50% | 7.10% | 0.0073% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Humana Inc | HUM | 49,154.19 | 0.19% | 0.69% | 10.50% | 11.23% | 0.0213% |
| Howmet Aerospace Inc | HWM | 6,375.83 | 0.02% | 0.00% | 10.00% | 10.00% | 0.0025% |
| International Business Machines Corp | IBM | 103,368.40 | 0.40% | 5.60% | 0.50% | 6.11% | 0.0244% |
| Intercontinental Exchange Inc | ICE | 49,709.09 | 0.19% | 1.32% | 9.00% | 10.38% | 0.0200% |
| IDEXX Laboratories Inc | IDXX | 27,124.62 | 0.10% | 0.00% | 10.50% | 10.50% | 0.0110% |
| IDEX Corp | IEX | 11,203.86 | 0.04% | 1.34% | 7.50% | 8.89% | 0.0039% |
| International Flavors & Fragrances Inc | IFF | 13,038.54 | 0.05% | 2.56% | 8.00% | 10.66% | 0.0054% |
| Illumina Inc | ILMN | 69,634.36 | 0.27% | 0.00% | 9.50% | 9.50% | 0.0256% |
| Incyte Corp | INCY | 22,634.60 | 0.09% | 0.00% | 66.00% | 66.00% | 0.0578% |
| IHS Markit Ltd | INFO | 28,617.09 | 0.11% | 0.95% | 11.50% | 12.50% | 0.0138% |
| Intel Corp | INTC | 250,187.00 | 0.97% | 2.23% | 7.00% | 9.31% | 0.0901% |
| Intuit Inc | INTU | 74,608.11 | 0.29% | 0.75% | 12.50% | 13.30% | 0.0384% |
| International Paper Co | IP | 13,190.22 | 0.05% | 6.11% | 6.00% | 12.29% | 0.0063% |
| Interpublic Group of Cos Inc/The | IPG | 6,405.25 | 0.02% | 6.20% | 10.00% | 16.51% | 0.0041% |
| IPG Photonics Corp | IPGP | 8,352.10 | 0.03% | 0.00% | 8.50% | 8.50% | 0.0027% |
| IQVIA Holdings Inc | IQV | 26,065.77 | 0.10% | 0.00% | 9.50% | 9.50% | 0.0096% |
| Ingersoll Rand Inc | IR | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Iron Mountain Inc | IRM | 7,205.61 | 0.03% | 9.91% | 8.50% | 18.83% | 0.0052% |
| Intuitive Surgical Inc | ISRG | 64,708.33 | 0.25% | 0.00% | 11.50% | 11.50% | 0.0288% |
| Gartner Inc | IT | 10,327.74 | 0.04% | 0.00% | 12.00% | 12.00% | 0.0048% |
| Illinois Tool Works Inc | ITW | 53,396.58 | 0.21% | 2.53% | 7.00% | 9.62% | 0.0199% |
| Invesco Ltd | IVZ | 4,919.41 | 0.02% | 5.78% | 4.50% | 10.41% | 0.0020% |
| Jacobs Engineering Group Inc | J | 10,773.16 | 0.04% | 0.92% | 14.00% | 14.98% | 0.0062% |
| JB Hunt Transport Services Inc | JBHT | 12,343.16 | 0.05% | 0.93% | 6.50% | 7.46% | 0.0036% |
| Johnson Controls International plc | JCI | 24,763.17 | 0.10% | 3.12% | 5.50% | 8.71% | 0.0083% |
| Jack Henry & Associates Inc | JKHY | 13,765.51 | 0.05% | 0.96% | 10.00% | 11.01% | 0.0059% |
| Johnson & Johnson | JNJ | 368,061.10 | 1.42% | 2.89% | 10.00% | 13.03% | 0.1856% |
| Juniper Networks Inc | JNPR | 7,407.78 | 0.03% | 3.58% | 5.50% | 9.18% | 0.0026% |
| JPMorgan Chase & Co | JPM | 288,431.20 | 1.12% | 3.80% | 3.50% | 7.37% | 0.0822% |
| Kellogg Co | K | 22,232.43 | 0.09% | 3.55% | 3.00% | 6.60% | 0.0057% |
| KeyCorp | KEY | 12,181.73 | 0.05% | 5.93% | 3.00% | 9.02% | 0.0043% |
| Keysight Technologies Inc | KEYS | 18,889.72 | 0.07% | 0.00% | 17.00% | 17.00% | 0.0124% |
| Kraft Heinz Co/The | KHC | 39,262.86 | 0.15% | 4.98% | -0.50% | 4.47% | 0.0068% |
| Kimco Realty Corp | KIM | 5,531.55 | 0.02% | 0.00% | 5.00% | 5.00% | 0.0011% |
| KLA Corp | KLAC | 29,245.34 | 0.11% | 1.80% | 11.50% | 13.40% | 0.0152% |
| Kimberly-Clark Corp | KMB | 47,004.70 | 0.18% | 3.10% | 6.50% | 9.70% | 0.0176% |
| Kinder Morgan Inc | KMI | 33,491.72 | 0.13% | 7.09% | 22.00% | 29.87% | 0.0387% |
| CarMax Inc | KMX | 14,587.59 | 0.06% | 0.00% | 7.50% | 7.50% | 0.0042% |
| Coca-Cola Co/The | KO | 191,727.10 | 0.74% | 3.67% | 6.50% | 10.29% | 0.0763% |
| Kroger Co/The | KR | 25,862.16 | 0.10% | 2.13% | 5.50% | 7.69% | 0.0077% |
| Kohl's Corp | KSS | 3,261.12 | 0.01% | 0.00% | 2.00% | 2.00% | 0.0003% |
| Kansas City Southern | KSU | 13,547.24 | 0.05% | 1.12% | 11.50% | 12.68% | 0.0066% |
| Loews Corp | L | 9,335.03 | 0.04% | 0.75% | 12.00% | 12.80% | 0.0046% |
| L Brands Inc | LB | 3,853.08 | 0.01% | 0.00% | -2.50% | -2.50% | -0.0004% |
| Leidos Holdings Inc | LDOS | 13,241.50 | 0.05% | 1.46% | 10.00% | 11.53% | 0.0059% |
| Leggett & Platt Inc | LEG | 4,465.67 | 0.02% | 4.74% | 8.00% | 12.93% | 0.0022% |
| Lennar Corp | LEN | 18,434.71 | 0.07% | 0.85% | 7.00% | 7.88% | 0.0056% |
| Laboratory Corp of America Holdings | LH | 15,253.44 | 0.06% | 0.00% | 8.00% | 8.00% | 0.0047% |
| L3Harris Technologies Inc | LHX | 36,490.58 | N/A | 2.02% | N/A | N/A | N/A |
| Linde PLC | LIN | 108,221.40 | N/A | 1.97% | N/A | N/A | N/A |
| LKQ Corp | LKQ | 7,531.71 | 0.03% | 0.00% | 8.00% | 8.00% | 0.0023% |
| Eli Lilly and Co | LLY | 150,266.60 | 0.58% | 1.89% | 10.00% | 11.98% | 0.0697% |
| Lockheed Martin Corp | LMT | 100,906.10 | 0.39% | 2.78% | 8.50% | 11.40% | 0.0445% |
| Lincoln National Corp | LNC | 6,963.22 | 0.03% | 4.66% | 9.50% | 14.38% | 0.0039% |
| Alliant Energy Corp | LNT | 11,756.63 | 0.05% | 3.23% | 5.50% | 8.82% | 0.0040% |
| Lowe's Cos Inc | LOW | 99,644.91 | 0.39% | 1.67% | 10.00% | 11.75% | 0.0453% |
| Lam Research Corp | LRCX | 45,832.14 | 0.18% | 1.54% | 10.00% | 11.62% | 0.0206% |
| Southwest Airlines Co | LUV | 16,411.57 | 0.06% | 0.00% | 2.00% | 2.00% | 0.0013% |
| Las Vegas Sands Corp | LVS | 34,334.16 | 0.13% | 0.00% | 5.50% | 5.50% | 0.0073% |
| Lamb Weston Holdings Inc | LW | 9,207.76 | 0.04% | 1.51% | 9.50% | 11.08% | 0.0039% |
| LyondellBasell Industries NV | LYB | 20,235.75 | 0.08% | 6.93% | -1.50% | 5.38% | 0.0042% |
| Live Nation Entertainment Inc | LYV | 9,342.66 | N/A | 0.00% | N/A | N/A | N/A |
| Mastercard Inc | MA | 295,186.10 | 1.14% | 0.54% | 13.50% | 14.08% | 0.1607% |
| Mid-America Apartment Communities Inc | MAA | 12,582.04 | 0.05% | 3.62% | 0.50% | 4.13% | 0.0020% |
| Marriott International Inc/MD | MAR | 27,561.76 | 0.11% | 0.00% | 8.00% | 8.00% | 0.0085% |
| Masco Corp | MAS | 12,533.90 | 0.05% | 1.15% | 6.00% | 7.18% | 0.0035% |
| McDonald's Corp | MCD | 137,019.60 | 0.53% | 2.71% | 7.50% | 10.31% | 0.0547% |
| Microchip Technology Inc | MCHP | 24,797.55 | 0.10% | 1.45% | 8.00% | 9.51% | 0.0091% |
| McKesson Corp | MCK | 26,649.12 | 0.10% | 1.09% | 9.00% | 10.14% | 0.0105% |
| Moody's Corp | MCO | 49,791.13 | 0.19% | 0.84% | 8.00% | 8.87% | 0.0171% |
| Mondelez International Inc | MDLZ | 72,281.16 | 0.28% | 2.37% | 8.00% | 10.46% | 0.0293% |
| Medtronic PLC | MDT | 119,236.10 | 0.46% | 2.61% | 7.50% | 10.21% | 0.0471% |
| MetLife Inc | MET | 32,245.93 | 0.12% | 5.18% | 7.00% | 12.36% | 0.0154% |
| MGM Resorts International | MGM | 8,349.11 | 0.03% | 0.06% | 34.00% | 34.07% | 0.0110% |
| Mohawk Industries Inc | MHK | 7,067.96 | 0.03% | 0.00% | -3.00% | -3.00% | -0.0008% |
| McCormick & Co Inc/MD | MKC | 22,895.37 | 0.09% | 1.44% | 6.50% | 7.99% | 0.0071% |
| MarketAxess Holdings Inc | MKTX | 19,154.28 | 0.07% | 0.48% | 13.50% | 14.01% | 0.0104% |
| Martin Marietta Materials Inc | MLM | 12,843.68 | 0.05% | 1.07% | 9.50% | 10.62% | 0.0053% |
| Marsh & McLennan Cos Inc | MMC | 52,583.07 | 0.20% | 1.78% | 10.00% | 11.87% | 0.0241% |
| 3M Co | MMM | 87,556.34 | 0.34% | 3.86% | 4.50% | 8.45% | 0.0286% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Monster Beverage Corp | MNST | 35,861.93 | 0.14% | 0.00% | 11.50% | 11.50% | 0.0160% |
| Altria Group Inc | MO | 73,275.45 | 0.28% | 8.52% | 6.00% | 14.78% | 0.0419% |
| Mosaic Co/The | MOS | 4,536.87 | 0.02% | 1.92% | 18.50% | 20.60% | 0.0036% |
| Marathon Petroleum Corp | MPC | 23,549.50 | 0.09% | 6.40% | 3.00% | 9.50% | 0.0087% |
| Merck & Co Inc | MRK | 191,496.90 | 0.74% | 3.22% | 9.00% | 12.36% | 0.0916% |
| Marathon Oil Corp | MRO | 4,579.89 | 0.02% | 0.00% | 9.00% | 9.00% | 0.0016% |
| Morgan Stanley | MS | 73,969.72 | 0.29% | 2.98% | 5.00% | 8.05% | 0.0230% |
| MSCI Inc | MSCI | 27,486.69 | 0.11% | 0.89% | 17.00% | 17.97% | 0.0191% |
| Microsoft Corp | MSFT | 1,501,606.00 | 5.81% | 1.03% | 14.50% | 15.60% | 0.9065% |
| Motorola Solutions Inc | MSI | 23,681.00 | 0.09% | 1.87% | 8.00% | 9.94% | 0.0091% |
| M&T Bank Corp | MTB | 13,202.78 | 0.05% | 4.28% | 4.00% | 8.37% | 0.0043% |
| Mettler-Toledo International Inc | MTD | 18,744.83 | 0.07% | 0.00% | 9.50% | 9.50% | 0.0069% |
| Micron Technology Inc | MU | 53,698.48 | 0.21% | 0.00% | 13.50% | 13.50% | 0.0280% |
| Maxim Integrated Products Inc | MXIM | 16,029.70 | 0.06% | 3.21% | 3.50% | 6.77% | 0.0042% |
| Mylan NV | MYL | 8,281.44 | 0.03% | 0.00% | 10.00% | 10.00% | 0.0032% |
| Noble Energy Inc | NBL | 4,491.10 | N/A | 0.86% | N/A | N/A | N/A |
| Norwegian Cruise Line Holdings Ltd | NCLH | 3,389.50 | 0.01% | 0.00% | -1.50% | -1.50% | -0.0002% |
| Nasdaq Inc | NDAQ | 18,944.88 | 0.07% | 1.70% | 6.00% | 7.75% | 0.0057% |
| NextEra Energy Inc | NEE | 118,285.40 | 0.46% | 2.38% | 10.00% | 12.50% | 0.0572% |
| Newmont Corp | NEM | 46,878.99 | 0.18% | 1.71% | 13.00% | 14.82% | 0.0269% |
| Netflix Inc | NFLX | 201,353.70 | 0.78% | 0.00% | 24.00% | 24.00% | 0.1870% |
| NiSource Inc | NI | 8,572.35 | 0.03% | 3.75% | 13.50% | 17.50% | 0.0058% |
| NIKE Inc | NKE | 155,624.40 | 0.60% | 0.98% | 16.00% | 17.06% | 0.1027% |
| NortonLifeLock Inc | NLOK | 12,120.36 | 0.05% | 2.53% | 4.50% | 7.09% | 0.0033% |
| Nielsen Holdings PLC | NLSN | 5,037.01 | N/A | 1.70% | N/A | N/A | N/A |
| Northrop Grumman Corp | NOC | 50,448.86 | 0.20% | 1.92% | 10.50% | 12.52% | 0.0244% |
| National Oilwell Varco Inc | NOV | 4,344.20 | N/A | 0.00% | N/A | N/A | N/A |
| ServiceNow Inc | NOW | 74,931.75 | 0.29% | 0.00% | 46.00% | 46.00% | 0.1333% |
| NRG Energy Inc | NRG | 7,999.97 | 0.03% | 3.68% | -1.50% | 2.15% | 0.0007% |
| Norfolk Southern Corp | NSC | 43,332.68 | 0.17% | 2.22% | 11.50% | 13.85% | 0.0232% |
| NetApp Inc | NTAP | 8,972.43 | 0.03% | 4.88% | 7.00% | 12.05% | 0.0042% |
| Northern Trust Corp | NTRS | 16,057.45 | 0.06% | 3.63% | 4.50% | 8.21% | 0.0051% |
| Nucor Corp | NUE | 12,247.16 | 0.05% | 3.96% | 3.00% | 7.02% | 0.0033% |
| NVIDIA Corp | NVDA | 227,193.30 | 0.88% | 0.17% | 9.50% | 9.68% | 0.0851% |
| NVR Inc | NVR | 11,708.45 | 0.05% | 0.00% | 9.00% | 9.00% | 0.0041% |
| Newell Brands Inc | NWL | 6,399.67 | 0.02% | 6.10% | 4.50% | 10.74% | 0.0027% |
| News Corp | NWS | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Realty Income Corp | O | 19,836.99 | 0.08% | 4.79% | 6.50% | 11.45% | 0.0088% |
| Old Dominion Freight Line Inc | ODFL | 19,296.01 | 0.07% | 0.37% | 6.50% | 6.88% | 0.0051% |
| ONEOK Inc | OKE | 13,368.42 | 0.05% | 12.69% | 12.50% | 25.98% | 0.0134% |
| Omnicom Group Inc | OMC | 11,239.14 | 0.04% | 4.96% | 5.50% | 10.60% | 0.0046% |
| Oracle Corp | ORCL | 172,084.80 | 0.67% | 1.76% | 9.00% | 10.84% | 0.0722% |
| O'Reilly Automotive Inc | ORLY | 30,712.45 | 0.12% | 0.00% | 10.00% | 10.00% | 0.0119% |
| Otis Worldwide Corp | OTIS | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Occidental Petroleum Corp | OXY | 16,200.25 | 0.06% | 0.22% | 14.50% | 14.74% | 0.0092% |
| Paycom Software Inc | PAYC | 18,010.91 | 0.07% | 0.00% | 23.00% | 23.00% | 0.0160% |
| Paychex Inc | PAYX | 25,632.70 | 0.10% | 3.58% | 9.00% | 12.74% | 0.0126% |
| People's United Financial Inc | PBCT | 4,728.93 | 0.02% | 6.46% | 3.00% | 9.56% | 0.0017% |
| PACCAR Inc | PCAR | 25,070.16 | 0.10% | 3.17% | 3.50% | 6.73% | 0.0065% |
| Healthpeak Properties Inc | PEAK | 13,130.72 | 0.05% | 5.69% | -15.00% | -9.74% | -0.0049% |
| Public Service Enterprise Group Inc | PEG | 24,272.64 | 0.09% | 4.11% | 5.00% | 9.21% | 0.0087% |
| PepsiCo Inc | PEP | 179,958.80 | 0.70% | 3.16% | 6.00% | 9.25% | 0.0644% |
| Pfizer Inc | PFE | 178,718.90 | 0.69% | 4.72% | 8.50% | 13.42% | 0.0928% |
| Principal Financial Group Inc | PFG | 10,810.24 | 0.04% | 5.67% | 4.50% | 10.30% | 0.0043% |
| Procter & Gamble Co/The | PG | 288,214.30 | 1.11% | 2.71% | 8.50% | 11.33% | 0.1263% |
| Progressive Corp/The | PGR | 45,237.83 | 0.18% | 0.52% | 9.50% | 10.04% | 0.0176% |
| Parker-Hannifin Corp | PH | 22,273.86 | 0.09% | 2.03% | 9.00% | 11.12% | 0.0096% |
| PulteGroup Inc | PHM | 9,074.16 | 0.04% | 1.45% | 5.50% | 6.99% | 0.0025% |
| Packaging Corp of America | PKG | 9,289.41 | 0.04% | 3.32% | 4.00% | 7.39% | 0.0027% |
| PerkinElmer Inc | PKI | 10,682.04 | 0.04% | 0.29% | 9.00% | 9.30% | 0.0038% |
| Prologis Inc | PLD | 56,735.37 | 0.22% | 2.67% | 6.00% | 8.75% | 0.0192% |
| Philip Morris International Inc | PM | 109,137.60 | 0.42% | 6.68% | 5.50% | 12.36% | 0.0522% |
| PNC Financial Services Group Inc/The | PNC | 43,833.12 | 0.17% | 4.45% | 3.00% | 7.52% | 0.0127% |
| Pentair PLC | PNR | 6,013.25 | 0.02% | 2.09% | 6.00% | 8.15% | 0.0019% |
| Pinnacle West Capital Corp | PNW | 8,056.61 | 0.03% | 4.50% | 4.50% | 9.10% | 0.0028% |
| PPG Industries Inc | PPG | 24,035.84 | 0.09% | 2.00% | 4.00% | 6.04% | 0.0056% |
| PPL Corp | PPL | 19,606.15 | 0.08% | 6.51% | 2.50% | 9.09% | 0.0069% |
| Perrigo Co PLC | PRGO | 7,353.39 | 0.03% | 1.76% | 3.50% | 5.29% | 0.0015% |
| Prudential Financial Inc | PRU | 23,512.78 | 0.09% | 7.37% | 5.50% | 13.07% | 0.0119% |
| Public Storage | PSA | 33,043.68 | 0.13% | 4.22% | 4.00% | 8.30% | 0.0106% |
| Phillips 66 | PSX | 30,562.89 | 0.12% | 5.22% | 4.00% | 9.32% | 0.0110% |
| PVH Corp | PVH | 3,380.93 | 0.01% | 0.00% | 6.50% | 6.50% | 0.0009% |
| Quanta Services Inc | PWR | 5,225.04 | 0.02% | 0.53% | 11.50% | 12.06% | 0.0024% |
| Pioneer Natural Resources Co | PXD | 15,193.78 | 0.06% | 2.39% | 14.00% | 16.56% | 0.0097% |
| PayPal Holdings Inc | PYPL | 197,064.00 | 0.76% | 0.00% | 15.50% | 15.50% | 0.1182% |
| QUALCOMM Inc | QCOM | 100,460.80 | 0.39% | 2.92% | 12.50% | 15.60% | 0.0606% |
| Qorvo Inc | QRVO | 12,559.89 | 0.05% | 0.00% | 53.00% | 53.00% | 0.0258% |
| Royal Caribbean Cruises Ltd | RCL | 10,099.91 | 0.04% | 6.47% | -0.50% | 5.95% | 0.0023% |
| Everest Re Group Ltd | RE | 8,237.32 | 0.03% | 3.01% | 9.50% | 12.65% | 0.0040% |
| Regency Centers Corp | REG | 7,433.45 | 0.03% | 5.37% | 14.50% | 20.26% | 0.0058% |

| Company | Ticker | [4] Market Capitalization ($million) | [5] Weight in Index | [6] Estimated Dividend Yield | [7] Long-Term Growth Est. | [8] DCF Result | [9] Weighted DCF Result |
|---|---|---|---|---|---|---|---|
| Regeneron Pharmaceuticals Inc | REGN | 67,880.05 | 0.26% | 0.00% | 6.50% | 6.50% | 0.0171% |
| Regions Financial Corp | RF | 10,800.31 | 0.04% | 5.50% | 5.00% | 10.64% | 0.0044% |
| Robert Half International Inc | RHI | 5,669.36 | 0.02% | 2.83% | 7.00% | 9.93% | 0.0022% |
| Raymond James Financial Inc | RJF | 9,357.60 | 0.04% | 2.19% | 6.50% | 8.76% | 0.0032% |
| Ralph Lauren Corp | RL | 5,122.13 | 0.02% | 3.89% | 7.00% | 11.03% | 0.0022% |
| ResMed Inc | RMD | 26,308.23 | 0.10% | 0.86% | 14.50% | 15.42% | 0.0157% |
| Rockwell Automation Inc | ROK | 23,747.39 | 0.09% | 1.99% | 7.00% | 9.06% | 0.0083% |
| Rollins Inc | ROL | 13,471.22 | 0.05% | 0.78% | 12.00% | 12.83% | 0.0067% |
| Roper Technologies Inc | ROP | 40,394.33 | 0.16% | 0.53% | 8.00% | 8.55% | 0.0134% |
| Ross Stores Inc | ROST | 30,983.01 | 0.12% | 0.00% | 9.00% | 9.00% | 0.0108% |
| Republic Services Inc | RSG | 25,250.78 | 0.10% | 2.15% | 9.00% | 11.25% | 0.0110% |
| Raytheon Technologies Corp | RTX | 53,459.46 | 0.21% | 3.11% | 3.00% | 6.16% | 0.0127% |
| SBA Communications Corp | SBAC | 32,103.34 | 0.12% | 0.68% | 31.00% | 31.79% | 0.0395% |
| Starbucks Corp | SBUX | 86,018.88 | 0.33% | 2.43% | 13.50% | 16.09% | 0.0536% |
| Charles Schwab Corp/The | SCHW | 43,511.45 | 0.17% | 2.13% | 6.50% | 8.70% | 0.0146% |
| Sealed Air Corp | SEE | 4,889.25 | 0.02% | 2.04% | 26.00% | 28.31% | 0.0054% |
| Sherwin-Williams Co/The | SHW | 51,451.82 | 0.20% | 0.95% | 8.50% | 9.49% | 0.0189% |
| SVB Financial Group | SIVB | 10,708.89 | 0.04% | 0.00% | 4.50% | 4.50% | 0.0019% |
| J M Smucker Co/The | SJM | 12,115.72 | 0.05% | 3.34% | 3.00% | 6.39% | 0.0030% |
| Schlumberger Ltd | SLB | 24,786.34 | 0.10% | 2.80% | 5.00% | 7.87% | 0.0075% |
| SL Green Realty Corp | SLG | 3,998.40 | 0.02% | 7.11% | -1.50% | 5.56% | 0.0009% |
| Snap-on Inc | SNA | 7,108.63 | 0.03% | 3.30% | 5.50% | 8.89% | 0.0024% |
| Synopsys Inc | SNPS | 28,551.79 | 0.11% | 0.00% | 11.00% | 11.00% | 0.0122% |
| Southern Co/The | SO | 55,310.97 | 0.21% | 4.93% | 3.00% | 8.00% | 0.0171% |
| Simon Property Group Inc | SPG | 19,979.72 | 0.08% | 12.90% | -1.00% | 11.84% | 0.0091% |
| S&P Global Inc | SPGI | 76,598.97 | 0.30% | 0.84% | 11.00% | 11.89% | 0.0352% |
| Sempra Energy | SRE | 35,051.68 | 0.14% | 3.55% | 10.00% | 13.73% | 0.0186% |
| STERIS PLC | STE | 12,637.25 | 0.05% | 0.99% | 9.50% | 10.54% | 0.0052% |
| State Street Corp | STT | 21,690.31 | 0.08% | 3.38% | 3.50% | 6.94% | 0.0058% |
| Seagate Technology PLC | STX | 13,190.74 | 0.05% | 5.57% | 3.00% | 8.65% | 0.0044% |
| Constellation Brands Inc | STZ | 33,099.65 | 0.13% | 1.75% | 7.50% | 9.32% | 0.0119% |
| Stanley Black & Decker Inc | SWK | 20,204.51 | 0.08% | 2.15% | 8.00% | 10.24% | 0.0080% |
| Skyworks Solutions Inc | SWKS | 21,173.68 | 0.08% | 1.39% | 10.00% | 11.46% | 0.0094% |
| Synchrony Financia | SYF | 12,883.62 | 0.05% | 3.98% | 8.00% | 12.14% | 0.0061% |
| Stryker Corp | SYK | 66,179.14 | 0.26% | 1.31% | 10.50% | 11.88% | 0.0304% |
| Sysco Corp | SYY | 27,835.03 | 0.11% | 3.28% | 9.50% | 12.94% | 0.0139% |
| AT&T Inc | T | 209,623.80 | 0.81% | 7.14% | 5.50% | 12.84% | 0.1041% |
| Molson Coors Beverage Co | TAP | 7,902.25 | 0.03% | 0.00% | 5.00% | 5.00% | 0.0015% |
| TransDigm Group Inc | TDG | 23,445.79 | 0.09% | 0.00% | 15.50% | 15.50% | 0.0141% |
| Teledyne Technologies Inc | TDY | 11,277.53 | 0.04% | 0.00% | 8.00% | 8.00% | 0.0035% |
| TE Connectivity Ltd | TEL | 25,846.95 | 0.10% | 2.46% | 4.50% | 7.02% | 0.0070% |
| Truist Financial Corp | TFC | 50,745.39 | 0.20% | 4.78% | 5.00% | 9.90% | 0.0194% |
| Teleflex Inc | TFX | 16,898.54 | 0.07% | 0.38% | 14.00% | 14.41% | 0.0094% |
| Target Corp | TGT | 59,850.42 | 0.23% | 2.27% | 9.50% | 11.88% | 0.0275% |
| Tiffany & Co | TIF | 14,730.67 | 0.06% | 1.91% | 9.50% | 11.50% | 0.0066% |
| TJX Cos Inc/The | TJX | 61,726.60 | 0.24% | 0.00% | 12.00% | 12.00% | 0.0287% |
| Thermo Fisher Scientific Inc | TMO | 137,427.20 | 0.53% | 0.25% | 10.00% | 10.26% | 0.0546% |
| T-Mobile US Inc | TMUS | 93,372.10 | 0.36% | 0.00% | 14.00% | 14.00% | 0.0506% |
| Tapestry Inc | TPR | 3,534.08 | 0.01% | 0.00% | 5.00% | 5.00% | 0.0007% |
| T Rowe Price Group Inc | TROW | 27,595.30 | 0.11% | 3.02% | 8.00% | 11.14% | 0.0119% |
| Travelers Cos Inc/The | TRV | 28,531.01 | 0.11% | 3.01% | 9.50% | 12.65% | 0.0140% |
| Tractor Supply Co | TSCO | 15,181.85 | 0.06% | 1.07% | 9.50% | 10.62% | 0.0062% |
| Tyson Foods Inc | TSN | 21,695.60 | 0.08% | 2.89% | 7.00% | 9.99% | 0.0084% |
| Trane Technologies PLC | TT | N/A | N/A | 0.00% | N/A | N/A | N/A |
| Take-Two Interactive Software Inc | TTWO | 15,876.08 | 0.06% | 0.00% | 20.50% | 20.50% | 0.0126% |
| Twitter Inc | TWTR | 24,879.49 | 0.10% | 0.00% | 25.50% | 25.50% | 0.0245% |
| Texas Instruments Inc | TXN | 114,254.40 | 0.44% | 2.90% | 2.50% | 5.44% | 0.0240% |
| Textron Inc | TXT | 7,373.90 | 0.03% | 0.25% | 8.50% | 8.76% | 0.0025% |
| Tyler Technologies Inc | TYL | 16,296.65 | 0.06% | 0.00% | 10.50% | 10.50% | 0.0066% |
| Under Armour Inc | UA | N/A | N/A | 0.00% | N/A | N/A | N/A |
| United Airlines Holdings Inc | UAL | 8,176.79 | 0.03% | 0.00% | 3.50% | 3.50% | 0.0011% |
| UDR Inc | UDR | 10,718.53 | 0.04% | 3.96% | 11.50% | 15.69% | 0.0065% |
| Universal Health Services Inc | UHS | 7,583.89 | 0.03% | 0.00% | 11.00% | 11.00% | 0.0032% |
| Ulta Beauty Inc | ULTA | 11,262.40 | 0.04% | 0.00% | 9.00% | 9.00% | 0.0039% |
| UnitedHealth Group Inc | UNH | 273,853.40 | 1.06% | 1.73% | 12.00% | 13.83% | 0.1466% |
| Unum Group | UNM | 3,153.57 | 0.01% | 7.35% | 4.50% | 12.02% | 0.0015% |
| Union Pacific Corp | UNP | 112,335.40 | 0.43% | 2.34% | 10.50% | 12.96% | 0.0563% |
| United Parcel Service Inc | UPS | 94,235.70 | 0.36% | 3.69% | 6.00% | 9.80% | 0.0357% |
| United Rentals Inc | URI | 10,261.80 | 0.04% | 0.00% | 9.50% | 9.50% | 0.0038% |
| US Bancorp | USB | 55,529.32 | 0.21% | 4.56% | 3.50% | 8.14% | 0.0175% |
| Visa Inc | V | 373,058.10 | 1.44% | 0.66% | 14.50% | 15.21% | 0.2195% |
| Varian Medical Systems Inc | VAR | 10,467.69 | 0.04% | 0.00% | 13.50% | 13.50% | 0.0055% |
| VF Corp | VFC | 23,288.99 | 0.09% | 3.25% | 6.00% | 9.35% | 0.0084% |
| ViacomCBS Inc | VIAC | 14,501.70 | 0.06% | 4.07% | 8.00% | 12.23% | 0.0069% |
| Valero Energy Corp | VLO | 23,654.81 | 0.09% | 6.76% | 8.00% | 15.03% | 0.0138% |
| Vulcan Materials Co | VMC | 15,635.04 | 0.06% | 1.15% | 12.50% | 13.72% | 0.0083% |
| Vornado Realty Trust | VNO | 7,220.36 | 0.03% | 6.99% | -20.00% | -13.71% | -0.0038% |
| Verisk Analytics Inc | VRSK | 26,599.30 | 0.10% | 0.66% | 10.50% | 11.19% | 0.0115% |
| VeriSign Inc | VRSN | 23,456.06 | 0.09% | 0.00% | 9.50% | 9.50% | 0.0086% |
| Vertex Pharmaceuticals Inc | VRTX | 75,438.62 | 0.29% | 0.00% | 32.00% | 32.00% | 0.0934% |

| | | [4] | [5] | [6] | [7] | [8] | [9] |
|---|---|---|---|---|---|---|---|
| Company | Ticker | Market Capitalization ($million) | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| Ventas Inc | VTR | 12,820.97 | 0.05% | 5.23% | 4.50% | 9.85% | 0.0049% |
| Verizon Communications Inc | VZ | 223,162.10 | 0.86% | 4.62% | 4.00% | 8.71% | 0.0752% |
| Westinghouse Air Brake Technologies Corp | WAB | 11,093.21 | 0.04% | 0.82% | 10.50% | 11.36% | 0.0049% |
| Waters Corp | WAT | 10,977.87 | 0.04% | 0.00% | 10.50% | 10.50% | 0.0045% |
| Walgreens Boots Alliance Inc | WBA | 36,245.94 | 0.14% | 4.45% | 6.00% | 10.58% | 0.0148% |
| Western Digital Corp | WDC | 12,675.00 | 0.05% | 0.00% | 0.50% | 0.50% | 0.0002% |
| WEC Energy Group Inc | WEC | 27,376.60 | 0.11% | 3.02% | 6.00% | 9.11% | 0.0096% |
| Welltower Inc | WELL | 20,258.64 | 0.08% | 4.94% | 6.00% | 11.09% | 0.0087% |
| Wells Fargo & Co | WFC | 106,998.20 | N/A | 7.81% | N/A | N/A | N/A |
| Whirlpool Corp | WHR | 7,656.38 | 0.03% | 3.89% | 5.00% | 8.99% | 0.0027% |
| Willis Towers Watson PLC | WLTW | 24,569.27 | 0.10% | 1.43% | 11.50% | 13.01% | 0.0124% |
| Waste Management Inc | WM | 42,777.63 | 0.17% | 2.15% | 5.50% | 7.71% | 0.0128% |
| Williams Cos Inc/The | WMB | 22,852.92 | 0.09% | 8.49% | 12.00% | 21.00% | 0.0186% |
| Walmart Inc | WMT | 340,689.60 | 1.32% | 1.80% | 7.00% | 8.86% | 0.1168% |
| W R Berkley Corp | WRB | 10,024.11 | 0.04% | 0.86% | 10.00% | 10.90% | 0.0042% |
| Westrock Co | WRK | 6,791.04 | 0.03% | 3.05% | 5.00% | 8.13% | 0.0021% |
| West Pharmaceutical Services Inc | WST | 15,805.23 | 0.06% | 0.30% | 14.00% | 14.32% | 0.0088% |
| Western Union Co/The | WU | 8,608.36 | 0.03% | 4.30% | 5.50% | 9.92% | 0.0033% |
| Weyerhaeuser Co | WY | 16,229.98 | 0.06% | 0.00% | 17.50% | 17.50% | 0.0110% |
| Wynn Resorts Ltd | WYNN | 8,113.96 | 0.03% | 0.00% | 15.50% | 15.50% | 0.0049% |
| Xcel Energy Inc | XEL | 33,434.16 | 0.13% | 2.75% | 6.00% | 8.83% | 0.0114% |
| Xilinx Inc | XLNX | 23,114.47 | 0.09% | 1.64% | 8.00% | 9.71% | 0.0087% |
| Exxon Mobil Corp | XOM | 188,155.40 | 0.73% | 7.82% | 4.50% | 12.50% | 0.0910% |
| DENTSPLY SIRONA Inc | XRAY | 9,390.63 | 0.04% | 0.93% | 8.50% | 9.47% | 0.0034% |
| Xerox Holdings Corp | XRX | 3,292.50 | 0.01% | 6.46% | 7.50% | 14.20% | 0.0018% |
| Xylem Inc/NY | XYL | 11,234.75 | 0.04% | 1.67% | 8.50% | 10.24% | 0.0045% |
| Yum! Brands Inc | YUM | 26,054.56 | 0.10% | 2.17% | 9.50% | 11.77% | 0.0119% |
| Zimmer Biomet Holdings Inc | ZBH | 24,447.90 | 0.09% | 0.81% | 5.50% | 6.33% | 0.0060% |
| Zebra Technologies Corp | ZBRA | 13,293.03 | 0.05% | 0.00% | 11.00% | 11.00% | 0.0057% |
| Zions Bancorp NA | ZION | 5,443.16 | 0.02% | 4.09% | 4.50% | 8.68% | 0.0018% |
| Zoetis Inc | ZTS | 63,774.36 | 0.25% | 0.60% | 12.00% | 12.64% | 0.0312% |
| | | 25,849,001.89 | | | | | 13.77% |

Notes:
[1] Equals sum of Col. [9]
[2] Source: Bloomberg Professional
[3] Equals [1] − [2]
[4] Source: Value Line
[5] Equals weight in S&P 500 based on market capitalization
[6] Source: Value Line
[7] Source: Value Line
[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]
[9] Equals Col. [5] x Col. [8]

Bloomberg and Value Line Beta Coefficients

| Company | Ticker | [1] Bloomberg | [2] Value Line |
|---|---|---|---|
| ALLETE, Inc. | ALE | 0.98 | 0.85 |
| Alliant Energy Corporation | LNT | 1.00 | 0.80 |
| Ameren Corporation | AEE | 0.92 | 0.80 |
| American Electric Power Company, Inc. | AEP | 0.97 | 0.75 |
| Avangrid, Inc. | AGR | 0.78 | 0.80 |
| Avista Corporation | AVA | 0.93 | 0.60 |
| CMS Energy Corporation | CMS | 0.94 | 0.80 |
| DTE Energy Company | DTE | 1.10 | 0.90 |
| Evergy, Inc | EVRG | 1.04 | 1.05 |
| Hawaiian Electric Industries, Inc. | HE | 0.77 | 0.55 |
| NextEra Energy, Inc. | NEE | 0.91 | 0.85 |
| NorthWestern Corporation | NWE | 1.21 | 0.55 |
| OGE Energy Corp. | OGE | 1.18 | 1.05 |
| Otter Tail Corporation | OTTR | 0.98 | 0.85 |
| Pinnacle West Capital Corporation | PNW | 1.04 | 0.45 |
| PNM Resources, Inc. | PNM | 1.26 | 0.50 |
| Portland General Electric Company | POR | 1.01 | 0.55 |
| Southern Company | SO | 1.04 | 0.90 |
| WEC Energy Group, Inc. | WEC | 0.97 | 0.80 |
| Xcel Energy Inc. | XEL | 0.95 | 0.45 |
| Mean | | 1.000 | 0.743 |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Value Line.

Capital Asset Pricing Model and Empirical Capital Asset Pricing Model Results
Bloomberg and Value Line Derived Market Risk Premium

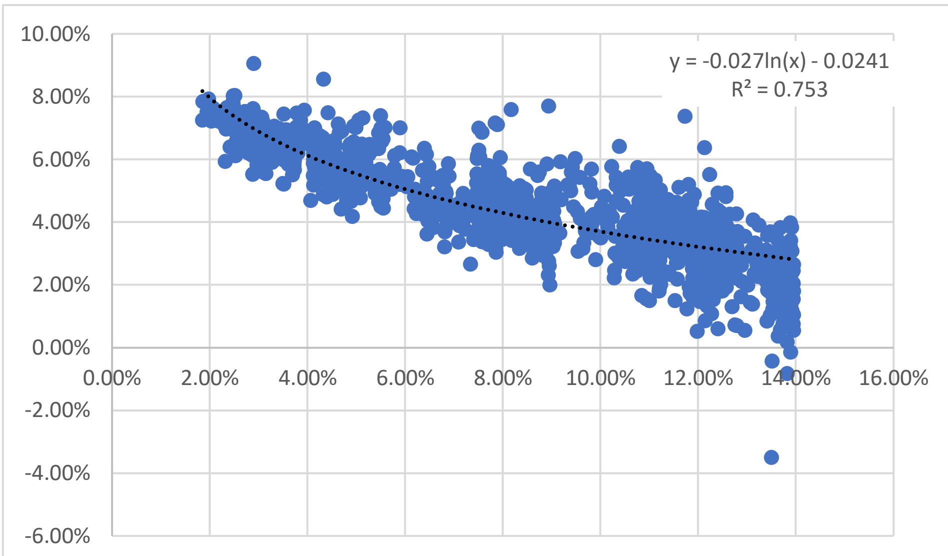
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
|---|---|---|---|---|---|---|---|---|
| | | | Ex-Ante Market Risk Premium | | CAPM Result | | ECAPM | |
| | Risk-Free Rate | Average Beta Coefficient | Bloomberg Market DCF Derived | Value Line Market DCF Derived | Bloomberg Market DCF Derived | Value Line Market DCF Derived | Bloomberg Market DCF Derived | Value Line Market DCF Derived |
| ***PROXY GROUP BLOOMBERG BETA COEFFICIENT*** | | | | | | | | |
| Current 30-Year Treasury (30-day average) [9] | 1.47% | 1.000 | 11.73% | 12.30% | 13.21% | 13.78% | 13.21% | 13.77% |
| Near-Term Projected 30-Year Treasury [10] | 1.72% | 1.000 | 11.73% | 12.30% | 13.45% | 14.02% | 13.45% | 14.02% |
| Long-Term Projected 30-Year Treasury [11] | 3.40% | 1.000 | 11.73% | 12.30% | 15.14% | 15.70% | 15.14% | 15.70% |
| Mean | | | | | 13.93% | 14.50% | 13.93% | 14.50% |

| | | | Ex-Ante Market Risk Premium | | CAPM Result | | ECAPM | |
|---|---|---|---|---|---|---|---|---|
| | Risk-Free Rate | Average Beta Coefficient | Bloomberg Market DCF Derived | Value Line Market DCF Derived | Bloomberg Market DCF Derived | Value Line Market DCF Derived | Bloomberg Market DCF Derived | Value Line Market DCF Derived |
| ***PROXY GROUP VALUE LINE AVERAGE BETA COEFFICIENT*** | | | | | | | | |
| Current 30-Year Treasury (30-day average) [9] | 1.47% | 0.743 | 11.73% | 12.30% | 10.19% | 10.60% | 10.94% | 11.40% |
| Near-Term Projected 30-Year Treasury [10] | 1.72% | 0.743 | 11.73% | 12.30% | 10.43% | 10.85% | 11.18% | 11.64% |
| Long-Term Projected 30-Year Treasury [11] | 3.40% | 0.743 | 11.73% | 12.30% | 12.11% | 12.53% | 12.87% | 13.32% |
| Mean | | | | | 10.91% | 11.33% | 11.66% | 12.12% |

Notes:
[1] S*ee Notes [9], [10], [11]*
[2] Source: Supplemental Rebuttal Exhibit (DWD-3)
[3] Source: Supplemental Rebuttal Exhibit (DWD-2)
[4] Source: Supplemental Rebuttal Exhibit (DWD-2)
[5] Equals Col. [1] + (Col. [2] x Col. [3])
[6] Equals Col. [1] + (Col. [2] x Col. [4])
[7] Equals Col. [1] + (0.75 x(Col. [2] x Col. [3]) + (0.25 x Col. [3])
[8] Equals Col. [1] + (0.75 x(Col. [2] x Col. [4]) + (0.25 x Col. [4])
[9] Source: Bloomberg Professional
[10] Source: Blue Chip Financial Forecasts, Vol. 39, No. 7, July 1, 2020, at 2.
[11] Source: Blue Chip Financial Forecasts, Vol. 39, No. 6, June 1, 2020, at 14.

Bond Yield Plus Risk Premium

| | [1] | [2] | [3] | [4] | [5] |
|---|---|---|---|---|---|
| | Constant | Slope | 30-Year Treasury Yield | Risk Premium | Return on Equity |
| | -2.41% | -2.65% | | | |
| Current 30-Year Treasury | | | 1.47% | 8.77% | 10.25% |
| Near-Term Projected 30-Year Treasury | | | 1.72% | 8.37% | 10.08% |
| Long-Term Projected 30-Year Treasury | | | 3.40% | 6.56% | 9.96% |




Notes:
[1] Constant of regression equation
[2] Slope of regression equation
[3] Source: Current = Bloomberg Professional
Near Term Projected = Blue Chip Financial Forecasts, Vol. 39, No. 7, July 1, 2020, at 2.
Long Term Projected = Blue Chip Financial Forecasts, Vol. 39, No. 6, June 1, 2020, at 14.
[4] Equals [1] + ln([3]) x [2]
[5] Equals [3] + [4]
[6] Source: S&P Global Market Intelligence
[7] Source: S&P Global Market Intelligence
[8] Source: Bloomberg Professional, equals 200-trading day average (i.e. lag period)
[9] Equals [7] - [8]

Bond Yield Plus Risk Premium

| [6] Date of Electric Rate Case | [7] Return on Equity | [8] 30-Year Treasury Yield | [9] Risk Premium |
|---|---|---|---|
| 1/1/1980 | 14.50% | 9.36% | 5.14% |
| 1/7/1980 | 14.39% | 9.39% | 5.00% |
| 1/9/1980 | 15.00% | 9.40% | 5.60% |
| 1/14/1980 | 15.17% | 9.42% | 5.75% |
| 1/17/1980 | 13.93% | 9.44% | 4.49% |
| 1/23/1980 | 15.50% | 9.47% | 6.03% |
| 1/30/1980 | 13.86% | 9.52% | 4.34% |
| 1/31/1980 | 12.61% | 9.53% | 3.08% |
| 2/6/1980 | 13.71% | 9.58% | 4.13% |
| 2/13/1980 | 12.80% | 9.64% | 3.16% |
| 2/14/1980 | 13.00% | 9.65% | 3.35% |
| 2/19/1980 | 13.50% | 9.68% | 3.82% |
| 2/27/1980 | 13.75% | 9.78% | 3.97% |
| 2/29/1980 | 13.75% | 9.81% | 3.94% |
| 2/29/1980 | 14.00% | 9.81% | 4.19% |
| 2/29/1980 | 14.77% | 9.81% | 4.96% |
| 3/7/1980 | 12.70% | 9.90% | 2.80% |
| 3/14/1980 | 13.50% | 9.97% | 3.53% |
| 3/26/1980 | 14.16% | 10.11% | 4.05% |
| 3/27/1980 | 14.24% | 10.12% | 4.12% |
| 3/28/1980 | 14.50% | 10.14% | 4.36% |
| 4/11/1980 | 12.75% | 10.28% | 2.47% |
| 4/14/1980 | 13.85% | 10.29% | 3.56% |
| 4/16/1980 | 15.50% | 10.32% | 5.18% |
| 4/22/1980 | 13.25% | 10.36% | 2.89% |
| 4/22/1980 | 13.90% | 10.36% | 3.54% |
| 4/24/1980 | 16.80% | 10.38% | 6.42% |
| 4/29/1980 | 15.50% | 10.41% | 5.09% |
| 5/6/1980 | 13.70% | 10.45% | 3.25% |
| 5/7/1980 | 15.00% | 10.46% | 4.54% |
| 5/8/1980 | 13.75% | 10.47% | 3.28% |
| 5/9/1980 | 14.35% | 10.47% | 3.88% |
| 5/13/1980 | 13.60% | 10.49% | 3.11% |
| 5/15/1980 | 13.25% | 10.50% | 2.75% |
| 5/19/1980 | 13.75% | 10.52% | 3.23% |
| 5/27/1980 | 13.62% | 10.55% | 3.07% |
| 5/27/1980 | 14.60% | 10.55% | 4.05% |
| 5/29/1980 | 16.00% | 10.56% | 5.44% |
| 5/30/1980 | 13.80% | 10.57% | 3.23% |
| 6/2/1980 | 15.63% | 10.58% | 5.05% |
| 6/9/1980 | 15.90% | 10.61% | 5.29% |
| 6/10/1980 | 13.78% | 10.61% | 3.17% |
| 6/12/1980 | 14.25% | 10.62% | 3.63% |
| 6/19/1980 | 13.40% | 10.63% | 2.77% |
| 6/30/1980 | 13.00% | 10.65% | 2.35% |
| 6/30/1980 | 13.40% | 10.65% | 2.75% |
| 7/9/1980 | 14.75% | 10.68% | 4.07% |
| 7/10/1980 | 15.00% | 10.69% | 4.31% |
| 7/15/1980 | 15.80% | 10.70% | 5.10% |
| 7/18/1980 | 13.80% | 10.72% | 3.08% |
| 7/22/1980 | 14.10% | 10.73% | 3.37% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 7/24/1980 | 15.00% | 10.73% | 4.27% |
| 7/25/1980 | 13.48% | 10.74% | 2.74% |
| 7/31/1980 | 14.58% | 10.76% | 3.82% |
| 8/8/1980 | 13.50% | 10.78% | 2.72% |
| 8/8/1980 | 14.00% | 10.78% | 3.22% |
| 8/8/1980 | 15.45% | 10.78% | 4.67% |
| 8/11/1980 | 14.85% | 10.78% | 4.07% |
| 8/14/1980 | 14.00% | 10.79% | 3.21% |
| 8/14/1980 | 16.25% | 10.79% | 5.46% |
| 8/25/1980 | 13.75% | 10.82% | 2.93% |
| 8/27/1980 | 13.80% | 10.83% | 2.97% |
| 8/29/1980 | 12.50% | 10.84% | 1.66% |
| 9/15/1980 | 13.50% | 10.88% | 2.62% |
| 9/15/1980 | 13.93% | 10.88% | 3.05% |
| 9/15/1980 | 15.80% | 10.88% | 4.92% |
| 9/24/1980 | 12.50% | 10.93% | 1.57% |
| 9/24/1980 | 15.00% | 10.93% | 4.07% |
| 9/26/1980 | 13.75% | 10.95% | 2.80% |
| 9/30/1980 | 14.10% | 10.96% | 3.14% |
| 9/30/1980 | 14.20% | 10.96% | 3.24% |
| 10/1/1980 | 13.90% | 10.97% | 2.93% |
| 10/3/1980 | 15.50% | 10.99% | 4.51% |
| 10/7/1980 | 12.50% | 11.00% | 1.50% |
| 10/9/1980 | 13.25% | 11.01% | 2.24% |
| 10/9/1980 | 14.50% | 11.01% | 3.49% |
| 10/9/1980 | 14.50% | 11.01% | 3.49% |
| 10/16/1980 | 16.10% | 11.03% | 5.07% |
| 10/17/1980 | 14.50% | 11.03% | 3.47% |
| 10/31/1980 | 13.75% | 11.11% | 2.64% |
| 10/31/1980 | 14.25% | 11.11% | 3.14% |
| 11/4/1980 | 15.00% | 11.12% | 3.88% |
| 11/5/1980 | 13.75% | 11.13% | 2.62% |
| 11/5/1980 | 14.00% | 11.13% | 2.87% |
| 11/8/1980 | 13.75% | 11.15% | 2.60% |
| 11/10/1980 | 14.85% | 11.15% | 3.70% |
| 11/17/1980 | 14.00% | 11.18% | 2.82% |
| 11/18/1980 | 14.00% | 11.19% | 2.81% |
| 11/19/1980 | 13.00% | 11.19% | 1.81% |
| 11/24/1980 | 14.00% | 11.20% | 2.80% |
| 11/26/1980 | 14.00% | 11.21% | 2.79% |
| 12/8/1980 | 14.15% | 11.22% | 2.93% |
| 12/8/1980 | 15.10% | 11.22% | 3.88% |
| 12/9/1980 | 15.35% | 11.22% | 4.13% |
| 12/12/1980 | 15.45% | 11.22% | 4.23% |
| 12/17/1980 | 13.25% | 11.23% | 2.02% |
| 12/18/1980 | 15.80% | 11.23% | 4.57% |
| 12/19/1980 | 14.50% | 11.23% | 3.27% |
| 12/19/1980 | 14.64% | 11.23% | 3.41% |
| 12/22/1980 | 13.45% | 11.22% | 2.23% |
| 12/22/1980 | 15.00% | 11.22% | 3.78% |
| 12/30/1980 | 14.50% | 11.21% | 3.29% |
| 12/30/1980 | 14.95% | 11.21% | 3.74% |
| 12/31/1980 | 13.39% | 11.21% | 2.18% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 1/2/1981 | 15.25% | 11.21% | 4.04% |
| 1/7/1981 | 14.30% | 11.21% | 3.09% |
| 1/19/1981 | 15.25% | 11.19% | 4.06% |
| 1/23/1981 | 13.10% | 11.20% | 1.90% |
| 1/23/1981 | 14.40% | 11.20% | 3.20% |
| 1/26/1981 | 15.25% | 11.20% | 4.05% |
| 1/27/1981 | 15.00% | 11.20% | 3.80% |
| 1/31/1981 | 13.47% | 11.21% | 2.26% |
| 2/3/1981 | 15.25% | 11.23% | 4.02% |
| 2/5/1981 | 15.75% | 11.25% | 4.50% |
| 2/11/1981 | 15.60% | 11.28% | 4.32% |
| 2/20/1981 | 15.25% | 11.34% | 3.91% |
| 3/11/1981 | 15.40% | 11.50% | 3.90% |
| 3/12/1981 | 14.51% | 11.51% | 3.00% |
| 3/12/1981 | 16.00% | 11.51% | 4.49% |
| 3/13/1981 | 13.02% | 11.52% | 1.50% |
| 3/18/1981 | 16.19% | 11.55% | 4.64% |
| 3/19/1981 | 13.75% | 11.56% | 2.19% |
| 3/23/1981 | 14.30% | 11.58% | 2.72% |
| 3/25/1981 | 15.30% | 11.61% | 3.69% |
| 4/1/1981 | 14.53% | 11.69% | 2.84% |
| 4/3/1981 | 19.10% | 11.72% | 7.38% |
| 4/9/1981 | 15.00% | 11.79% | 3.21% |
| 4/9/1981 | 15.30% | 11.79% | 3.51% |
| 4/9/1981 | 16.50% | 11.79% | 4.71% |
| 4/9/1981 | 17.00% | 11.79% | 5.21% |
| 4/10/1981 | 13.75% | 11.81% | 1.94% |
| 4/13/1981 | 13.57% | 11.83% | 1.74% |
| 4/15/1981 | 15.30% | 11.86% | 3.44% |
| 4/16/1981 | 13.50% | 11.88% | 1.62% |
| 4/17/1981 | 14.10% | 11.88% | 2.22% |
| 4/21/1981 | 14.00% | 11.91% | 2.09% |
| 4/21/1981 | 16.80% | 11.91% | 4.89% |
| 4/24/1981 | 16.00% | 11.96% | 4.04% |
| 4/27/1981 | 12.50% | 11.98% | 0.52% |
| 4/27/1981 | 13.61% | 11.98% | 1.63% |
| 4/29/1981 | 13.65% | 12.01% | 1.64% |
| 4/30/1981 | 13.50% | 12.02% | 1.48% |
| 5/4/1981 | 16.22% | 12.06% | 4.16% |
| 5/5/1981 | 14.40% | 12.08% | 2.32% |
| 5/7/1981 | 16.25% | 12.12% | 4.13% |
| 5/7/1981 | 16.27% | 12.12% | 4.15% |
| 5/8/1981 | 13.00% | 12.14% | 0.86% |
| 5/8/1981 | 16.00% | 12.14% | 3.86% |
| 5/12/1981 | 13.50% | 12.17% | 1.33% |
| 5/15/1981 | 15.75% | 12.23% | 3.52% |
| 5/18/1981 | 14.88% | 12.24% | 2.64% |
| 5/20/1981 | 16.00% | 12.27% | 3.73% |
| 5/21/1981 | 14.00% | 12.28% | 1.72% |
| 5/26/1981 | 14.90% | 12.31% | 2.59% |
| 5/27/1981 | 15.00% | 12.32% | 2.68% |
| 5/29/1981 | 15.50% | 12.34% | 3.16% |
| 6/1/1981 | 16.50% | 12.35% | 4.15% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 6/3/1981 | 14.67% | 12.38% | 2.29% |
| 6/5/1981 | 13.00% | 12.40% | 0.60% |
| 6/10/1981 | 16.75% | 12.42% | 4.33% |
| 6/17/1981 | 14.40% | 12.46% | 1.94% |
| 6/18/1981 | 16.33% | 12.47% | 3.86% |
| 6/25/1981 | 14.75% | 12.52% | 2.23% |
| 6/26/1981 | 16.00% | 12.53% | 3.47% |
| 6/30/1981 | 15.25% | 12.55% | 2.70% |
| 7/1/1981 | 15.50% | 12.56% | 2.94% |
| 7/1/1981 | 17.50% | 12.56% | 4.94% |
| 7/10/1981 | 16.00% | 12.62% | 3.38% |
| 7/14/1981 | 16.90% | 12.64% | 4.26% |
| 7/15/1981 | 16.00% | 12.65% | 3.35% |
| 7/17/1981 | 15.00% | 12.67% | 2.33% |
| 7/20/1981 | 15.00% | 12.68% | 2.32% |
| 7/21/1981 | 14.00% | 12.69% | 1.31% |
| 7/28/1981 | 13.48% | 12.75% | 0.73% |
| 7/31/1981 | 13.50% | 12.79% | 0.71% |
| 7/31/1981 | 15.00% | 12.79% | 2.21% |
| 7/31/1981 | 16.00% | 12.79% | 3.21% |
| 8/5/1981 | 15.71% | 12.83% | 2.88% |
| 8/10/1981 | 14.50% | 12.87% | 1.63% |
| 8/11/1981 | 15.00% | 12.88% | 2.12% |
| 8/20/1981 | 13.50% | 12.95% | 0.55% |
| 8/20/1981 | 16.50% | 12.95% | 3.55% |
| 8/24/1981 | 15.00% | 12.97% | 2.03% |
| 8/28/1981 | 15.00% | 13.01% | 1.99% |
| 9/3/1981 | 14.50% | 13.06% | 1.44% |
| 9/10/1981 | 14.50% | 13.11% | 1.39% |
| 9/11/1981 | 16.00% | 13.12% | 2.88% |
| 9/16/1981 | 16.00% | 13.15% | 2.85% |
| 9/17/1981 | 16.50% | 13.16% | 3.34% |
| 9/23/1981 | 15.85% | 13.20% | 2.65% |
| 9/28/1981 | 15.50% | 13.23% | 2.27% |
| 10/9/1981 | 15.75% | 13.34% | 2.41% |
| 10/15/1981 | 16.25% | 13.37% | 2.88% |
| 10/16/1981 | 15.50% | 13.39% | 2.11% |
| 10/16/1981 | 16.50% | 13.39% | 3.11% |
| 10/19/1981 | 14.25% | 13.40% | 0.85% |
| 10/20/1981 | 15.25% | 13.41% | 1.84% |
| 10/20/1981 | 17.00% | 13.41% | 3.59% |
| 10/23/1981 | 16.00% | 13.46% | 2.54% |
| 10/27/1981 | 10.00% | 13.49% | -3.49% |
| 10/29/1981 | 14.75% | 13.52% | 1.23% |
| 10/29/1981 | 16.50% | 13.52% | 2.98% |
| 11/3/1981 | 15.17% | 13.54% | 1.63% |
| 11/5/1981 | 16.60% | 13.56% | 3.04% |
| 11/6/1981 | 15.17% | 13.57% | 1.60% |
| 11/24/1981 | 15.50% | 13.61% | 1.89% |
| 11/25/1981 | 15.25% | 13.61% | 1.64% |
| 11/25/1981 | 15.35% | 13.61% | 1.74% |
| 11/25/1981 | 16.10% | 13.61% | 2.49% |
| 11/25/1981 | 16.10% | 13.61% | 2.49% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/1/1981 | 15.70% | 13.61% | 2.09% |
| 12/1/1981 | 16.00% | 13.61% | 2.39% |
| 12/1/1981 | 16.49% | 13.61% | 2.88% |
| 12/1/1981 | 16.50% | 13.61% | 2.89% |
| 12/4/1981 | 16.00% | 13.61% | 2.39% |
| 12/11/1981 | 16.25% | 13.63% | 2.62% |
| 12/14/1981 | 14.00% | 13.63% | 0.37% |
| 12/15/1981 | 15.81% | 13.63% | 2.18% |
| 12/15/1981 | 16.00% | 13.63% | 2.37% |
| 12/16/1981 | 15.25% | 13.63% | 1.62% |
| 12/17/1981 | 16.50% | 13.64% | 2.86% |
| 12/18/1981 | 15.45% | 13.64% | 1.81% |
| 12/30/1981 | 14.25% | 13.67% | 0.58% |
| 12/30/1981 | 16.00% | 13.67% | 2.33% |
| 12/30/1981 | 16.25% | 13.67% | 2.58% |
| 12/31/1981 | 16.15% | 13.68% | 2.47% |
| 1/4/1982 | 15.50% | 13.68% | 1.82% |
| 1/11/1982 | 14.50% | 13.73% | 0.77% |
| 1/11/1982 | 17.00% | 13.73% | 3.27% |
| 1/13/1982 | 14.75% | 13.74% | 1.01% |
| 1/14/1982 | 15.75% | 13.75% | 2.00% |
| 1/15/1982 | 15.00% | 13.76% | 1.24% |
| 1/15/1982 | 16.50% | 13.76% | 2.74% |
| 1/22/1982 | 16.25% | 13.80% | 2.45% |
| 1/27/1982 | 16.84% | 13.81% | 3.03% |
| 1/28/1982 | 13.00% | 13.82% | -0.82% |
| 1/29/1982 | 15.50% | 13.82% | 1.68% |
| 2/1/1982 | 15.85% | 13.83% | 2.02% |
| 2/3/1982 | 16.44% | 13.84% | 2.60% |
| 2/8/1982 | 15.50% | 13.86% | 1.64% |
| 2/11/1982 | 16.00% | 13.88% | 2.12% |
| 2/11/1982 | 16.20% | 13.88% | 2.32% |
| 2/17/1982 | 15.00% | 13.89% | 1.11% |
| 2/19/1982 | 15.17% | 13.89% | 1.28% |
| 2/26/1982 | 15.25% | 13.89% | 1.36% |
| 3/1/1982 | 15.03% | 13.89% | 1.14% |
| 3/1/1982 | 16.00% | 13.89% | 2.11% |
| 3/3/1982 | 15.00% | 13.88% | 1.12% |
| 3/8/1982 | 17.10% | 13.88% | 3.22% |
| 3/12/1982 | 16.25% | 13.88% | 2.37% |
| 3/17/1982 | 17.30% | 13.88% | 3.42% |
| 3/22/1982 | 15.10% | 13.89% | 1.21% |
| 3/27/1982 | 15.40% | 13.90% | 1.50% |
| 3/30/1982 | 15.50% | 13.91% | 1.59% |
| 3/31/1982 | 17.00% | 13.91% | 3.09% |
| 4/1/1982 | 14.70% | 13.92% | 0.78% |
| 4/1/1982 | 16.50% | 13.92% | 2.58% |
| 4/2/1982 | 15.50% | 13.92% | 1.58% |
| 4/5/1982 | 15.50% | 13.93% | 1.57% |
| 4/8/1982 | 16.40% | 13.94% | 2.46% |
| 4/13/1982 | 14.50% | 13.94% | 0.56% |
| 4/23/1982 | 15.75% | 13.94% | 1.81% |
| 4/27/1982 | 15.00% | 13.94% | 1.06% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 4/28/1982 | 15.75% | 13.94% | 1.81% |
| 4/30/1982 | 14.70% | 13.94% | 0.76% |
| 4/30/1982 | 15.50% | 13.94% | 1.56% |
| 5/3/1982 | 16.60% | 13.94% | 2.66% |
| 5/4/1982 | 16.00% | 13.94% | 2.06% |
| 5/14/1982 | 15.50% | 13.92% | 1.58% |
| 5/18/1982 | 15.42% | 13.92% | 1.50% |
| 5/19/1982 | 14.69% | 13.92% | 0.77% |
| 5/20/1982 | 15.00% | 13.91% | 1.09% |
| 5/20/1982 | 15.10% | 13.91% | 1.19% |
| 5/20/1982 | 15.50% | 13.91% | 1.59% |
| 5/20/1982 | 16.30% | 13.91% | 2.39% |
| 5/21/1982 | 17.75% | 13.91% | 3.84% |
| 5/27/1982 | 15.00% | 13.89% | 1.11% |
| 5/28/1982 | 15.50% | 13.89% | 1.61% |
| 5/28/1982 | 17.00% | 13.89% | 3.11% |
| 6/1/1982 | 13.75% | 13.89% | -0.14% |
| 6/1/1982 | 16.60% | 13.89% | 2.71% |
| 6/9/1982 | 17.86% | 13.88% | 3.98% |
| 6/14/1982 | 15.75% | 13.88% | 1.87% |
| 6/15/1982 | 14.85% | 13.87% | 0.98% |
| 6/18/1982 | 15.50% | 13.86% | 1.64% |
| 6/21/1982 | 14.90% | 13.86% | 1.04% |
| 6/23/1982 | 16.00% | 13.86% | 2.14% |
| 6/23/1982 | 16.17% | 13.86% | 2.31% |
| 6/24/1982 | 14.85% | 13.86% | 0.99% |
| 6/25/1982 | 14.70% | 13.85% | 0.85% |
| 7/1/1982 | 16.00% | 13.84% | 2.16% |
| 7/2/1982 | 15.62% | 13.83% | 1.79% |
| 7/2/1982 | 17.00% | 13.83% | 3.17% |
| 7/13/1982 | 14.00% | 13.82% | 0.18% |
| 7/13/1982 | 16.80% | 13.82% | 2.98% |
| 7/14/1982 | 15.76% | 13.81% | 1.95% |
| 7/14/1982 | 16.02% | 13.81% | 2.21% |
| 7/19/1982 | 16.50% | 13.79% | 2.71% |
| 7/22/1982 | 14.50% | 13.76% | 0.74% |
| 7/22/1982 | 17.00% | 13.76% | 3.24% |
| 7/27/1982 | 16.75% | 13.74% | 3.01% |
| 7/29/1982 | 16.50% | 13.73% | 2.77% |
| 8/11/1982 | 17.50% | 13.68% | 3.82% |
| 8/18/1982 | 17.07% | 13.62% | 3.45% |
| 8/20/1982 | 15.73% | 13.60% | 2.13% |
| 8/25/1982 | 16.00% | 13.57% | 2.43% |
| 8/26/1982 | 15.50% | 13.56% | 1.94% |
| 8/30/1982 | 15.00% | 13.55% | 1.45% |
| 9/3/1982 | 16.20% | 13.53% | 2.67% |
| 9/8/1982 | 15.00% | 13.52% | 1.48% |
| 9/15/1982 | 13.08% | 13.51% | -0.43% |
| 9/15/1982 | 16.25% | 13.51% | 2.74% |
| 9/16/1982 | 16.00% | 13.50% | 2.50% |
| 9/17/1982 | 15.25% | 13.50% | 1.75% |
| 9/23/1982 | 17.17% | 13.47% | 3.70% |
| 9/24/1982 | 14.50% | 13.47% | 1.03% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 9/27/1982 | 15.25% | 13.46% | 1.79% |
| 10/1/1982 | 15.50% | 13.42% | 2.08% |
| 10/15/1982 | 15.90% | 13.32% | 2.58% |
| 10/22/1982 | 15.75% | 13.24% | 2.51% |
| 10/22/1982 | 17.15% | 13.24% | 3.91% |
| 10/29/1982 | 15.54% | 13.16% | 2.38% |
| 11/1/1982 | 15.50% | 13.14% | 2.36% |
| 11/3/1982 | 17.20% | 13.12% | 4.08% |
| 11/4/1982 | 16.25% | 13.10% | 3.15% |
| 11/5/1982 | 16.20% | 13.09% | 3.11% |
| 11/9/1982 | 16.00% | 13.05% | 2.95% |
| 11/23/1982 | 15.50% | 12.88% | 2.62% |
| 11/23/1982 | 15.85% | 12.88% | 2.97% |
| 11/30/1982 | 16.50% | 12.80% | 3.70% |
| 12/1/1982 | 17.04% | 12.78% | 4.26% |
| 12/6/1982 | 15.00% | 12.72% | 2.28% |
| 12/6/1982 | 16.35% | 12.72% | 3.63% |
| 12/10/1982 | 15.50% | 12.66% | 2.84% |
| 12/13/1982 | 16.00% | 12.64% | 3.36% |
| 12/14/1982 | 15.30% | 12.62% | 2.68% |
| 12/14/1982 | 16.40% | 12.62% | 3.78% |
| 12/20/1982 | 16.00% | 12.57% | 3.43% |
| 12/21/1982 | 14.75% | 12.55% | 2.20% |
| 12/21/1982 | 15.85% | 12.55% | 3.30% |
| 12/22/1982 | 16.25% | 12.54% | 3.71% |
| 12/22/1982 | 16.58% | 12.54% | 4.04% |
| 12/22/1982 | 16.75% | 12.54% | 4.21% |
| 12/29/1982 | 14.90% | 12.48% | 2.42% |
| 12/29/1982 | 16.25% | 12.48% | 3.77% |
| 12/30/1982 | 16.00% | 12.46% | 3.54% |
| 12/30/1982 | 16.35% | 12.46% | 3.89% |
| 12/30/1982 | 16.77% | 12.46% | 4.31% |
| 1/5/1983 | 17.33% | 12.40% | 4.93% |
| 1/11/1983 | 15.90% | 12.34% | 3.56% |
| 1/12/1983 | 14.63% | 12.32% | 2.31% |
| 1/12/1983 | 15.50% | 12.32% | 3.18% |
| 1/20/1983 | 17.75% | 12.23% | 5.52% |
| 1/21/1983 | 15.00% | 12.21% | 2.79% |
| 1/24/1983 | 14.50% | 12.20% | 2.30% |
| 1/24/1983 | 15.50% | 12.20% | 3.30% |
| 1/25/1983 | 15.85% | 12.19% | 3.66% |
| 1/27/1983 | 16.14% | 12.16% | 3.98% |
| 2/1/1983 | 18.50% | 12.13% | 6.37% |
| 2/4/1983 | 14.00% | 12.09% | 1.91% |
| 2/10/1983 | 15.00% | 12.05% | 2.95% |
| 2/21/1983 | 15.50% | 11.98% | 3.52% |
| 2/22/1983 | 15.50% | 11.96% | 3.54% |
| 2/23/1983 | 15.10% | 11.95% | 3.15% |
| 2/23/1983 | 16.00% | 11.95% | 4.05% |
| 3/2/1983 | 15.25% | 11.89% | 3.36% |
| 3/9/1983 | 15.20% | 11.82% | 3.38% |
| 3/15/1983 | 13.00% | 11.76% | 1.24% |
| 3/18/1983 | 15.25% | 11.72% | 3.53% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 3/23/1983 | 15.40% | 11.68% | 3.72% |
| 3/24/1983 | 15.00% | 11.66% | 3.34% |
| 3/29/1983 | 15.50% | 11.62% | 3.88% |
| 3/30/1983 | 16.71% | 11.60% | 5.11% |
| 3/31/1983 | 15.00% | 11.58% | 3.42% |
| 4/4/1983 | 15.20% | 11.57% | 3.63% |
| 4/8/1983 | 15.50% | 11.49% | 4.01% |
| 4/11/1983 | 14.81% | 11.48% | 3.33% |
| 4/19/1983 | 14.50% | 11.36% | 3.14% |
| 4/20/1983 | 16.00% | 11.35% | 4.65% |
| 4/29/1983 | 16.00% | 11.23% | 4.77% |
| 5/1/1983 | 14.50% | 11.23% | 3.27% |
| 5/9/1983 | 15.50% | 11.14% | 4.36% |
| 5/11/1983 | 16.46% | 11.11% | 5.35% |
| 5/12/1983 | 14.14% | 11.10% | 3.04% |
| 5/18/1983 | 15.00% | 11.04% | 3.96% |
| 5/23/1983 | 14.90% | 11.00% | 3.90% |
| 5/23/1983 | 15.50% | 11.00% | 4.50% |
| 5/25/1983 | 15.50% | 10.97% | 4.53% |
| 5/27/1983 | 15.00% | 10.95% | 4.05% |
| 5/31/1983 | 14.00% | 10.94% | 3.06% |
| 5/31/1983 | 15.50% | 10.94% | 4.56% |
| 6/2/1983 | 14.50% | 10.92% | 3.58% |
| 6/17/1983 | 15.03% | 10.83% | 4.20% |
| 7/1/1983 | 14.80% | 10.77% | 4.03% |
| 7/1/1983 | 14.90% | 10.77% | 4.13% |
| 7/8/1983 | 16.25% | 10.75% | 5.50% |
| 7/13/1983 | 13.20% | 10.75% | 2.45% |
| 7/19/1983 | 15.00% | 10.74% | 4.26% |
| 7/19/1983 | 15.10% | 10.74% | 4.36% |
| 7/25/1983 | 16.25% | 10.73% | 5.52% |
| 7/28/1983 | 15.90% | 10.74% | 5.16% |
| 8/3/1983 | 16.34% | 10.75% | 5.59% |
| 8/3/1983 | 16.50% | 10.75% | 5.75% |
| 8/19/1983 | 15.00% | 10.80% | 4.20% |
| 8/22/1983 | 15.50% | 10.80% | 4.70% |
| 8/22/1983 | 16.40% | 10.80% | 5.60% |
| 8/31/1983 | 14.75% | 10.85% | 3.90% |
| 9/7/1983 | 15.00% | 10.87% | 4.13% |
| 9/14/1983 | 15.78% | 10.89% | 4.89% |
| 9/16/1983 | 15.00% | 10.90% | 4.10% |
| 9/19/1983 | 14.50% | 10.91% | 3.59% |
| 9/20/1983 | 16.50% | 10.91% | 5.59% |
| 9/28/1983 | 14.50% | 10.94% | 3.56% |
| 9/29/1983 | 15.50% | 10.95% | 4.55% |
| 9/30/1983 | 15.25% | 10.95% | 4.30% |
| 9/30/1983 | 16.15% | 10.95% | 5.20% |
| 10/4/1983 | 14.80% | 10.96% | 3.84% |
| 10/7/1983 | 16.00% | 10.97% | 5.03% |
| 10/13/1983 | 15.52% | 10.99% | 4.53% |
| 10/17/1983 | 15.50% | 11.00% | 4.50% |
| 10/18/1983 | 14.50% | 11.00% | 3.50% |
| 10/19/1983 | 16.25% | 11.01% | 5.24% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 10/19/1983 | 16.50% | 11.01% | 5.49% |
| 10/26/1983 | 15.00% | 11.04% | 3.96% |
| 10/27/1983 | 15.20% | 11.04% | 4.16% |
| 11/1/1983 | 16.00% | 11.06% | 4.94% |
| 11/9/1983 | 14.90% | 11.09% | 3.81% |
| 11/10/1983 | 14.35% | 11.10% | 3.25% |
| 11/23/1983 | 16.00% | 11.13% | 4.87% |
| 11/23/1983 | 16.15% | 11.13% | 5.02% |
| 11/30/1983 | 15.00% | 11.14% | 3.86% |
| 12/5/1983 | 15.25% | 11.15% | 4.10% |
| 12/6/1983 | 15.07% | 11.16% | 3.91% |
| 12/8/1983 | 15.90% | 11.16% | 4.74% |
| 12/9/1983 | 14.75% | 11.17% | 3.58% |
| 12/12/1983 | 14.50% | 11.18% | 3.32% |
| 12/15/1983 | 15.56% | 11.20% | 4.36% |
| 12/19/1983 | 14.80% | 11.21% | 3.59% |
| 12/20/1983 | 14.69% | 11.22% | 3.47% |
| 12/20/1983 | 16.00% | 11.22% | 4.78% |
| 12/20/1983 | 16.25% | 11.22% | 5.03% |
| 12/22/1983 | 14.75% | 11.23% | 3.52% |
| 12/22/1983 | 15.75% | 11.23% | 4.52% |
| 1/3/1984 | 14.75% | 11.27% | 3.48% |
| 1/10/1984 | 15.90% | 11.30% | 4.60% |
| 1/12/1984 | 15.60% | 11.31% | 4.29% |
| 1/18/1984 | 13.75% | 11.33% | 2.42% |
| 1/19/1984 | 15.90% | 11.33% | 4.57% |
| 1/30/1984 | 16.10% | 11.37% | 4.73% |
| 1/31/1984 | 15.25% | 11.38% | 3.87% |
| 2/1/1984 | 14.80% | 11.39% | 3.41% |
| 2/6/1984 | 13.75% | 11.41% | 2.34% |
| 2/6/1984 | 14.75% | 11.41% | 3.34% |
| 2/9/1984 | 15.25% | 11.43% | 3.82% |
| 2/15/1984 | 15.70% | 11.45% | 4.25% |
| 2/20/1984 | 15.00% | 11.46% | 3.54% |
| 2/20/1984 | 15.00% | 11.46% | 3.54% |
| 2/22/1984 | 14.75% | 11.48% | 3.27% |
| 2/28/1984 | 14.50% | 11.52% | 2.98% |
| 3/2/1984 | 14.25% | 11.54% | 2.71% |
| 3/20/1984 | 16.00% | 11.65% | 4.35% |
| 3/23/1984 | 15.50% | 11.67% | 3.83% |
| 3/26/1984 | 14.71% | 11.68% | 3.03% |
| 4/2/1984 | 15.50% | 11.72% | 3.78% |
| 4/6/1984 | 14.74% | 11.76% | 2.98% |
| 4/11/1984 | 15.72% | 11.78% | 3.94% |
| 4/17/1984 | 15.00% | 11.81% | 3.19% |
| 4/18/1984 | 16.20% | 11.82% | 4.38% |
| 4/25/1984 | 14.64% | 11.85% | 2.79% |
| 4/30/1984 | 14.40% | 11.88% | 2.52% |
| 5/16/1984 | 14.69% | 11.99% | 2.70% |
| 5/16/1984 | 15.00% | 11.99% | 3.01% |
| 5/22/1984 | 14.40% | 12.02% | 2.38% |
| 5/29/1984 | 15.10% | 12.06% | 3.04% |
| 6/13/1984 | 15.25% | 12.16% | 3.09% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 6/15/1984 | 15.60% | 12.17% | 3.43% |
| 6/22/1984 | 16.25% | 12.21% | 4.04% |
| 6/29/1984 | 15.25% | 12.26% | 2.99% |
| 7/2/1984 | 13.35% | 12.27% | 1.08% |
| 7/10/1984 | 16.00% | 12.31% | 3.69% |
| 7/12/1984 | 16.50% | 12.33% | 4.17% |
| 7/13/1984 | 16.25% | 12.34% | 3.91% |
| 7/17/1984 | 14.14% | 12.35% | 1.79% |
| 7/18/1984 | 15.30% | 12.36% | 2.94% |
| 7/18/1984 | 15.50% | 12.36% | 3.14% |
| 7/19/1984 | 14.30% | 12.37% | 1.93% |
| 7/24/1984 | 16.79% | 12.40% | 4.39% |
| 7/31/1984 | 16.00% | 12.43% | 3.57% |
| 8/3/1984 | 14.25% | 12.45% | 1.80% |
| 8/17/1984 | 14.30% | 12.49% | 1.81% |
| 8/20/1984 | 15.00% | 12.49% | 2.51% |
| 8/27/1984 | 16.30% | 12.51% | 3.79% |
| 8/31/1984 | 15.55% | 12.53% | 3.02% |
| 9/6/1984 | 16.00% | 12.54% | 3.46% |
| 9/10/1984 | 14.75% | 12.55% | 2.20% |
| 9/13/1984 | 15.00% | 12.55% | 2.45% |
| 9/17/1984 | 17.38% | 12.56% | 4.82% |
| 9/26/1984 | 14.50% | 12.57% | 1.93% |
| 9/28/1984 | 15.00% | 12.57% | 2.43% |
| 9/28/1984 | 16.25% | 12.57% | 3.68% |
| 10/9/1984 | 14.75% | 12.58% | 2.17% |
| 10/12/1984 | 15.60% | 12.59% | 3.01% |
| 10/22/1984 | 15.00% | 12.59% | 2.41% |
| 10/26/1984 | 16.40% | 12.59% | 3.81% |
| 10/31/1984 | 16.25% | 12.59% | 3.66% |
| 11/7/1984 | 15.60% | 12.58% | 3.02% |
| 11/9/1984 | 16.00% | 12.58% | 3.42% |
| 11/14/1984 | 15.75% | 12.59% | 3.16% |
| 11/20/1984 | 15.25% | 12.58% | 2.67% |
| 11/20/1984 | 15.92% | 12.58% | 3.34% |
| 11/23/1984 | 15.00% | 12.58% | 2.42% |
| 11/28/1984 | 16.15% | 12.57% | 3.58% |
| 12/3/1984 | 15.80% | 12.57% | 3.23% |
| 12/4/1984 | 16.50% | 12.56% | 3.94% |
| 12/18/1984 | 16.40% | 12.54% | 3.86% |
| 12/19/1984 | 14.75% | 12.53% | 2.22% |
| 12/19/1984 | 15.00% | 12.53% | 2.47% |
| 12/20/1984 | 16.00% | 12.53% | 3.47% |
| 12/28/1984 | 16.00% | 12.50% | 3.50% |
| 1/3/1985 | 14.75% | 12.49% | 2.26% |
| 1/10/1985 | 15.75% | 12.47% | 3.28% |
| 1/11/1985 | 16.30% | 12.46% | 3.84% |
| 1/23/1985 | 15.80% | 12.43% | 3.37% |
| 1/24/1985 | 15.82% | 12.43% | 3.39% |
| 1/25/1985 | 16.75% | 12.42% | 4.33% |
| 1/30/1985 | 14.90% | 12.40% | 2.50% |
| 1/31/1985 | 14.75% | 12.39% | 2.36% |
| 2/8/1985 | 14.47% | 12.35% | 2.12% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 3/1/1985 | 13.84% | 12.30% | 1.54% |
| 3/8/1985 | 16.85% | 12.28% | 4.57% |
| 3/14/1985 | 15.50% | 12.25% | 3.25% |
| 3/15/1985 | 15.62% | 12.25% | 3.37% |
| 3/29/1985 | 15.62% | 12.16% | 3.46% |
| 4/3/1985 | 14.60% | 12.13% | 2.47% |
| 4/9/1985 | 15.50% | 12.10% | 3.40% |
| 4/16/1985 | 15.70% | 12.05% | 3.65% |
| 4/22/1985 | 14.00% | 12.01% | 1.99% |
| 4/26/1985 | 15.50% | 11.97% | 3.53% |
| 4/29/1985 | 15.00% | 11.96% | 3.04% |
| 5/2/1985 | 14.68% | 11.93% | 2.75% |
| 5/8/1985 | 15.62% | 11.88% | 3.74% |
| 5/10/1985 | 16.50% | 11.86% | 4.64% |
| 5/29/1985 | 14.61% | 11.73% | 2.88% |
| 5/31/1985 | 16.00% | 11.71% | 4.29% |
| 6/14/1985 | 15.50% | 11.60% | 3.90% |
| 7/9/1985 | 15.00% | 11.44% | 3.56% |
| 7/16/1985 | 14.50% | 11.39% | 3.11% |
| 7/26/1985 | 14.50% | 11.32% | 3.18% |
| 8/2/1985 | 14.80% | 11.29% | 3.51% |
| 8/7/1985 | 15.00% | 11.26% | 3.74% |
| 8/28/1985 | 14.25% | 11.15% | 3.10% |
| 8/28/1985 | 15.50% | 11.15% | 4.35% |
| 8/29/1985 | 14.50% | 11.14% | 3.36% |
| 9/9/1985 | 14.60% | 11.11% | 3.49% |
| 9/9/1985 | 14.90% | 11.11% | 3.79% |
| 9/17/1985 | 14.90% | 11.08% | 3.82% |
| 9/23/1985 | 15.00% | 11.06% | 3.94% |
| 9/27/1985 | 15.50% | 11.04% | 4.46% |
| 9/27/1985 | 15.80% | 11.04% | 4.76% |
| 10/2/1985 | 14.00% | 11.03% | 2.97% |
| 10/2/1985 | 14.75% | 11.03% | 3.72% |
| 10/3/1985 | 15.25% | 11.03% | 4.22% |
| 10/24/1985 | 15.40% | 10.96% | 4.44% |
| 10/24/1985 | 15.82% | 10.96% | 4.86% |
| 10/24/1985 | 15.85% | 10.96% | 4.89% |
| 10/28/1985 | 16.00% | 10.95% | 5.05% |
| 10/29/1985 | 16.65% | 10.94% | 5.71% |
| 10/31/1985 | 15.06% | 10.93% | 4.13% |
| 11/4/1985 | 14.50% | 10.91% | 3.59% |
| 11/7/1985 | 15.50% | 10.89% | 4.61% |
| 11/8/1985 | 14.30% | 10.89% | 3.41% |
| 12/12/1985 | 14.75% | 10.73% | 4.02% |
| 12/18/1985 | 15.00% | 10.69% | 4.31% |
| 12/20/1985 | 14.50% | 10.66% | 3.84% |
| 12/20/1985 | 14.50% | 10.66% | 3.84% |
| 12/20/1985 | 15.00% | 10.66% | 4.34% |
| 1/24/1986 | 15.40% | 10.40% | 5.00% |
| 1/31/1986 | 15.00% | 10.35% | 4.65% |
| 2/5/1986 | 15.00% | 10.32% | 4.68% |
| 2/5/1986 | 15.75% | 10.32% | 5.43% |
| 2/10/1986 | 13.30% | 10.29% | 3.01% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 2/11/1986 | 12.50% | 10.27% | 2.23% |
| 2/14/1986 | 14.40% | 10.24% | 4.16% |
| 2/18/1986 | 16.00% | 10.22% | 5.78% |
| 2/24/1986 | 14.50% | 10.17% | 4.33% |
| 2/26/1986 | 14.00% | 10.15% | 3.85% |
| 3/5/1986 | 14.90% | 10.07% | 4.83% |
| 3/11/1986 | 14.50% | 10.01% | 4.49% |
| 3/12/1986 | 13.50% | 10.00% | 3.50% |
| 3/27/1986 | 14.10% | 9.85% | 4.25% |
| 3/31/1986 | 13.50% | 9.84% | 3.66% |
| 4/1/1986 | 14.00% | 9.82% | 4.18% |
| 4/2/1986 | 15.50% | 9.81% | 5.69% |
| 4/4/1986 | 15.00% | 9.78% | 5.22% |
| 4/14/1986 | 13.40% | 9.68% | 3.72% |
| 4/23/1986 | 15.00% | 9.57% | 5.43% |
| 5/16/1986 | 14.50% | 9.31% | 5.19% |
| 5/16/1986 | 14.50% | 9.31% | 5.19% |
| 5/29/1986 | 13.90% | 9.19% | 4.71% |
| 5/30/1986 | 15.10% | 9.17% | 5.93% |
| 6/2/1986 | 12.81% | 9.16% | 3.65% |
| 6/11/1986 | 14.00% | 9.06% | 4.94% |
| 6/24/1986 | 16.63% | 8.93% | 7.70% |
| 6/26/1986 | 12.00% | 8.90% | 3.10% |
| 6/26/1986 | 14.75% | 8.90% | 5.85% |
| 6/30/1986 | 13.00% | 8.86% | 4.14% |
| 7/10/1986 | 14.34% | 8.74% | 5.60% |
| 7/11/1986 | 12.75% | 8.72% | 4.03% |
| 7/14/1986 | 12.60% | 8.71% | 3.89% |
| 7/17/1986 | 12.40% | 8.65% | 3.75% |
| 7/25/1986 | 14.25% | 8.56% | 5.69% |
| 8/6/1986 | 13.50% | 8.43% | 5.07% |
| 8/14/1986 | 13.50% | 8.34% | 5.16% |
| 9/16/1986 | 12.75% | 8.06% | 4.69% |
| 9/19/1986 | 13.25% | 8.02% | 5.23% |
| 10/1/1986 | 14.00% | 7.94% | 6.06% |
| 10/3/1986 | 13.40% | 7.92% | 5.48% |
| 10/31/1986 | 13.50% | 7.77% | 5.73% |
| 11/5/1986 | 13.00% | 7.74% | 5.26% |
| 12/3/1986 | 12.90% | 7.58% | 5.32% |
| 12/4/1986 | 14.44% | 7.57% | 6.87% |
| 12/16/1986 | 13.60% | 7.52% | 6.08% |
| 12/22/1986 | 13.80% | 7.50% | 6.30% |
| 12/30/1986 | 13.00% | 7.49% | 5.51% |
| 1/2/1987 | 13.00% | 7.48% | 5.52% |
| 1/12/1987 | 12.40% | 7.46% | 4.94% |
| 1/27/1987 | 12.71% | 7.46% | 5.25% |
| 3/2/1987 | 12.47% | 7.47% | 5.00% |
| 3/3/1987 | 13.60% | 7.47% | 6.13% |
| 3/4/1987 | 12.38% | 7.47% | 4.91% |
| 3/10/1987 | 13.50% | 7.47% | 6.03% |
| 3/13/1987 | 13.00% | 7.47% | 5.53% |
| 3/31/1987 | 13.00% | 7.46% | 5.54% |
| 4/6/1987 | 13.00% | 7.47% | 5.53% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 4/14/1987 | 12.50% | 7.49% | 5.01% |
| 4/16/1987 | 14.50% | 7.50% | 7.00% |
| 4/27/1987 | 12.00% | 7.54% | 4.46% |
| 5/5/1987 | 12.85% | 7.58% | 5.27% |
| 5/12/1987 | 12.65% | 7.62% | 5.03% |
| 5/28/1987 | 13.50% | 7.70% | 5.80% |
| 6/15/1987 | 13.20% | 7.78% | 5.42% |
| 6/29/1987 | 15.00% | 7.84% | 7.16% |
| 6/30/1987 | 12.50% | 7.84% | 4.66% |
| 7/8/1987 | 12.00% | 7.86% | 4.14% |
| 7/10/1987 | 12.90% | 7.87% | 5.03% |
| 7/15/1987 | 13.50% | 7.88% | 5.62% |
| 7/16/1987 | 13.50% | 7.88% | 5.62% |
| 7/16/1987 | 15.00% | 7.88% | 7.12% |
| 7/27/1987 | 13.00% | 7.92% | 5.08% |
| 7/27/1987 | 13.40% | 7.92% | 5.48% |
| 7/27/1987 | 13.50% | 7.92% | 5.58% |
| 7/31/1987 | 12.98% | 7.95% | 5.03% |
| 8/26/1987 | 12.63% | 8.06% | 4.57% |
| 8/26/1987 | 12.75% | 8.06% | 4.69% |
| 8/27/1987 | 13.25% | 8.07% | 5.18% |
| 9/9/1987 | 13.00% | 8.14% | 4.86% |
| 9/30/1987 | 12.75% | 8.31% | 4.44% |
| 9/30/1987 | 13.00% | 8.31% | 4.69% |
| 10/2/1987 | 11.50% | 8.33% | 3.17% |
| 10/15/1987 | 13.00% | 8.44% | 4.56% |
| 11/2/1987 | 13.00% | 8.55% | 4.45% |
| 11/19/1987 | 13.00% | 8.64% | 4.36% |
| 11/30/1987 | 12.00% | 8.69% | 3.31% |
| 12/3/1987 | 14.20% | 8.71% | 5.49% |
| 12/15/1987 | 13.25% | 8.78% | 4.47% |
| 12/16/1987 | 13.50% | 8.79% | 4.71% |
| 12/16/1987 | 13.72% | 8.79% | 4.93% |
| 12/17/1987 | 11.75% | 8.80% | 2.95% |
| 12/18/1987 | 13.50% | 8.80% | 4.70% |
| 12/21/1987 | 12.01% | 8.81% | 3.20% |
| 12/22/1987 | 12.00% | 8.82% | 3.18% |
| 12/22/1987 | 12.00% | 8.82% | 3.18% |
| 12/22/1987 | 12.75% | 8.82% | 3.93% |
| 12/22/1987 | 13.00% | 8.82% | 4.18% |
| 1/20/1988 | 13.80% | 8.94% | 4.86% |
| 1/26/1988 | 13.90% | 8.96% | 4.94% |
| 1/29/1988 | 13.20% | 8.96% | 4.24% |
| 2/4/1988 | 12.60% | 8.96% | 3.64% |
| 3/1/1988 | 11.56% | 8.94% | 2.62% |
| 3/23/1988 | 12.87% | 8.92% | 3.95% |
| 3/24/1988 | 11.24% | 8.92% | 2.32% |
| 3/30/1988 | 12.72% | 8.92% | 3.80% |
| 4/1/1988 | 12.50% | 8.92% | 3.58% |
| 4/7/1988 | 13.25% | 8.93% | 4.32% |
| 4/25/1988 | 10.96% | 8.96% | 2.00% |
| 5/3/1988 | 12.91% | 8.98% | 3.93% |
| 5/11/1988 | 13.50% | 8.99% | 4.51% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 5/16/1988 | 13.00% | 8.99% | 4.01% |
| 6/30/1988 | 12.75% | 8.99% | 3.76% |
| 7/1/1988 | 12.75% | 8.99% | 3.76% |
| 7/20/1988 | 13.40% | 8.96% | 4.44% |
| 8/5/1988 | 12.75% | 8.91% | 3.84% |
| 8/23/1988 | 11.70% | 8.93% | 2.77% |
| 8/29/1988 | 12.75% | 8.94% | 3.81% |
| 8/30/1988 | 13.50% | 8.94% | 4.56% |
| 9/8/1988 | 12.60% | 8.95% | 3.65% |
| 10/13/1988 | 13.10% | 8.93% | 4.17% |
| 12/19/1988 | 13.00% | 9.02% | 3.98% |
| 12/20/1988 | 12.25% | 9.02% | 3.23% |
| 12/20/1988 | 13.00% | 9.02% | 3.98% |
| 12/21/1988 | 12.90% | 9.02% | 3.88% |
| 12/27/1988 | 13.00% | 9.03% | 3.97% |
| 12/28/1988 | 13.10% | 9.03% | 4.07% |
| 12/30/1988 | 13.40% | 9.04% | 4.36% |
| 1/27/1989 | 13.00% | 9.06% | 3.94% |
| 1/31/1989 | 13.00% | 9.06% | 3.94% |
| 2/17/1989 | 13.00% | 9.05% | 3.95% |
| 2/20/1989 | 12.40% | 9.05% | 3.35% |
| 3/1/1989 | 12.76% | 9.05% | 3.71% |
| 3/8/1989 | 13.00% | 9.05% | 3.95% |
| 3/30/1989 | 14.00% | 9.05% | 4.95% |
| 4/5/1989 | 14.20% | 9.05% | 5.15% |
| 4/18/1989 | 13.00% | 9.05% | 3.95% |
| 5/5/1989 | 12.40% | 9.05% | 3.35% |
| 6/2/1989 | 13.20% | 9.00% | 4.20% |
| 6/8/1989 | 13.50% | 8.98% | 4.52% |
| 6/27/1989 | 13.25% | 8.91% | 4.34% |
| 6/30/1989 | 13.00% | 8.90% | 4.10% |
| 8/14/1989 | 12.50% | 8.77% | 3.73% |
| 9/28/1989 | 12.25% | 8.63% | 3.62% |
| 10/24/1989 | 12.50% | 8.54% | 3.96% |
| 11/9/1989 | 13.00% | 8.48% | 4.52% |
| 12/15/1989 | 13.00% | 8.33% | 4.67% |
| 12/20/1989 | 12.90% | 8.31% | 4.59% |
| 12/21/1989 | 12.90% | 8.31% | 4.59% |
| 12/27/1989 | 12.50% | 8.29% | 4.21% |
| 12/27/1989 | 13.00% | 8.29% | 4.71% |
| 1/10/1990 | 12.80% | 8.24% | 4.56% |
| 1/11/1990 | 12.90% | 8.23% | 4.67% |
| 1/17/1990 | 12.80% | 8.22% | 4.58% |
| 1/26/1990 | 12.00% | 8.19% | 3.81% |
| 2/9/1990 | 12.10% | 8.17% | 3.93% |
| 2/24/1990 | 12.86% | 8.15% | 4.71% |
| 3/30/1990 | 12.90% | 8.16% | 4.74% |
| 4/4/1990 | 15.76% | 8.17% | 7.59% |
| 4/12/1990 | 12.52% | 8.18% | 4.34% |
| 4/19/1990 | 12.75% | 8.20% | 4.55% |
| 5/21/1990 | 12.10% | 8.28% | 3.82% |
| 5/29/1990 | 12.40% | 8.30% | 4.10% |
| 5/31/1990 | 12.00% | 8.30% | 3.70% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 6/4/1990 | 12.90% | 8.30% | 4.60% |
| 6/6/1990 | 12.25% | 8.31% | 3.94% |
| 6/15/1990 | 13.20% | 8.32% | 4.88% |
| 6/20/1990 | 12.92% | 8.32% | 4.60% |
| 6/27/1990 | 12.90% | 8.33% | 4.57% |
| 6/29/1990 | 12.50% | 8.34% | 4.16% |
| 7/6/1990 | 12.10% | 8.34% | 3.76% |
| 7/6/1990 | 12.35% | 8.34% | 4.01% |
| 8/10/1990 | 12.55% | 8.41% | 4.14% |
| 8/16/1990 | 13.21% | 8.43% | 4.78% |
| 8/22/1990 | 13.10% | 8.45% | 4.65% |
| 8/24/1990 | 13.00% | 8.46% | 4.54% |
| 9/26/1990 | 11.45% | 8.59% | 2.86% |
| 10/2/1990 | 13.00% | 8.61% | 4.39% |
| 10/5/1990 | 12.84% | 8.63% | 4.21% |
| 10/19/1990 | 13.00% | 8.67% | 4.33% |
| 10/25/1990 | 12.30% | 8.68% | 3.62% |
| 11/21/1990 | 12.70% | 8.69% | 4.01% |
| 12/13/1990 | 12.30% | 8.67% | 3.63% |
| 12/17/1990 | 12.87% | 8.67% | 4.20% |
| 12/18/1990 | 13.10% | 8.67% | 4.43% |
| 12/19/1990 | 12.00% | 8.66% | 3.34% |
| 12/20/1990 | 12.75% | 8.66% | 4.09% |
| 12/21/1990 | 12.50% | 8.66% | 3.84% |
| 12/27/1990 | 12.79% | 8.66% | 4.13% |
| 1/2/1991 | 13.10% | 8.66% | 4.44% |
| 1/4/1991 | 12.50% | 8.65% | 3.85% |
| 1/15/1991 | 12.75% | 8.65% | 4.10% |
| 1/25/1991 | 11.70% | 8.63% | 3.07% |
| 2/4/1991 | 12.50% | 8.60% | 3.90% |
| 2/7/1991 | 12.50% | 8.59% | 3.91% |
| 2/12/1991 | 13.00% | 8.57% | 4.43% |
| 2/14/1991 | 12.72% | 8.56% | 4.16% |
| 2/22/1991 | 12.80% | 8.55% | 4.25% |
| 3/6/1991 | 13.10% | 8.53% | 4.57% |
| 3/8/1991 | 12.30% | 8.52% | 3.78% |
| 3/8/1991 | 13.00% | 8.52% | 4.48% |
| 4/22/1991 | 13.00% | 8.49% | 4.51% |
| 5/7/1991 | 13.50% | 8.47% | 5.03% |
| 5/13/1991 | 13.25% | 8.47% | 4.78% |
| 5/30/1991 | 12.75% | 8.43% | 4.32% |
| 6/12/1991 | 12.00% | 8.41% | 3.59% |
| 6/25/1991 | 11.70% | 8.38% | 3.32% |
| 6/28/1991 | 12.50% | 8.38% | 4.12% |
| 7/1/1991 | 12.00% | 8.37% | 3.63% |
| 7/3/1991 | 12.50% | 8.36% | 4.14% |
| 7/19/1991 | 12.10% | 8.34% | 3.76% |
| 8/1/1991 | 12.90% | 8.32% | 4.58% |
| 8/16/1991 | 13.20% | 8.29% | 4.91% |
| 9/27/1991 | 12.50% | 8.23% | 4.27% |
| 9/30/1991 | 12.25% | 8.23% | 4.02% |
| 10/17/1991 | 13.00% | 8.20% | 4.80% |
| 10/23/1991 | 12.50% | 8.20% | 4.30% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 10/23/1991 | 12.55% | 8.20% | 4.35% |
| 10/31/1991 | 11.80% | 8.19% | 3.61% |
| 11/1/1991 | 12.00% | 8.19% | 3.81% |
| 11/5/1991 | 12.25% | 8.19% | 4.06% |
| 11/12/1991 | 12.50% | 8.18% | 4.32% |
| 11/12/1991 | 13.25% | 8.18% | 5.07% |
| 11/25/1991 | 12.40% | 8.18% | 4.22% |
| 11/26/1991 | 11.60% | 8.18% | 3.42% |
| 11/26/1991 | 12.50% | 8.18% | 4.32% |
| 11/27/1991 | 12.10% | 8.18% | 3.92% |
| 12/18/1991 | 12.25% | 8.15% | 4.10% |
| 12/19/1991 | 12.60% | 8.15% | 4.45% |
| 12/19/1991 | 12.80% | 8.15% | 4.65% |
| 12/20/1991 | 12.65% | 8.14% | 4.51% |
| 1/9/1992 | 12.80% | 8.09% | 4.71% |
| 1/16/1992 | 12.75% | 8.07% | 4.68% |
| 1/21/1992 | 12.00% | 8.06% | 3.94% |
| 1/22/1992 | 13.00% | 8.06% | 4.94% |
| 1/27/1992 | 12.65% | 8.05% | 4.60% |
| 1/31/1992 | 12.00% | 8.04% | 3.96% |
| 2/11/1992 | 12.40% | 8.03% | 4.37% |
| 2/25/1992 | 12.50% | 8.01% | 4.49% |
| 3/16/1992 | 11.43% | 7.98% | 3.45% |
| 3/18/1992 | 12.28% | 7.98% | 4.30% |
| 4/2/1992 | 12.10% | 7.95% | 4.15% |
| 4/9/1992 | 11.45% | 7.93% | 3.52% |
| 4/10/1992 | 11.50% | 7.93% | 3.57% |
| 4/14/1992 | 11.50% | 7.92% | 3.58% |
| 5/5/1992 | 11.50% | 7.89% | 3.61% |
| 5/12/1992 | 11.87% | 7.88% | 3.99% |
| 5/12/1992 | 12.46% | 7.88% | 4.58% |
| 6/1/1992 | 12.30% | 7.86% | 4.44% |
| 6/12/1992 | 10.90% | 7.85% | 3.05% |
| 6/26/1992 | 12.35% | 7.85% | 4.50% |
| 6/29/1992 | 11.00% | 7.85% | 3.15% |
| 6/30/1992 | 13.00% | 7.85% | 5.15% |
| 7/13/1992 | 11.90% | 7.84% | 4.06% |
| 7/13/1992 | 13.50% | 7.84% | 5.66% |
| 7/22/1992 | 11.20% | 7.83% | 3.37% |
| 8/3/1992 | 12.00% | 7.81% | 4.19% |
| 8/6/1992 | 12.50% | 7.80% | 4.70% |
| 9/22/1992 | 12.00% | 7.71% | 4.29% |
| 9/28/1992 | 11.40% | 7.71% | 3.69% |
| 9/30/1992 | 11.75% | 7.71% | 4.04% |
| 10/2/1992 | 13.00% | 7.70% | 5.30% |
| 10/12/1992 | 12.20% | 7.70% | 4.50% |
| 10/16/1992 | 13.16% | 7.71% | 5.45% |
| 10/30/1992 | 11.75% | 7.71% | 4.04% |
| 11/3/1992 | 12.00% | 7.71% | 4.29% |
| 12/3/1992 | 11.85% | 7.68% | 4.17% |
| 12/15/1992 | 11.00% | 7.66% | 3.34% |
| 12/16/1992 | 11.90% | 7.66% | 4.24% |
| 12/16/1992 | 12.40% | 7.66% | 4.74% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/17/1992 | 12.00% | 7.66% | 4.34% |
| 12/22/1992 | 12.30% | 7.65% | 4.65% |
| 12/22/1992 | 12.40% | 7.65% | 4.75% |
| 12/29/1992 | 12.25% | 7.63% | 4.62% |
| 12/30/1992 | 12.00% | 7.63% | 4.37% |
| 12/31/1992 | 11.90% | 7.62% | 4.28% |
| 1/12/1993 | 12.00% | 7.61% | 4.39% |
| 1/21/1993 | 11.25% | 7.59% | 3.66% |
| 2/2/1993 | 11.40% | 7.56% | 3.84% |
| 2/15/1993 | 12.30% | 7.52% | 4.78% |
| 2/24/1993 | 11.90% | 7.49% | 4.41% |
| 2/26/1993 | 11.80% | 7.48% | 4.32% |
| 2/26/1993 | 12.20% | 7.48% | 4.72% |
| 4/23/1993 | 11.75% | 7.29% | 4.46% |
| 5/11/1993 | 11.75% | 7.24% | 4.51% |
| 5/14/1993 | 11.50% | 7.24% | 4.26% |
| 5/25/1993 | 11.50% | 7.22% | 4.28% |
| 5/28/1993 | 11.00% | 7.22% | 3.78% |
| 6/3/1993 | 12.00% | 7.21% | 4.79% |
| 6/16/1993 | 11.50% | 7.19% | 4.31% |
| 6/18/1993 | 12.10% | 7.18% | 4.92% |
| 6/25/1993 | 11.67% | 7.17% | 4.50% |
| 7/21/1993 | 11.38% | 7.10% | 4.28% |
| 7/23/1993 | 10.46% | 7.09% | 3.37% |
| 8/24/1993 | 11.50% | 6.95% | 4.55% |
| 9/21/1993 | 10.50% | 6.80% | 3.70% |
| 9/29/1993 | 11.47% | 6.76% | 4.71% |
| 9/30/1993 | 11.60% | 6.76% | 4.84% |
| 11/2/1993 | 10.80% | 6.60% | 4.20% |
| 11/12/1993 | 12.00% | 6.56% | 5.44% |
| 11/26/1993 | 11.00% | 6.52% | 4.48% |
| 12/14/1993 | 10.55% | 6.48% | 4.07% |
| 12/16/1993 | 10.60% | 6.48% | 4.12% |
| 12/21/1993 | 11.30% | 6.47% | 4.83% |
| 1/4/1994 | 10.07% | 6.44% | 3.63% |
| 1/13/1994 | 11.00% | 6.42% | 4.58% |
| 1/21/1994 | 11.00% | 6.40% | 4.60% |
| 1/28/1994 | 11.35% | 6.39% | 4.96% |
| 2/3/1994 | 11.40% | 6.38% | 5.02% |
| 2/17/1994 | 10.60% | 6.36% | 4.24% |
| 2/25/1994 | 11.25% | 6.35% | 4.90% |
| 2/25/1994 | 12.00% | 6.35% | 5.65% |
| 3/1/1994 | 11.00% | 6.35% | 4.65% |
| 3/4/1994 | 11.00% | 6.34% | 4.66% |
| 4/25/1994 | 11.00% | 6.40% | 4.60% |
| 5/10/1994 | 11.75% | 6.44% | 5.31% |
| 5/13/1994 | 10.50% | 6.46% | 4.04% |
| 6/3/1994 | 11.00% | 6.54% | 4.46% |
| 6/27/1994 | 11.40% | 6.65% | 4.75% |
| 8/5/1994 | 12.75% | 6.88% | 5.87% |
| 10/31/1994 | 10.00% | 7.33% | 2.67% |
| 11/9/1994 | 10.85% | 7.40% | 3.45% |
| 11/9/1994 | 10.85% | 7.40% | 3.45% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 11/18/1994 | 11.20% | 7.46% | 3.74% |
| 11/22/1994 | 11.60% | 7.47% | 4.13% |
| 11/28/1994 | 11.06% | 7.50% | 3.56% |
| 12/8/1994 | 11.50% | 7.55% | 3.95% |
| 12/8/1994 | 11.70% | 7.55% | 4.15% |
| 12/14/1994 | 10.95% | 7.57% | 3.38% |
| 12/15/1994 | 11.50% | 7.57% | 3.93% |
| 12/19/1994 | 11.50% | 7.58% | 3.92% |
| 12/28/1994 | 12.15% | 7.61% | 4.54% |
| 1/9/1995 | 12.28% | 7.64% | 4.64% |
| 1/31/1995 | 11.00% | 7.69% | 3.31% |
| 2/10/1995 | 12.60% | 7.70% | 4.90% |
| 2/17/1995 | 11.90% | 7.70% | 4.20% |
| 3/9/1995 | 11.50% | 7.72% | 3.78% |
| 3/20/1995 | 12.00% | 7.72% | 4.28% |
| 3/23/1995 | 12.81% | 7.72% | 5.09% |
| 3/29/1995 | 11.60% | 7.72% | 3.88% |
| 4/6/1995 | 11.10% | 7.72% | 3.38% |
| 4/7/1995 | 11.00% | 7.71% | 3.29% |
| 4/19/1995 | 11.00% | 7.70% | 3.30% |
| 5/12/1995 | 11.63% | 7.68% | 3.95% |
| 5/25/1995 | 11.20% | 7.65% | 3.55% |
| 6/9/1995 | 11.25% | 7.60% | 3.65% |
| 6/21/1995 | 12.25% | 7.56% | 4.69% |
| 6/30/1995 | 11.10% | 7.51% | 3.59% |
| 9/11/1995 | 11.30% | 7.20% | 4.10% |
| 9/27/1995 | 11.30% | 7.12% | 4.18% |
| 9/27/1995 | 11.50% | 7.12% | 4.38% |
| 9/27/1995 | 11.75% | 7.12% | 4.63% |
| 9/29/1995 | 11.00% | 7.11% | 3.89% |
| 11/9/1995 | 11.38% | 6.89% | 4.49% |
| 11/9/1995 | 12.36% | 6.89% | 5.47% |
| 11/17/1995 | 11.00% | 6.85% | 4.15% |
| 12/4/1995 | 11.35% | 6.78% | 4.57% |
| 12/11/1995 | 11.40% | 6.74% | 4.66% |
| 12/20/1995 | 11.60% | 6.69% | 4.91% |
| 12/27/1995 | 12.00% | 6.66% | 5.34% |
| 2/5/1996 | 12.25% | 6.48% | 5.77% |
| 3/29/1996 | 10.67% | 6.42% | 4.25% |
| 4/8/1996 | 11.00% | 6.42% | 4.58% |
| 4/11/1996 | 12.59% | 6.43% | 6.16% |
| 4/11/1996 | 12.59% | 6.43% | 6.16% |
| 4/24/1996 | 11.25% | 6.43% | 4.82% |
| 4/30/1996 | 11.00% | 6.43% | 4.57% |
| 5/13/1996 | 11.00% | 6.44% | 4.56% |
| 5/23/1996 | 11.25% | 6.43% | 4.82% |
| 6/25/1996 | 11.25% | 6.48% | 4.77% |
| 6/27/1996 | 11.20% | 6.48% | 4.72% |
| 8/12/1996 | 10.40% | 6.57% | 3.83% |
| 9/27/1996 | 11.00% | 6.71% | 4.29% |
| 10/16/1996 | 12.25% | 6.76% | 5.49% |
| 11/5/1996 | 11.00% | 6.81% | 4.19% |
| 11/26/1996 | 11.30% | 6.83% | 4.47% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/18/1996 | 11.75% | 6.84% | 4.91% |
| 12/31/1996 | 11.50% | 6.83% | 4.67% |
| 1/3/1997 | 10.70% | 6.83% | 3.87% |
| 2/13/1997 | 11.80% | 6.82% | 4.98% |
| 2/20/1997 | 11.80% | 6.82% | 4.98% |
| 3/31/1997 | 10.02% | 6.80% | 3.22% |
| 4/2/1997 | 11.65% | 6.80% | 4.85% |
| 4/28/1997 | 11.50% | 6.81% | 4.69% |
| 4/29/1997 | 11.70% | 6.81% | 4.89% |
| 7/17/1997 | 12.00% | 6.77% | 5.23% |
| 12/12/1997 | 11.00% | 6.60% | 4.40% |
| 12/23/1997 | 11.12% | 6.57% | 4.55% |
| 2/2/1998 | 12.75% | 6.39% | 6.36% |
| 3/2/1998 | 11.25% | 6.28% | 4.97% |
| 3/6/1998 | 10.75% | 6.27% | 4.48% |
| 3/20/1998 | 10.50% | 6.22% | 4.28% |
| 4/30/1998 | 12.20% | 6.12% | 6.08% |
| 7/10/1998 | 11.40% | 5.94% | 5.46% |
| 9/15/1998 | 11.90% | 5.78% | 6.12% |
| 11/30/1998 | 12.60% | 5.58% | 7.02% |
| 12/10/1998 | 12.20% | 5.54% | 6.66% |
| 12/17/1998 | 12.10% | 5.52% | 6.58% |
| 2/5/1999 | 10.30% | 5.38% | 4.92% |
| 3/4/1999 | 10.50% | 5.34% | 5.16% |
| 4/6/1999 | 10.94% | 5.32% | 5.62% |
| 7/29/1999 | 10.75% | 5.52% | 5.23% |
| 9/23/1999 | 10.75% | 5.70% | 5.05% |
| 11/17/1999 | 11.10% | 5.90% | 5.20% |
| 1/7/2000 | 11.50% | 6.05% | 5.45% |
| 1/7/2000 | 11.50% | 6.05% | 5.45% |
| 2/17/2000 | 10.60% | 6.17% | 4.43% |
| 3/28/2000 | 11.25% | 6.20% | 5.05% |
| 5/24/2000 | 11.00% | 6.18% | 4.82% |
| 7/18/2000 | 12.20% | 6.16% | 6.04% |
| 9/29/2000 | 11.16% | 6.03% | 5.13% |
| 11/28/2000 | 12.90% | 5.89% | 7.01% |
| 11/30/2000 | 12.10% | 5.88% | 6.22% |
| 1/23/2001 | 11.25% | 5.79% | 5.46% |
| 2/8/2001 | 11.50% | 5.77% | 5.73% |
| 5/8/2001 | 10.75% | 5.62% | 5.13% |
| 6/26/2001 | 11.00% | 5.62% | 5.38% |
| 7/25/2001 | 11.02% | 5.60% | 5.42% |
| 7/25/2001 | 11.02% | 5.60% | 5.42% |
| 7/31/2001 | 11.00% | 5.59% | 5.41% |
| 8/31/2001 | 10.50% | 5.56% | 4.94% |
| 9/7/2001 | 10.75% | 5.55% | 5.20% |
| 9/10/2001 | 11.00% | 5.55% | 5.45% |
| 9/20/2001 | 10.00% | 5.55% | 4.45% |
| 10/24/2001 | 10.30% | 5.54% | 4.76% |
| 11/28/2001 | 10.60% | 5.49% | 5.11% |
| 12/3/2001 | 12.88% | 5.49% | 7.39% |
| 12/20/2001 | 12.50% | 5.50% | 7.00% |
| 1/22/2002 | 10.00% | 5.50% | 4.50% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 3/27/2002 | 10.10% | 5.45% | 4.65% |
| 4/22/2002 | 11.80% | 5.45% | 6.35% |
| 5/28/2002 | 10.17% | 5.46% | 4.71% |
| 6/10/2002 | 12.00% | 5.47% | 6.53% |
| 6/18/2002 | 11.16% | 5.48% | 5.68% |
| 6/20/2002 | 11.00% | 5.48% | 5.52% |
| 6/20/2002 | 12.30% | 5.48% | 6.82% |
| 7/15/2002 | 11.00% | 5.48% | 5.52% |
| 9/12/2002 | 12.30% | 5.45% | 6.85% |
| 9/26/2002 | 10.45% | 5.41% | 5.04% |
| 12/4/2002 | 11.55% | 5.29% | 6.26% |
| 12/13/2002 | 11.75% | 5.27% | 6.48% |
| 12/20/2002 | 11.40% | 5.25% | 6.15% |
| 1/8/2003 | 11.10% | 5.19% | 5.91% |
| 1/31/2003 | 12.45% | 5.13% | 7.32% |
| 2/28/2003 | 12.30% | 5.04% | 7.26% |
| 3/6/2003 | 10.75% | 5.02% | 5.73% |
| 3/7/2003 | 9.96% | 5.02% | 4.94% |
| 3/20/2003 | 12.00% | 4.98% | 7.02% |
| 4/3/2003 | 12.00% | 4.95% | 7.05% |
| 4/15/2003 | 11.15% | 4.93% | 6.22% |
| 6/25/2003 | 10.75% | 4.79% | 5.96% |
| 6/26/2003 | 10.75% | 4.79% | 5.96% |
| 7/9/2003 | 9.75% | 4.79% | 4.96% |
| 7/16/2003 | 9.75% | 4.79% | 4.96% |
| 7/25/2003 | 9.50% | 4.79% | 4.71% |
| 8/26/2003 | 10.50% | 4.83% | 5.67% |
| 12/17/2003 | 9.85% | 4.94% | 4.91% |
| 12/17/2003 | 10.70% | 4.94% | 5.76% |
| 12/18/2003 | 11.50% | 4.94% | 6.56% |
| 12/19/2003 | 12.00% | 4.94% | 7.06% |
| 12/19/2003 | 12.00% | 4.94% | 7.06% |
| 12/23/2003 | 10.50% | 4.94% | 5.56% |
| 1/13/2004 | 12.00% | 4.95% | 7.05% |
| 3/2/2004 | 10.75% | 4.99% | 5.76% |
| 3/26/2004 | 10.25% | 5.02% | 5.23% |
| 4/5/2004 | 11.25% | 5.03% | 6.22% |
| 5/18/2004 | 10.50% | 5.07% | 5.43% |
| 5/25/2004 | 10.25% | 5.07% | 5.18% |
| 5/27/2004 | 10.25% | 5.08% | 5.17% |
| 6/2/2004 | 11.22% | 5.08% | 6.14% |
| 6/30/2004 | 10.50% | 5.10% | 5.40% |
| 6/30/2004 | 10.50% | 5.10% | 5.40% |
| 7/16/2004 | 11.60% | 5.11% | 6.49% |
| 8/25/2004 | 10.25% | 5.10% | 5.15% |
| 9/9/2004 | 10.40% | 5.10% | 5.30% |
| 11/9/2004 | 10.50% | 5.07% | 5.43% |
| 11/23/2004 | 11.00% | 5.06% | 5.94% |
| 12/14/2004 | 10.97% | 5.07% | 5.90% |
| 12/21/2004 | 11.25% | 5.07% | 6.18% |
| 12/21/2004 | 11.50% | 5.07% | 6.43% |
| 12/22/2004 | 10.70% | 5.07% | 5.63% |
| 12/22/2004 | 11.50% | 5.07% | 6.43% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/29/2004 | 9.85% | 5.08% | 4.77% |
| 1/6/2005 | 10.70% | 5.08% | 5.62% |
| 2/18/2005 | 10.30% | 4.98% | 5.32% |
| 2/25/2005 | 10.50% | 4.96% | 5.54% |
| 3/10/2005 | 11.00% | 4.93% | 6.07% |
| 3/24/2005 | 10.30% | 4.89% | 5.41% |
| 4/4/2005 | 10.00% | 4.87% | 5.13% |
| 4/7/2005 | 10.25% | 4.87% | 5.38% |
| 5/18/2005 | 10.25% | 4.78% | 5.47% |
| 5/25/2005 | 10.75% | 4.76% | 5.99% |
| 5/26/2005 | 9.75% | 4.76% | 4.99% |
| 6/1/2005 | 9.75% | 4.75% | 5.00% |
| 7/19/2005 | 11.50% | 4.64% | 6.86% |
| 8/5/2005 | 11.75% | 4.62% | 7.13% |
| 8/15/2005 | 10.13% | 4.61% | 5.52% |
| 9/28/2005 | 10.00% | 4.54% | 5.46% |
| 10/4/2005 | 10.75% | 4.53% | 6.22% |
| 12/12/2005 | 11.00% | 4.55% | 6.45% |
| 12/13/2005 | 10.75% | 4.55% | 6.20% |
| 12/21/2005 | 10.29% | 4.54% | 5.75% |
| 12/21/2005 | 10.40% | 4.54% | 5.86% |
| 12/22/2005 | 11.00% | 4.54% | 6.46% |
| 12/22/2005 | 11.15% | 4.54% | 6.61% |
| 12/28/2005 | 10.00% | 4.54% | 5.46% |
| 12/28/2005 | 10.00% | 4.54% | 5.46% |
| 1/5/2006 | 11.00% | 4.53% | 6.47% |
| 1/27/2006 | 9.75% | 4.52% | 5.23% |
| 3/3/2006 | 10.39% | 4.53% | 5.86% |
| 4/17/2006 | 10.20% | 4.62% | 5.58% |
| 4/26/2006 | 10.60% | 4.64% | 5.96% |
| 5/17/2006 | 11.60% | 4.69% | 6.91% |
| 6/6/2006 | 10.00% | 4.75% | 5.25% |
| 6/27/2006 | 10.75% | 4.80% | 5.95% |
| 7/6/2006 | 10.20% | 4.83% | 5.37% |
| 7/24/2006 | 9.60% | 4.86% | 4.74% |
| 7/26/2006 | 10.50% | 4.86% | 5.64% |
| 7/28/2006 | 10.05% | 4.87% | 5.18% |
| 8/23/2006 | 9.55% | 4.89% | 4.66% |
| 9/1/2006 | 10.54% | 4.90% | 5.64% |
| 9/14/2006 | 10.00% | 4.91% | 5.09% |
| 10/6/2006 | 9.67% | 4.92% | 4.75% |
| 11/21/2006 | 10.08% | 4.95% | 5.13% |
| 11/21/2006 | 10.08% | 4.95% | 5.13% |
| 11/21/2006 | 10.12% | 4.95% | 5.17% |
| 12/1/2006 | 10.25% | 4.96% | 5.29% |
| 12/1/2006 | 10.50% | 4.96% | 5.54% |
| 12/7/2006 | 10.75% | 4.96% | 5.79% |
| 12/21/2006 | 10.90% | 4.95% | 5.95% |
| 12/21/2006 | 11.25% | 4.95% | 6.30% |
| 12/22/2006 | 10.25% | 4.95% | 5.30% |
| 1/5/2007 | 10.00% | 4.95% | 5.05% |
| 1/11/2007 | 10.10% | 4.95% | 5.15% |
| 1/11/2007 | 10.10% | 4.95% | 5.15% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 1/11/2007 | 10.90% | 4.95% | 5.95% |
| 1/12/2007 | 10.10% | 4.95% | 5.15% |
| 1/13/2007 | 10.40% | 4.95% | 5.45% |
| 1/19/2007 | 10.80% | 4.94% | 5.86% |
| 3/21/2007 | 11.35% | 4.86% | 6.49% |
| 3/22/2007 | 9.75% | 4.86% | 4.89% |
| 5/15/2007 | 10.00% | 4.81% | 5.19% |
| 5/17/2007 | 10.25% | 4.80% | 5.45% |
| 5/17/2007 | 10.25% | 4.80% | 5.45% |
| 5/22/2007 | 10.20% | 4.80% | 5.40% |
| 5/22/2007 | 10.50% | 4.80% | 5.70% |
| 5/23/2007 | 10.70% | 4.80% | 5.90% |
| 5/25/2007 | 9.67% | 4.80% | 4.87% |
| 6/15/2007 | 9.90% | 4.82% | 5.08% |
| 6/21/2007 | 10.20% | 4.83% | 5.37% |
| 6/22/2007 | 10.50% | 4.83% | 5.67% |
| 6/28/2007 | 10.75% | 4.84% | 5.91% |
| 7/12/2007 | 9.67% | 4.86% | 4.81% |
| 7/19/2007 | 10.00% | 4.87% | 5.13% |
| 7/19/2007 | 10.00% | 4.87% | 5.13% |
| 8/15/2007 | 10.40% | 4.88% | 5.52% |
| 10/9/2007 | 10.00% | 4.91% | 5.09% |
| 10/17/2007 | 9.10% | 4.91% | 4.19% |
| 10/31/2007 | 9.96% | 4.90% | 5.06% |
| 11/29/2007 | 10.90% | 4.87% | 6.03% |
| 12/6/2007 | 10.75% | 4.86% | 5.89% |
| 12/13/2007 | 9.96% | 4.86% | 5.10% |
| 12/14/2007 | 10.70% | 4.86% | 5.84% |
| 12/14/2007 | 10.80% | 4.86% | 5.94% |
| 12/19/2007 | 10.20% | 4.86% | 5.34% |
| 12/20/2007 | 10.20% | 4.86% | 5.34% |
| 12/20/2007 | 11.00% | 4.86% | 6.14% |
| 12/28/2007 | 10.25% | 4.85% | 5.40% |
| 12/31/2007 | 11.25% | 4.85% | 6.40% |
| 1/8/2008 | 10.75% | 4.83% | 5.92% |
| 1/17/2008 | 10.75% | 4.81% | 5.94% |
| 1/28/2008 | 9.40% | 4.80% | 4.60% |
| 1/30/2008 | 10.00% | 4.79% | 5.21% |
| 1/31/2008 | 10.71% | 4.79% | 5.92% |
| 2/29/2008 | 10.25% | 4.75% | 5.50% |
| 3/12/2008 | 10.25% | 4.73% | 5.52% |
| 3/25/2008 | 9.10% | 4.68% | 4.42% |
| 4/22/2008 | 10.25% | 4.60% | 5.65% |
| 4/24/2008 | 10.10% | 4.60% | 5.50% |
| 5/1/2008 | 10.70% | 4.58% | 6.12% |
| 5/19/2008 | 11.00% | 4.56% | 6.44% |
| 5/27/2008 | 10.00% | 4.55% | 5.45% |
| 6/10/2008 | 10.70% | 4.54% | 6.16% |
| 6/27/2008 | 10.50% | 4.54% | 5.96% |
| 6/27/2008 | 11.04% | 4.54% | 6.50% |
| 7/10/2008 | 10.43% | 4.52% | 5.91% |
| 7/16/2008 | 9.40% | 4.51% | 4.89% |
| 7/30/2008 | 10.80% | 4.51% | 6.29% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 7/31/2008 | 10.70% | 4.51% | 6.19% |
| 8/11/2008 | 10.25% | 4.50% | 5.75% |
| 8/26/2008 | 10.18% | 4.50% | 5.68% |
| 9/10/2008 | 10.30% | 4.50% | 5.80% |
| 9/24/2008 | 10.65% | 4.48% | 6.17% |
| 9/24/2008 | 10.65% | 4.48% | 6.17% |
| 9/24/2008 | 10.65% | 4.48% | 6.17% |
| 9/30/2008 | 10.20% | 4.47% | 5.73% |
| 10/8/2008 | 10.15% | 4.46% | 5.69% |
| 11/13/2008 | 10.55% | 4.45% | 6.10% |
| 11/17/2008 | 10.20% | 4.44% | 5.76% |
| 12/1/2008 | 10.25% | 4.39% | 5.86% |
| 12/23/2008 | 11.00% | 4.27% | 6.73% |
| 12/29/2008 | 10.00% | 4.24% | 5.76% |
| 12/29/2008 | 10.20% | 4.24% | 5.96% |
| 12/31/2008 | 10.75% | 4.22% | 6.53% |
| 1/14/2009 | 10.50% | 4.15% | 6.35% |
| 1/21/2009 | 10.50% | 4.11% | 6.39% |
| 1/21/2009 | 10.50% | 4.11% | 6.39% |
| 1/21/2009 | 10.50% | 4.11% | 6.39% |
| 1/27/2009 | 10.76% | 4.09% | 6.67% |
| 1/30/2009 | 10.50% | 4.07% | 6.43% |
| 2/4/2009 | 8.75% | 4.06% | 4.69% |
| 3/4/2009 | 10.50% | 3.96% | 6.54% |
| 3/12/2009 | 11.50% | 3.93% | 7.57% |
| 4/2/2009 | 11.10% | 3.85% | 7.25% |
| 4/21/2009 | 10.61% | 3.80% | 6.81% |
| 4/24/2009 | 10.00% | 3.78% | 6.22% |
| 4/30/2009 | 11.25% | 3.77% | 7.48% |
| 5/4/2009 | 10.74% | 3.77% | 6.97% |
| 5/20/2009 | 10.25% | 3.74% | 6.51% |
| 5/28/2009 | 10.50% | 3.74% | 6.76% |
| 6/22/2009 | 10.00% | 3.76% | 6.24% |
| 6/24/2009 | 10.80% | 3.76% | 7.04% |
| 7/8/2009 | 10.63% | 3.76% | 6.87% |
| 7/17/2009 | 10.50% | 3.77% | 6.73% |
| 8/31/2009 | 10.25% | 3.82% | 6.43% |
| 10/14/2009 | 10.70% | 4.02% | 6.68% |
| 10/23/2009 | 10.88% | 4.06% | 6.82% |
| 11/2/2009 | 10.70% | 4.10% | 6.60% |
| 11/3/2009 | 10.70% | 4.10% | 6.60% |
| 11/24/2009 | 10.25% | 4.16% | 6.09% |
| 11/25/2009 | 10.75% | 4.16% | 6.59% |
| 11/30/2009 | 10.35% | 4.17% | 6.18% |
| 12/3/2009 | 10.50% | 4.18% | 6.32% |
| 12/7/2009 | 10.70% | 4.19% | 6.51% |
| 12/16/2009 | 10.90% | 4.22% | 6.68% |
| 12/16/2009 | 11.00% | 4.22% | 6.78% |
| 12/18/2009 | 10.40% | 4.22% | 6.18% |
| 12/18/2009 | 10.40% | 4.22% | 6.18% |
| 12/22/2009 | 10.20% | 4.23% | 5.97% |
| 12/22/2009 | 10.40% | 4.23% | 6.17% |
| 12/22/2009 | 10.40% | 4.23% | 6.17% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/30/2009 | 10.00% | 4.26% | 5.74% |
| 1/4/2010 | 10.80% | 4.28% | 6.52% |
| 1/11/2010 | 11.00% | 4.31% | 6.69% |
| 1/26/2010 | 10.13% | 4.35% | 5.78% |
| 1/27/2010 | 10.40% | 4.36% | 6.04% |
| 1/27/2010 | 10.40% | 4.36% | 6.04% |
| 1/27/2010 | 10.70% | 4.36% | 6.34% |
| 2/9/2010 | 9.80% | 4.38% | 5.42% |
| 2/18/2010 | 10.60% | 4.40% | 6.20% |
| 2/24/2010 | 10.18% | 4.41% | 5.77% |
| 3/2/2010 | 9.63% | 4.41% | 5.22% |
| 3/4/2010 | 10.50% | 4.41% | 6.09% |
| 3/5/2010 | 10.50% | 4.41% | 6.09% |
| 3/11/2010 | 11.90% | 4.42% | 7.48% |
| 3/17/2010 | 10.00% | 4.41% | 5.59% |
| 3/25/2010 | 10.15% | 4.42% | 5.73% |
| 4/2/2010 | 10.10% | 4.43% | 5.67% |
| 4/27/2010 | 10.00% | 4.46% | 5.54% |
| 4/29/2010 | 9.90% | 4.46% | 5.44% |
| 4/29/2010 | 10.06% | 4.46% | 5.60% |
| 4/29/2010 | 10.26% | 4.46% | 5.80% |
| 5/12/2010 | 10.30% | 4.45% | 5.85% |
| 5/12/2010 | 10.30% | 4.45% | 5.85% |
| 5/28/2010 | 10.10% | 4.44% | 5.66% |
| 5/28/2010 | 10.20% | 4.44% | 5.76% |
| 6/7/2010 | 10.30% | 4.44% | 5.86% |
| 6/16/2010 | 10.00% | 4.44% | 5.56% |
| 6/28/2010 | 9.67% | 4.43% | 5.24% |
| 6/28/2010 | 10.50% | 4.43% | 6.07% |
| 6/30/2010 | 9.40% | 4.43% | 4.97% |
| 7/1/2010 | 10.25% | 4.43% | 5.82% |
| 7/15/2010 | 10.53% | 4.43% | 6.10% |
| 7/15/2010 | 10.70% | 4.43% | 6.27% |
| 7/30/2010 | 10.70% | 4.41% | 6.29% |
| 8/4/2010 | 10.50% | 4.41% | 6.09% |
| 8/6/2010 | 9.83% | 4.41% | 5.42% |
| 8/25/2010 | 9.90% | 4.37% | 5.53% |
| 9/3/2010 | 10.60% | 4.35% | 6.25% |
| 9/14/2010 | 10.70% | 4.33% | 6.37% |
| 9/16/2010 | 10.00% | 4.32% | 5.68% |
| 9/16/2010 | 10.00% | 4.32% | 5.68% |
| 9/30/2010 | 9.75% | 4.28% | 5.47% |
| 10/14/2010 | 10.35% | 4.24% | 6.11% |
| 10/28/2010 | 10.70% | 4.21% | 6.49% |
| 11/2/2010 | 10.38% | 4.20% | 6.18% |
| 11/4/2010 | 10.70% | 4.19% | 6.51% |
| 11/19/2010 | 10.20% | 4.17% | 6.03% |
| 11/22/2010 | 10.00% | 4.17% | 5.83% |
| 12/1/2010 | 10.13% | 4.16% | 5.97% |
| 12/6/2010 | 9.86% | 4.15% | 5.71% |
| 12/9/2010 | 10.25% | 4.15% | 6.10% |
| 12/13/2010 | 10.70% | 4.15% | 6.55% |
| 12/14/2010 | 10.13% | 4.15% | 5.98% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/15/2010 | 10.44% | 4.15% | 6.29% |
| 12/17/2010 | 10.00% | 4.14% | 5.86% |
| 12/20/2010 | 10.60% | 4.14% | 6.46% |
| 12/21/2010 | 10.30% | 4.14% | 6.16% |
| 12/27/2010 | 9.90% | 4.14% | 5.76% |
| 12/29/2010 | 11.15% | 4.14% | 7.01% |
| 1/5/2011 | 10.15% | 4.13% | 6.02% |
| 1/12/2011 | 10.30% | 4.12% | 6.18% |
| 1/13/2011 | 10.30% | 4.12% | 6.18% |
| 1/18/2011 | 10.00% | 4.12% | 5.88% |
| 1/20/2011 | 9.30% | 4.12% | 5.18% |
| 1/20/2011 | 10.13% | 4.12% | 6.01% |
| 1/31/2011 | 9.60% | 4.11% | 5.49% |
| 2/3/2011 | 10.00% | 4.11% | 5.89% |
| 2/25/2011 | 10.00% | 4.14% | 5.86% |
| 3/25/2011 | 9.80% | 4.18% | 5.62% |
| 3/30/2011 | 10.00% | 4.18% | 5.82% |
| 4/12/2011 | 10.00% | 4.21% | 5.79% |
| 4/25/2011 | 10.74% | 4.23% | 6.51% |
| 4/26/2011 | 9.67% | 4.24% | 5.43% |
| 4/27/2011 | 10.40% | 4.24% | 6.16% |
| 5/4/2011 | 10.00% | 4.25% | 5.75% |
| 5/4/2011 | 10.00% | 4.25% | 5.75% |
| 5/24/2011 | 10.50% | 4.27% | 6.23% |
| 6/8/2011 | 10.75% | 4.30% | 6.45% |
| 6/16/2011 | 9.20% | 4.32% | 4.88% |
| 6/17/2011 | 9.95% | 4.32% | 5.63% |
| 7/13/2011 | 10.20% | 4.37% | 5.83% |
| 8/1/2011 | 9.20% | 4.39% | 4.81% |
| 8/8/2011 | 10.00% | 4.38% | 5.62% |
| 8/11/2011 | 10.00% | 4.38% | 5.62% |
| 8/12/2011 | 10.35% | 4.38% | 5.97% |
| 8/19/2011 | 10.25% | 4.36% | 5.89% |
| 9/2/2011 | 12.88% | 4.32% | 8.56% |
| 9/22/2011 | 10.00% | 4.24% | 5.76% |
| 10/12/2011 | 10.30% | 4.14% | 6.16% |
| 10/20/2011 | 10.50% | 4.10% | 6.40% |
| 11/30/2011 | 10.90% | 3.87% | 7.03% |
| 11/30/2011 | 10.90% | 3.87% | 7.03% |
| 12/14/2011 | 10.00% | 3.79% | 6.21% |
| 12/14/2011 | 10.30% | 3.79% | 6.51% |
| 12/20/2011 | 10.20% | 3.76% | 6.44% |
| 12/21/2011 | 10.20% | 3.75% | 6.45% |
| 12/22/2011 | 9.90% | 3.75% | 6.15% |
| 12/22/2011 | 10.40% | 3.75% | 6.65% |
| 12/23/2011 | 10.19% | 3.74% | 6.45% |
| 1/25/2012 | 10.50% | 3.57% | 6.93% |
| 1/27/2012 | 10.50% | 3.55% | 6.95% |
| 2/15/2012 | 10.20% | 3.47% | 6.73% |
| 2/23/2012 | 9.90% | 3.43% | 6.47% |
| 2/27/2012 | 10.25% | 3.42% | 6.83% |
| 2/29/2012 | 10.40% | 3.41% | 6.99% |
| 3/29/2012 | 10.37% | 3.31% | 7.06% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 4/4/2012 | 10.00% | 3.29% | 6.71% |
| 4/26/2012 | 10.00% | 3.20% | 6.80% |
| 5/2/2012 | 10.00% | 3.18% | 6.82% |
| 5/7/2012 | 9.80% | 3.16% | 6.64% |
| 5/15/2012 | 10.00% | 3.14% | 6.86% |
| 5/29/2012 | 10.05% | 3.11% | 6.94% |
| 6/7/2012 | 10.30% | 3.07% | 7.23% |
| 6/14/2012 | 9.40% | 3.06% | 6.34% |
| 6/15/2012 | 10.40% | 3.06% | 7.34% |
| 6/18/2012 | 9.60% | 3.05% | 6.55% |
| 6/19/2012 | 9.25% | 3.05% | 6.20% |
| 6/26/2012 | 10.10% | 3.04% | 7.06% |
| 6/29/2012 | 10.00% | 3.04% | 6.96% |
| 7/9/2012 | 10.20% | 3.03% | 7.17% |
| 7/16/2012 | 9.80% | 3.02% | 6.78% |
| 7/20/2012 | 9.31% | 3.01% | 6.30% |
| 7/20/2012 | 9.81% | 3.01% | 6.80% |
| 9/13/2012 | 9.80% | 2.94% | 6.86% |
| 9/19/2012 | 9.80% | 2.94% | 6.86% |
| 9/19/2012 | 10.05% | 2.94% | 7.11% |
| 9/26/2012 | 9.50% | 2.94% | 6.56% |
| 10/12/2012 | 9.60% | 2.93% | 6.67% |
| 10/23/2012 | 9.75% | 2.93% | 6.82% |
| 10/24/2012 | 10.30% | 2.93% | 7.37% |
| 11/9/2012 | 10.30% | 2.92% | 7.38% |
| 11/28/2012 | 10.40% | 2.90% | 7.50% |
| 11/29/2012 | 9.75% | 2.89% | 6.86% |
| 11/29/2012 | 9.88% | 2.89% | 6.99% |
| 12/5/2012 | 9.71% | 2.89% | 6.82% |
| 12/5/2012 | 10.40% | 2.89% | 7.51% |
| 12/12/2012 | 9.80% | 2.88% | 6.92% |
| 12/13/2012 | 9.50% | 2.88% | 6.62% |
| 12/13/2012 | 10.50% | 2.88% | 7.62% |
| 12/14/2012 | 10.40% | 2.88% | 7.52% |
| 12/19/2012 | 9.71% | 2.87% | 6.84% |
| 12/19/2012 | 10.25% | 2.87% | 7.38% |
| 12/20/2012 | 9.50% | 2.87% | 6.63% |
| 12/20/2012 | 9.80% | 2.87% | 6.93% |
| 12/20/2012 | 10.25% | 2.87% | 7.38% |
| 12/20/2012 | 10.25% | 2.87% | 7.38% |
| 12/20/2012 | 10.30% | 2.87% | 7.43% |
| 12/20/2012 | 10.40% | 2.87% | 7.53% |
| 12/20/2012 | 10.45% | 2.87% | 7.58% |
| 12/21/2012 | 10.20% | 2.87% | 7.33% |
| 12/26/2012 | 9.80% | 2.86% | 6.94% |
| 1/9/2013 | 9.70% | 2.84% | 6.86% |
| 1/9/2013 | 9.70% | 2.84% | 6.86% |
| 1/9/2013 | 9.70% | 2.84% | 6.86% |
| 1/16/2013 | 9.60% | 2.84% | 6.76% |
| 1/16/2013 | 9.60% | 2.84% | 6.76% |
| 2/13/2013 | 10.20% | 2.84% | 7.36% |
| 2/22/2013 | 9.75% | 2.85% | 6.90% |
| 2/27/2013 | 10.00% | 2.86% | 7.14% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 3/14/2013 | 9.30% | 2.88% | 6.42% |
| 3/27/2013 | 9.80% | 2.90% | 6.90% |
| 5/1/2013 | 9.84% | 2.94% | 6.90% |
| 5/15/2013 | 10.30% | 2.96% | 7.34% |
| 5/30/2013 | 10.20% | 2.98% | 7.22% |
| 5/31/2013 | 9.00% | 2.98% | 6.02% |
| 6/11/2013 | 10.00% | 3.00% | 7.00% |
| 6/21/2013 | 9.75% | 3.02% | 6.73% |
| 6/25/2013 | 9.80% | 3.03% | 6.77% |
| 7/12/2013 | 9.36% | 3.08% | 6.28% |
| 8/8/2013 | 9.83% | 3.14% | 6.69% |
| 8/14/2013 | 9.15% | 3.16% | 5.99% |
| 9/11/2013 | 10.20% | 3.27% | 6.93% |
| 9/11/2013 | 10.25% | 3.27% | 6.98% |
| 9/24/2013 | 10.20% | 3.31% | 6.89% |
| 10/3/2013 | 9.65% | 3.33% | 6.32% |
| 11/6/2013 | 10.20% | 3.41% | 6.79% |
| 11/21/2013 | 10.00% | 3.44% | 6.56% |
| 11/26/2013 | 10.00% | 3.45% | 6.55% |
| 12/3/2013 | 10.25% | 3.47% | 6.78% |
| 12/4/2013 | 9.50% | 3.47% | 6.03% |
| 12/5/2013 | 10.20% | 3.48% | 6.72% |
| 12/9/2013 | 8.72% | 3.49% | 5.23% |
| 12/9/2013 | 9.75% | 3.49% | 6.26% |
| 12/13/2013 | 9.75% | 3.50% | 6.25% |
| 12/16/2013 | 9.95% | 3.50% | 6.45% |
| 12/16/2013 | 9.95% | 3.50% | 6.45% |
| 12/16/2013 | 10.12% | 3.50% | 6.62% |
| 12/17/2013 | 9.50% | 3.51% | 5.99% |
| 12/17/2013 | 10.95% | 3.51% | 7.44% |
| 12/18/2013 | 8.72% | 3.51% | 5.21% |
| 12/18/2013 | 9.80% | 3.51% | 6.29% |
| 12/19/2013 | 10.15% | 3.51% | 6.64% |
| 12/30/2013 | 9.50% | 3.54% | 5.96% |
| 2/20/2014 | 9.20% | 3.69% | 5.51% |
| 2/26/2014 | 9.75% | 3.70% | 6.05% |
| 3/17/2014 | 9.55% | 3.72% | 5.83% |
| 3/26/2014 | 9.40% | 3.73% | 5.67% |
| 3/26/2014 | 9.96% | 3.73% | 6.23% |
| 4/2/2014 | 9.70% | 3.73% | 5.97% |
| 5/16/2014 | 9.80% | 3.70% | 6.10% |
| 5/30/2014 | 9.70% | 3.68% | 6.02% |
| 6/6/2014 | 10.40% | 3.67% | 6.73% |
| 6/30/2014 | 9.55% | 3.64% | 5.91% |
| 7/2/2014 | 9.62% | 3.64% | 5.98% |
| 7/10/2014 | 9.95% | 3.63% | 6.32% |
| 7/23/2014 | 9.75% | 3.61% | 6.14% |
| 7/29/2014 | 9.45% | 3.60% | 5.85% |
| 7/31/2014 | 9.90% | 3.60% | 6.30% |
| 8/20/2014 | 9.75% | 3.56% | 6.19% |
| 8/25/2014 | 9.60% | 3.56% | 6.04% |
| 8/29/2014 | 9.80% | 3.54% | 6.26% |
| 9/11/2014 | 9.60% | 3.51% | 6.09% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 9/15/2014 | 10.25% | 3.51% | 6.74% |
| 10/9/2014 | 9.80% | 3.44% | 6.36% |
| 11/6/2014 | 9.56% | 3.37% | 6.19% |
| 11/6/2014 | 10.20% | 3.37% | 6.83% |
| 11/14/2014 | 10.20% | 3.35% | 6.85% |
| 11/26/2014 | 9.70% | 3.32% | 6.38% |
| 11/26/2014 | 10.20% | 3.32% | 6.88% |
| 12/4/2014 | 9.68% | 3.30% | 6.38% |
| 12/10/2014 | 9.25% | 3.29% | 5.96% |
| 12/10/2014 | 9.25% | 3.29% | 5.96% |
| 12/11/2014 | 10.07% | 3.28% | 6.79% |
| 12/12/2014 | 10.20% | 3.28% | 6.92% |
| 12/17/2014 | 9.17% | 3.27% | 5.90% |
| 12/18/2014 | 9.83% | 3.26% | 6.57% |
| 1/23/2015 | 9.50% | 3.14% | 6.36% |
| 2/24/2015 | 9.83% | 3.04% | 6.79% |
| 3/18/2015 | 9.75% | 2.98% | 6.77% |
| 3/25/2015 | 9.50% | 2.95% | 6.55% |
| 3/26/2015 | 9.72% | 2.95% | 6.77% |
| 4/23/2015 | 10.20% | 2.87% | 7.33% |
| 4/29/2015 | 9.53% | 2.86% | 6.67% |
| 5/1/2015 | 9.60% | 2.85% | 6.75% |
| 5/26/2015 | 9.75% | 2.83% | 6.92% |
| 6/17/2015 | 9.00% | 2.82% | 6.18% |
| 6/17/2015 | 9.00% | 2.82% | 6.18% |
| 9/2/2015 | 9.50% | 2.79% | 6.71% |
| 9/10/2015 | 9.30% | 2.79% | 6.51% |
| 10/15/2015 | 9.00% | 2.81% | 6.19% |
| 11/19/2015 | 10.00% | 2.88% | 7.12% |
| 11/19/2015 | 10.30% | 2.88% | 7.42% |
| 12/3/2015 | 10.00% | 2.90% | 7.10% |
| 12/9/2015 | 9.14% | 2.90% | 6.24% |
| 12/9/2015 | 9.14% | 2.90% | 6.24% |
| 12/11/2015 | 10.30% | 2.90% | 7.40% |
| 12/15/2015 | 9.60% | 2.91% | 6.69% |
| 12/17/2015 | 9.70% | 2.91% | 6.79% |
| 12/18/2015 | 9.50% | 2.91% | 6.59% |
| 12/30/2015 | 9.50% | 2.93% | 6.57% |
| 1/6/2016 | 9.50% | 2.94% | 6.56% |
| 2/23/2016 | 9.75% | 2.94% | 6.81% |
| 3/16/2016 | 9.85% | 2.91% | 6.94% |
| 4/29/2016 | 9.80% | 2.83% | 6.97% |
| 6/3/2016 | 9.75% | 2.80% | 6.95% |
| 6/8/2016 | 9.48% | 2.80% | 6.68% |
| 6/15/2016 | 9.00% | 2.78% | 6.22% |
| 6/15/2016 | 9.00% | 2.78% | 6.22% |
| 7/18/2016 | 9.98% | 2.71% | 7.27% |
| 8/9/2016 | 9.85% | 2.66% | 7.19% |
| 8/18/2016 | 9.50% | 2.63% | 6.87% |
| 8/24/2016 | 9.75% | 2.61% | 7.14% |
| 9/1/2016 | 9.50% | 2.59% | 6.91% |
| 9/8/2016 | 10.00% | 2.57% | 7.43% |
| 9/28/2016 | 9.58% | 2.53% | 7.05% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 9/30/2016 | 9.90% | 2.53% | 7.37% |
| 11/9/2016 | 9.80% | 2.48% | 7.32% |
| 11/10/2016 | 9.50% | 2.48% | 7.02% |
| 11/15/2016 | 9.55% | 2.49% | 7.06% |
| 11/18/2016 | 10.00% | 2.50% | 7.50% |
| 11/29/2016 | 10.55% | 2.51% | 8.04% |
| 12/1/2016 | 10.00% | 2.51% | 7.49% |
| 12/6/2016 | 8.64% | 2.52% | 6.12% |
| 12/6/2016 | 8.64% | 2.52% | 6.12% |
| 12/7/2016 | 10.10% | 2.52% | 7.58% |
| 12/12/2016 | 9.60% | 2.53% | 7.07% |
| 12/14/2016 | 9.10% | 2.53% | 6.57% |
| 12/19/2016 | 9.00% | 2.54% | 6.46% |
| 12/19/2016 | 9.37% | 2.54% | 6.83% |
| 12/22/2016 | 9.60% | 2.55% | 7.05% |
| 12/22/2016 | 9.90% | 2.55% | 7.35% |
| 12/28/2016 | 9.50% | 2.55% | 6.95% |
| 1/18/2017 | 9.45% | 2.58% | 6.87% |
| 1/24/2017 | 9.00% | 2.59% | 6.41% |
| 1/31/2017 | 10.10% | 2.60% | 7.50% |
| 2/15/2017 | 9.60% | 2.62% | 6.98% |
| 2/22/2017 | 9.60% | 2.64% | 6.96% |
| 2/24/2017 | 9.75% | 2.64% | 7.11% |
| 2/28/2017 | 10.10% | 2.64% | 7.46% |
| 3/2/2017 | 9.41% | 2.65% | 6.76% |
| 3/20/2017 | 9.50% | 2.68% | 6.82% |
| 4/4/2017 | 10.25% | 2.72% | 7.53% |
| 4/12/2017 | 9.40% | 2.74% | 6.66% |
| 4/20/2017 | 9.50% | 2.76% | 6.74% |
| 5/3/2017 | 9.50% | 2.79% | 6.71% |
| 5/11/2017 | 9.20% | 2.81% | 6.39% |
| 5/18/2017 | 9.50% | 2.83% | 6.67% |
| 5/23/2017 | 9.70% | 2.84% | 6.86% |
| 6/16/2017 | 9.65% | 2.89% | 6.76% |
| 6/22/2017 | 9.70% | 2.90% | 6.80% |
| 6/22/2017 | 9.70% | 2.90% | 6.80% |
| 7/24/2017 | 9.50% | 2.95% | 6.55% |
| 8/15/2017 | 10.00% | 2.97% | 7.03% |
| 9/22/2017 | 9.60% | 2.93% | 6.67% |
| 9/28/2017 | 9.80% | 2.92% | 6.88% |
| 10/20/2017 | 9.50% | 2.91% | 6.59% |
| 10/26/2017 | 10.20% | 2.91% | 7.29% |
| 10/26/2017 | 10.25% | 2.91% | 7.34% |
| 10/26/2017 | 10.30% | 2.91% | 7.39% |
| 11/6/2017 | 10.25% | 2.90% | 7.35% |
| 11/15/2017 | 11.95% | 2.89% | 9.06% |
| 11/30/2017 | 10.00% | 2.88% | 7.12% |
| 11/30/2017 | 10.00% | 2.88% | 7.12% |
| 12/5/2017 | 9.50% | 2.88% | 6.62% |
| 12/6/2017 | 8.40% | 2.87% | 5.53% |
| 12/6/2017 | 8.40% | 2.87% | 5.53% |
| 12/7/2017 | 9.80% | 2.87% | 6.93% |
| 12/14/2017 | 9.60% | 2.86% | 6.74% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 12/14/2017 | 9.65% | 2.86% | 6.79% |
| 12/18/2017 | 9.50% | 2.86% | 6.64% |
| 12/20/2017 | 9.58% | 2.85% | 6.73% |
| 12/21/2017 | 9.10% | 2.85% | 6.25% |
| 12/28/2017 | 9.50% | 2.85% | 6.65% |
| 12/29/2017 | 9.51% | 2.85% | 6.66% |
| 1/18/2018 | 9.70% | 2.84% | 6.86% |
| 1/31/2018 | 9.30% | 2.84% | 6.46% |
| 2/2/2018 | 9.98% | 2.84% | 7.14% |
| 2/23/2018 | 9.90% | 2.85% | 7.05% |
| 3/12/2018 | 9.25% | 2.86% | 6.39% |
| 3/15/2018 | 9.00% | 2.87% | 6.13% |
| 3/29/2018 | 10.00% | 2.88% | 7.12% |
| 4/12/2018 | 9.90% | 2.89% | 7.01% |
| 4/13/2018 | 9.73% | 2.89% | 6.84% |
| 4/18/2018 | 9.25% | 2.89% | 6.36% |
| 4/18/2018 | 10.00% | 2.89% | 7.11% |
| 4/26/2018 | 9.50% | 2.90% | 6.60% |
| 5/30/2018 | 9.95% | 2.94% | 7.01% |
| 5/31/2018 | 9.50% | 2.94% | 6.56% |
| 6/14/2018 | 8.80% | 2.96% | 5.84% |
| 6/22/2018 | 9.50% | 2.97% | 6.53% |
| 6/22/2018 | 9.90% | 2.97% | 6.93% |
| 6/28/2018 | 9.35% | 2.97% | 6.38% |
| 6/29/2018 | 9.50% | 2.97% | 6.53% |
| 8/8/2018 | 9.53% | 2.99% | 6.54% |
| 8/21/2018 | 9.70% | 3.00% | 6.70% |
| 8/24/2018 | 9.28% | 3.01% | 6.27% |
| 9/5/2018 | 9.56% | 3.02% | 6.54% |
| 9/14/2018 | 10.00% | 3.03% | 6.97% |
| 9/20/2018 | 9.80% | 3.04% | 6.76% |
| 9/26/2018 | 9.77% | 3.05% | 6.72% |
| 9/26/2018 | 10.00% | 3.05% | 6.95% |
| 9/27/2018 | 9.30% | 3.05% | 6.25% |
| 10/4/2018 | 9.85% | 3.06% | 6.79% |
| 10/29/2018 | 9.60% | 3.10% | 6.50% |
| 10/31/2018 | 9.99% | 3.11% | 6.88% |
| 11/1/2018 | 8.69% | 3.11% | 5.58% |
| 12/4/2018 | 8.69% | 3.14% | 5.55% |
| 12/13/2018 | 9.30% | 3.14% | 6.16% |
| 12/14/2018 | 9.50% | 3.14% | 6.36% |
| 12/19/2018 | 9.84% | 3.14% | 6.70% |
| 12/20/2018 | 9.65% | 3.14% | 6.51% |
| 12/21/2018 | 9.30% | 3.14% | 6.16% |
| 1/9/2019 | 10.00% | 3.14% | 6.86% |
| 2/27/2019 | 9.75% | 3.12% | 6.63% |
| 3/13/2019 | 9.60% | 3.12% | 6.48% |
| 3/14/2019 | 9.00% | 3.12% | 5.88% |
| 3/14/2019 | 9.40% | 3.12% | 6.28% |
| 3/22/2019 | 9.65% | 3.12% | 6.53% |
| 4/30/2019 | 9.73% | 3.11% | 6.62% |
| 4/30/2019 | 9.73% | 3.11% | 6.62% |
| 5/1/2019 | 9.50% | 3.11% | 6.39% |

| Date of Electric Rate Case | Return on Equity | 30-Year Treasury Yield | Risk Premium |
|---|---|---|---|
| 5/2/2019 | 10.00% | 3.11% | 6.89% |
| 5/8/2019 | 9.50% | 3.10% | 6.40% |
| 5/14/2019 | 8.75% | 3.10% | 5.65% |
| 5/16/2019 | 9.50% | 3.09% | 6.41% |
| 5/23/2019 | 9.90% | 3.09% | 6.81% |
| 8/12/2019 | 9.60% | 2.89% | 6.71% |
| 8/29/2019 | 9.06% | 2.81% | 6.25% |
| 9/4/2019 | 10.00% | 2.78% | 7.22% |
| 9/30/2019 | 9.60% | 2.70% | 6.90% |
| 10/31/2019 | 10.00% | 2.60% | 7.40% |
| 10/31/2019 | 10.00% | 2.60% | 7.40% |
| 11/7/2019 | 9.35% | 2.58% | 6.77% |
| 11/29/2019 | 9.50% | 2.52% | 6.98% |
| 12/4/2019 | 8.91% | 2.51% | 6.40% |
| 12/4/2019 | 9.75% | 2.51% | 7.24% |
| 12/16/2019 | 8.91% | 2.48% | 6.43% |
| 12/17/2019 | 9.70% | 2.47% | 7.23% |
| 12/17/2019 | 10.50% | 2.47% | 8.03% |
| 12/19/2019 | 10.20% | 2.47% | 7.73% |
| 12/19/2019 | 10.25% | 2.47% | 7.78% |
| 12/19/2019 | 10.30% | 2.47% | 7.83% |
| 12/20/2019 | 9.45% | 2.46% | 6.99% |
| 12/20/2019 | 9.65% | 2.46% | 7.19% |
| 12/24/2019 | 9.50% | 2.46% | 7.04% |
| 1/8/2020 | 10.02% | 2.43% | 7.59% |
| 1/16/2020 | 8.80% | 2.41% | 6.39% |
| 1/22/2020 | 9.50% | 2.39% | 7.11% |
| 1/23/2020 | 9.86% | 2.39% | 7.47% |
| 2/6/2020 | 10.00% | 2.34% | 7.66% |
| 2/11/2020 | 9.30% | 2.33% | 6.97% |
| 2/14/2020 | 9.40% | 2.32% | 7.08% |
| 2/19/2020 | 8.25% | 2.31% | 5.94% |
| 2/24/2020 | 9.75% | 2.29% | 7.46% |
| 2/27/2020 | 9.40% | 2.28% | 7.12% |
| 3/11/2020 | 9.70% | 2.23% | 7.47% |
| 3/25/2020 | 9.40% | 2.17% | 7.23% |
| 4/17/2020 | 9.70% | 2.07% | 7.63% |
| 4/27/2020 | 9.25% | 2.02% | 7.23% |
| 5/8/2020 | 9.90% | 1.97% | 7.93% |
| 5/20/2020 | 9.45% | 1.94% | 7.51% |
| 6/29/2020 | 9.70% | 1.85% | 7.85% |
| 6/30/2020 | 9.10% | 1.85% | 7.25% |
| | | | 4.73% |
| | | | 1,630 |

Expected Earnings Analysis

| | | [1] | [2] | [3] | [4] | [5] | [6] |
|---|---|---|---|---|---|---|---|
| | | Expected ROE | Shares Outstanding | | | Adjustment | Adjusted |
| Company | Ticker | 2023-2025 | 2020 | 2023-2025 | % Increase | Factor | ROE |
| ALLETE, Inc. | ALE | 8.0% | 52.75 | 54.25 | 0.56% | 1.003 | 8.02% |
| Alliant Energy Corporation | LNT | 10.5% | 250.00 | 265.00 | 1.17% | 1.006 | 10.56% |
| Ameren Corporation | AEE | 10.0% | 254.00 | 275.00 | 1.60% | 1.008 | 10.08% |
| American Electric Power Company, Inc. | AEP | 10.5% | 495.00 | 530.00 | 1.38% | 1.007 | 10.57% |
| Avangrid, Inc. | AGR | 5.5% | 309.00 | 309.00 | 0.00% | 1.000 | 5.50% |
| Avista Corporation | AVA | 8.0% | 68.70 | 71.00 | 0.66% | 1.003 | 8.03% |
| CMS Energy Corporation | CMS | 13.5% | 287.00 | 300.00 | 0.89% | 1.004 | 13.56% |
| DTE Energy Company | DTE | 10.5% | 193.00 | 205.00 | 1.21% | 1.006 | 10.56% |
| Evergy, Inc | EVRG | 8.0% | 227.00 | 227.00 | 0.00% | 1.000 | 8.00% |
| Hawaiian Electric Industries, Inc. | HE | 9.0% | 110.00 | 114.00 | 0.72% | 1.004 | 9.03% |
| NextEra Energy, Inc. | NEE | 12.5% | 490.00 | 495.00 | 0.20% | 1.001 | 12.51% |
| NorthWestern Corporation | NWE | 8.5% | 51.00 | 53.00 | 0.77% | 1.004 | 8.53% |
| OGE Energy Corp. | OGE | 12.5% | 200.00 | 200.00 | 0.00% | 1.000 | 12.50% |
| Otter Tail Corporation | OTTR | 11.0% | 41.50 | 41.50 | 0.00% | 1.000 | 11.00% |
| Pinnacle West Capital Corporation | PNW | 10.5% | 112.70 | 118.00 | 0.92% | 1.005 | 10.55% |
| PNM Resources, Inc. | PNM | 9.5% | 85.83 | 92.00 | 1.40% | 1.007 | 9.57% |
| Portland General Electric Company | POR | 9.0% | 89.55 | 90.00 | 0.10% | 1.001 | 9.00% |
| Southern Company | SO | 12.5% | 1060.00 | 1090.00 | 0.56% | 1.003 | 12.53% |
| WEC Energy Group, Inc. | WEC | 12.5% | 315.50 | 315.50 | 0.00% | 1.000 | 12.50% |
| Xcel Energy Inc. | XEL | 11.0% | 539.00 | 548.00 | 0.33% | 1.002 | 11.02% |
| | | | | | | Median | 10.55% |
| | | | | | | Mean | 10.18% |

Notes:

[1] Source: Value Line
[2] Source: Value Line
[3] Source: Value Line
[4] Equals = ([3] / [2])^(1/5)-1
[5] Equals (2 x (1 + [4])) / (2 + [4])
[6] Equals [1] x [5]

Duke Energy Progress
Calculation of Daily Returns, YTD Returns, and Annual Volatility
for the Proxy Group and the S&P 500

| | ALLETE, Inc. | | Alliant Energy Corp. | | Ameren Corp. | | American Electric Power Company, Inc. | | Avangrid, Inc. | | Avista Corp. | | CMS Energy Corp. | | DTE Energy Company | | Evergy, Inc. | | Hawaiian Electric Industries, Inc. | | NextEra Energy, Inc | | Northwestern Corp. | | OGE Energy Corp. | | Otter Tail Corp. | | Pinnacle West Capital Corp. | | PNM Resources, Inc. | | Portland General Electric Company | | Southern Company | | WEC Energy Group, Inc. | | Xcel Energy, Inc. | | Average | | S&P 500 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | Price | Return | | | Price | Return |
| 1/31/2020 | 83.48 | | 59.36 | | 82.05 | | 104.22 | | 53.26 | | 50.85 | | 68.51 | | 132.61 | | 72.16 | | 48.91 | | 268.20 | | 76.97 | | 45.85 | | 53.56 | | 97.69 | | 54.23 | | 61.50 | | 70.40 | | 99.89 | | 69.19 | | | | 3,225.52 | |
| 2/3/2020 | 84.05 | 0.68% | 59.52 | 0.27% | 82.63 | 0.71% | 104.22 | 0.00% | 53.56 | 0.56% | 51.11 | 0.51% | 68.48 | -0.04% | 133.78 | 0.88% | 71.81 | -0.49% | 48.88 | -0.06% | 266.81 | -0.52% | 77.34 | 0.48% | 45.93 | 0.17% | 54.46 | 1.68% | 98.24 | 0.56% | 54.52 | 0.53% | 61.41 | -0.15% | 70.70 | 0.43% | 100.89 | 1.00% | 69.45 | 0.38% | | | 3,248.93 | 0.73% |
| 2/4/2020 | 83.30 | -0.89% | 58.66 | -1.44% | 82.27 | -0.44% | 102.87 | -1.30% | 53.12 | -0.82% | 50.76 | -0.68% | 67.37 | -1.62% | 133.10 | -0.51% | 71.00 | -1.13% | 48.38 | -1.02% | 264.54 | -0.85% | 76.96 | -0.49% | 45.75 | -0.39% | 53.72 | -1.36% | 97.62 | -0.63% | 54.17 | -0.64% | 60.75 | -1.07% | 69.54 | -1.64% | 99.64 | -1.24% | 69.30 | -0.22% | | | 3,297.59 | 1.50% |
| 2/5/2020 | 83.62 | 0.38% | 58.56 | -0.17% | 82.68 | 0.50% | 102.12 | -0.73% | 53.00 | -0.23% | 51.15 | 0.77% | 67.91 | 0.80% | 134.45 | 1.01% | 71.02 | 0.03% | 48.37 | -0.02% | 266.71 | 0.82% | 77.62 | 0.86% | 45.99 | 0.52% | 54.49 | 1.43% | 98.17 | 0.56% | 54.51 | 0.63% | 60.68 | -0.12% | 69.03 | -0.73% | 100.01 | 0.37% | 69.30 | 0.00% | | | 3,334.69 | 1.13% |
| 2/6/2020 | 82.79 | -0.99% | 58.53 | -0.05% | 83.17 | 0.59% | 102.25 | 0.13% | 52.91 | -0.17% | 51.29 | 0.27% | 67.32 | -0.87% | 134.21 | -0.18% | 71.32 | 0.42% | 48.20 | -0.35% | 268.33 | 0.61% | 77.53 | -0.12% | 46.01 | 0.04% | 54.41 | -0.15% | 97.99 | -0.18% | 54.68 | 0.31% | 60.51 | -0.28% | 68.84 | -0.28% | 99.90 | -0.11% | 69.30 | 0.00% | | | 3,345.78 | 0.33% |
| 2/7/2020 | 82.04 | -0.91% | 58.33 | -0.34% | 83.60 | 0.52% | 101.34 | -0.89% | 52.63 | -0.53% | 51.17 | -0.23% | 67.14 | -0.27% | 133.61 | -0.45% | 70.87 | -0.63% | 48.14 | -0.12% | 269.54 | 0.45% | 76.80 | -0.94% | 45.95 | -0.13% | 53.95 | -0.85% | 98.06 | 0.07% | 54.49 | -0.35% | 60.65 | 0.23% | 68.38 | -0.67% | 99.75 | -0.15% | 68.71 | -0.85% | | | 3,327.71 | -0.54% |
| 2/10/2020 | 82.14 | 0.12% | 58.42 | 0.15% | 83.98 | 0.45% | 101.92 | 0.57% | 52.88 | 0.48% | 51.38 | 0.41% | 67.56 | 0.63% | 133.46 | -0.11% | 70.79 | -0.11% | 48.34 | 0.42% | 271.74 | 0.82% | 77.13 | 0.43% | 46.13 | 0.39% | 54.22 | 0.50% | 98.81 | 0.76% | 54.45 | -0.07% | 61.04 | 0.64% | 68.44 | 0.09% | 100.14 | 0.39% | 69.06 | 0.51% | | | 3,352.09 | 0.73% |
| 2/11/2020 | 82.17 | 0.04% | 58.39 | -0.05% | 84.27 | 0.35% | 102.22 | 0.29% | 52.89 | 0.02% | 51.18 | -0.39% | 67.37 | -0.28% | 134.02 | 0.42% | 70.84 | 0.07% | 48.14 | -0.41% | 272.15 | 0.15% | 77.35 | 0.29% | 45.96 | -0.37% | 54.12 | -0.18% | 98.61 | -0.20% | 55.13 | 1.25% | 61.37 | 0.54% | 68.59 | 0.22% | 100.19 | 0.05% | 68.96 | -0.14% | | | 3,357.75 | 0.17% |
| 2/12/2020 | 81.89 | -0.34% | 58.66 | 0.46% | 84.57 | 0.36% | 101.79 | -0.42% | 52.75 | -0.26% | 51.19 | 0.02% | 67.36 | -0.01% | 133.75 | -0.20% | 70.74 | -0.14% | 48.55 | 0.85% | 270.26 | -0.69% | 77.46 | 0.14% | 45.83 | -0.28% | 54.13 | 0.02% | 98.65 | 0.04% | 55.11 | -0.04% | 60.98 | -0.64% | 68.62 | 0.04% | 100.75 | 0.56% | 69.03 | 0.10% | | | 3,379.45 | 0.65% |
| 2/13/2020 | 81.24 | -0.79% | 59.38 | 1.23% | 85.75 | 1.40% | 102.85 | 1.04% | 53.58 | 1.57% | 51.66 | 0.92% | 67.92 | 0.83% | 133.55 | -0.15% | 71.55 | 1.15% | 49.74 | 2.45% | 275.47 | 1.93% | 78.44 | 1.27% | 45.77 | -0.13% | 54.36 | 0.42% | 100.22 | 1.59% | 55.77 | 1.20% | 62.34 | 2.23% | 69.54 | 1.34% | 101.21 | 0.46% | 69.82 | 1.14% | | | 3,373.94 | -0.16% |
| 2/14/2020 | 81.19 | -0.06% | 59.74 | 0.61% | 86.79 | 1.21% | 103.76 | 0.88% | 53.87 | 0.54% | 52.01 | 0.68% | 68.51 | 0.87% | 134.02 | 0.35% | 72.34 | 1.10% | 50.40 | 1.33% | 278.52 | 1.11% | 78.92 | 0.61% | 46.12 | 0.76% | 54.78 | 0.77% | 100.43 | 0.21% | 55.78 | 0.02% | 61.80 | -0.87% | 69.02 | -0.75% | 101.87 | 0.65% | 70.26 | 0.63% | | | 3,380.16 | 0.18% |
| 2/18/2020 | 81.36 | 0.21% | 60.17 | 0.71% | 86.75 | -0.05% | 104.33 | 0.55% | 54.90 | 1.91% | 52.12 | 0.21% | 68.86 | 0.51% | 134.65 | 0.47% | 73.88 | 2.13% | 50.30 | -0.20% | 282.04 | 1.26% | 79.74 | 1.04% | 46.04 | -0.17% | 54.45 | -0.60% | 101.81 | 1.37% | 55.79 | 0.02% | 62.36 | 0.91% | 69.40 | 0.55% | 102.88 | 0.99% | 71.16 | 1.28% | | | 3,370.29 | -0.29% |
| 2/19/2020 | 80.21 | -1.41% | 59.47 | -1.16% | 85.88 | -1.00% | 103.50 | -0.80% | 54.97 | 0.13% | 52.21 | 0.17% | 68.48 | -0.55% | 134.07 | -0.43% | 73.91 | 0.04% | 49.65 | -1.29% | 274.67 | -2.61% | 80.22 | 0.60% | 45.20 | -1.82% | 56.09 | 3.01% | 101.54 | -0.27% | 55.05 | -1.33% | 62.21 | -0.24% | 68.61 | -1.14% | 102.41 | -0.46% | 70.79 | -0.52% | | | 3,386.15 | 0.47% |
| 2/20/2020 | 79.65 | -0.70% | 59.57 | 0.18% | 85.66 | -0.26% | 102.38 | -1.08% | 55.58 | 1.11% | 51.56 | -1.24% | 68.59 | 0.16% | 133.95 | -0.09% | 73.56 | -0.47% | 49.81 | 0.32% | 277.03 | 0.86% | 79.90 | -0.40% | 44.92 | -0.62% | 56.02 | -0.12% | 101.09 | -0.44% | 54.83 | -0.40% | 62.46 | 0.40% | 69.81 | 1.75% | 102.39 | -0.02% | 70.67 | -0.17% | | | 3,373.23 | -0.38% |
| 2/21/2020 | 79.81 | 0.20% | 59.14 | -0.72% | 85.34 | -0.37% | 101.71 | -0.65% | 56.04 | 0.83% | 51.19 | -0.72% | 68.45 | -0.20% | 134.96 | 0.75% | 72.91 | -0.88% | 49.75 | -0.12% | 277.59 | 0.20% | 79.01 | -1.11% | 45.03 | 0.24% | 55.41 | -1.09% | 103.60 | 2.48% | 54.51 | -0.58% | 62.37 | -0.14% | 68.99 | -1.17% | 102.50 | 0.11% | 70.82 | 0.21% | | | 3,337.75 | -1.05% |
| 2/24/2020 | 79.18 | -0.79% | 58.84 | -0.52% | 84.82 | -0.61% | 100.04 | -1.64% | 56.57 | 0.95% | 50.45 | -1.45% | 68.25 | -0.29% | 132.86 | -1.56% | 71.99 | -1.26% | 49.32 | -0.86% | 273.94 | -1.31% | 78.45 | -0.71% | 44.50 | -1.18% | 53.44 | -3.56% | 100.94 | -2.57% | 54.26 | -0.46% | 61.65 | -1.15% | 67.80 | -1.72% | 101.82 | -0.66% | 70.37 | -0.64% | | | 3,225.89 | -3.35% |
| 2/25/2020 | 77.38 | -2.27% | 58.01 | -1.40% | 83.56 | -1.49% | 98.17 | -1.87% | 56.30 | -0.48% | 49.05 | -2.78% | 66.84 | -2.07% | 128.12 | -3.57% | 70.10 | -2.63% | 48.07 | -2.53% | 270.33 | -1.32% | 77.43 | -1.30% | 43.85 | -1.46% | 52.10 | -2.51% | 98.40 | -2.52% | 53.10 | -2.14% | 60.81 | -1.36% | 66.86 | -1.39% | 100.41 | -1.38% | 68.84 | -2.17% | | | 3,128.21 | -3.03% |
| 2/26/2020 | 76.27 | -1.43% | 57.83 | -0.31% | 85.21 | 1.97% | 97.43 | -0.75% | 51.85 | -7.90% | 49.49 | 0.90% | 66.44 | -0.60% | 124.73 | -2.65% | 69.58 | -0.74% | 47.03 | -2.16% | 269.47 | -0.32% | 77.13 | -0.39% | 43.12 | -1.66% | 52.17 | 0.13% | 97.20 | -1.22% | 52.23 | -1.64% | 60.33 | -0.79% | 66.19 | -1.00% | 100.29 | -0.12% | 68.35 | -0.71% | | | 3,116.39 | -0.38% |
| 2/27/2020 | 73.22 | -4.00% | 54.95 | -4.98% | 81.57 | -4.27% | 91.86 | -5.72% | 49.78 | -3.99% | 48.57 | -1.86% | 62.82 | -5.45% | 118.01 | -5.39% | 67.00 | -3.71% | 44.86 | -4.61% | 255.85 | -5.05% | 74.50 | -3.41% | 40.49 | -6.10% | 50.27 | -3.64% | 93.61 | -3.69% | 49.55 | -5.13% | 57.65 | -4.44% | 62.88 | -5.00% | 95.56 | -4.72% | 64.85 | -5.12% | | | 2,978.76 | -4.42% |
| 2/28/2020 | 68.99 | -5.78% | 52.12 | -5.15% | 79.00 | -3.15% | 89.26 | -2.83% | 49.69 | -0.18% | 47.15 | -2.92% | 60.42 | -3.82% | 111.67 | -5.37% | 65.35 | -2.46% | 42.84 | -4.50% | 252.76 | -1.21% | 70.34 | -5.58% | 38.10 | -5.90% | 48.61 | -3.30% | 89.49 | -4.40% | 47.08 | -4.98% | 54.41 | -5.62% | 60.36 | -4.01% | 92.33 | -3.38% | 62.32 | -3.90% | | | 2,954.22 | -0.82% |
| 3/2/2020 | 74.39 | 7.83% | 55.36 | 6.22% | 84.42 | 6.86% | 95.09 | 6.53% | 52.00 | 4.65% | 49.62 | 5.24% | 64.14 | 6.16% | 116.64 | 4.45% | 69.39 | 6.18% | 45.09 | 5.25% | 268.35 | 6.17% | 74.33 | 5.67% | 39.48 | 3.62% | 50.00 | 2.86% | 94.91 | 6.06% | 49.54 | 5.23% | 57.34 | 5.39% | 63.93 | 5.91% | 97.69 | 5.81% | 65.87 | 5.70% | | | 3,090.23 | 4.60% |
| 3/3/2020 | 73.69 | -0.94% | 54.77 | -1.07% | 83.16 | -1.49% | 95.45 | 0.38% | 51.70 | -0.58% | 49.33 | -0.58% | 64.32 | 0.28% | 113.02 | -3.10% | 68.85 | -0.78% | 44.93 | -0.35% | 265.15 | -1.19% | 73.76 | -0.77% | 38.66 | -2.08% | 49.45 | -1.10% | 94.49 | -0.44% | 49.08 | -0.93% | 56.86 | -0.84% | 63.90 | -0.05% | 97.58 | -0.11% | 65.71 | -0.24% | | | 3,003.37 | -2.81% |
| 3/4/2020 | 77.05 | 4.56% | 57.86 | 5.64% | 87.07 | 4.70% | 99.82 | 4.58% | 53.92 | 4.29% | 51.91 | 5.23% | 68.35 | 6.27% | 119.31 | 5.57% | 73.08 | 6.14% | 46.89 | 4.36% | 282.22 | 6.44% | 77.90 | 5.61% | 40.04 | 3.57% | 51.36 | 3.86% | 100.26 | 6.11% | 52.09 | 6.13% | 59.58 | 4.78% | 67.80 | 6.10% | 104.21 | 6.79% | 69.20 | 5.31% | | | 3,130.12 | 4.22% |
| 3/5/2020 | 75.31 | -2.26% | 57.39 | -0.81% | 86.05 | -1.17% | 98.79 | -1.03% | 52.17 | -3.25% | 51.38 | -1.02% | 67.73 | -0.91% | 116.26 | -2.56% | 71.61 | -2.01% | 46.30 | -1.26% | 276.16 | -2.15% | 76.68 | -1.57% | 38.94 | -2.75% | 50.20 | -2.26% | 99.67 | -0.59% | 51.86 | -0.44% | 58.66 | -1.54% | 67.57 | -0.34% | 104.11 | -0.10% | 69.25 | 0.07% | | | 3,023.94 | -3.39% |
| 3/6/2020 | 76.21 | 1.20% | 57.49 | 0.17% | 85.35 | -0.81% | 97.70 | -1.10% | 51.27 | -1.73% | 52.59 | 2.36% | 67.89 | 0.24% | 116.12 | -0.12% | 69.84 | -2.47% | 46.74 | 0.95% | 271.82 | -1.57% | 76.91 | 0.30% | 37.75 | -3.06% | 50.80 | 1.20% | 99.31 | -0.36% | 51.83 | -0.06% | 58.33 | -0.56% | 66.87 | -1.04% | 104.72 | 0.59% | 70.15 | 1.30% | | | 2,972.37 | -1.71% |
| 3/9/2020 | 73.72 | -3.27% | 54.16 | -5.79% | 81.60 | -4.39% | 94.96 | -2.80% | 49.91 | -2.65% | 50.49 | -3.99% | 65.42 | -3.64% | 102.53 | -11.70% | 64.53 | -7.60% | 43.26 | -7.45% | 261.28 | -3.88% | 73.30 | -4.69% | 33.71 | -10.70% | 46.57 | -8.33% | 95.37 | -3.97% | 47.26 | -8.82% | 54.65 | -6.31% | 62.16 | -7.04% | 102.37 | -2.24% | 67.99 | -3.08% | | | 2,746.56 | -7.60% |
| 3/10/2020 | 75.47 | 2.37% | 54.00 | -0.30% | 82.59 | 1.21% | 94.72 | -0.25% | 49.81 | -0.20% | 50.42 | -0.14% | 65.51 | 0.14% | 108.01 | 5.34% | 66.76 | 3.46% | 43.24 | -0.05% | 255.73 | -2.12% | 75.00 | 2.32% | 35.30 | 4.72% | 47.40 | 1.78% | 96.19 | 0.86% | 48.73 | 3.11% | 55.64 | 1.81% | 62.02 | -0.23% | 102.05 | -0.31% | 68.49 | 0.74% | | | 2,882.23 | 4.94% |
| 3/11/2020 | 69.55 | -7.84% | 51.59 | -4.46% | 80.87 | -2.08% | 89.72 | -5.28% | 47.58 | -4.48% | 48.01 | -4.78% | 63.25 | -3.45% | 104.11 | -3.61% | 62.35 | -6.61% | 42.00 | -2.87% | 241.26 | -5.66% | 70.96 | -5.39% | 34.03 | -3.60% | 45.33 | -4.37% | 89.55 | -6.90% | 45.65 | -6.32% | 54.09 | -2.79% | 58.18 | -6.19% | 97.45 | -4.51% | 66.82 | -2.44% | | | 2,741.38 | -4.89% |
| 3/12/2020 | 62.61 | -9.98% | 48.18 | -6.61% | 72.40 | -10.47% | 82.54 | -8.00% | 42.69 | -10.28% | 42.34 | -11.81% | 58.89 | -6.89% | 91.18 | -12.42% | 55.96 | -10.25% | 39.90 | -5.00% | 208.89 | -13.42% | 61.71 | -13.04% | 32.11 | -5.64% | 38.15 | -15.84% | 80.10 | -10.55% | 39.50 | -13.47% | 45.38 | -16.10% | 52.19 | -10.30% | 91.64 | -5.96% | 61.29 | -8.28% | | | 2,480.64 | -9.51% |
| 3/13/2020 | 65.01 | 3.83% | 50.90 | 5.65% | 76.15 | 5.18% | 86.47 | 4.76% | 45.80 | 7.29% | 45.00 | 6.28% | 62.39 | 5.94% | 96.44 | 5.77% | 59.09 | 5.59% | 43.69 | 9.50% | 221.56 | 6.07% | 67.52 | 9.42% | 33.17 | 3.30% | 41.80 | 9.57% | 81.57 | 1.84% | 41.38 | 4.76% | 48.83 | 7.60% | 53.97 | 3.41% | 99.42 | 8.49% | 66.84 | 9.06% | | | 2,711.02 | 9.29% |
| 3/16/2020 | 55.28 | -14.97% | 47.56 | -6.56% | 65.95 | -13.39% | 81.66 | -5.56% | 42.76 | -6.64% | 43.40 | -3.56% | 56.95 | -8.72% | 83.03 | -13.91% | 49.60 | -16.06% | 43.89 | 0.46% | 201.37 | -9.11% | 56.98 | -15.61% | 30.62 | -7.69% | 33.13 | -20.74% | 68.11 | -16.50% | 33.79 | -18.34% | 41.59 | -14.83% | 47.62 | -11.77% | 92.68 | -6.78% | 58.36 | -12.69% | | | 2,386.13 | -11.98% |
| 3/17/2020 | 67.17 | 21.51% | 52.37 | 10.11% | 77.69 | 17.80% | 91.20 | 11.68% | 50.24 | 17.49% | 51.74 | 19.22% | 64.82 | 13.82% | 88.38 | 6.44% | 57.56 | 16.05% | 49.31 | 12.35% | 221.76 | 10.13% | 64.51 | 13.22% | 30.43 | -0.62% | 41.37 | 24.87% | 74.83 | 9.87% | 36.65 | 8.46% | 48.30 | 16.13% | 56.56 | 18.77% | 102.46 | 10.55% | 64.93 | 11.26% | | | 2,529.19 | 6.00% |
| 3/18/2020 | 61.41 | -8.58% | 48.97 | -6.49% | 76.15 | -1.98% | 88.28 | -3.20% | 50.17 | -0.14% | 51.29 | -0.87% | 60.64 | -6.45% | 77.00 | -12.88% | 57.71 | 0.26% | 53.32 | 8.13% | 210.64 | -5.01% | 53.53 | -17.02% | 27.74 | -8.84% | 40.32 | -2.54% | 65.57 | -12.37% | 31.13 | -15.06% | 49.08 | 1.61% | 55.92 | -1.13% | 104.53 | 2.02% | 61.37 | -5.48% | | | 2,398.10 | -5.18% |
| 3/19/2020 | 63.65 | 3.65% | 45.03 | -8.05% | 71.88 | -5.61% | 80.81 | -8.46% | 46.48 | -7.35% | 46.51 | -9.32% | 56.49 | -6.84% | 85.41 | 10.92% | 55.10 | -4.52% | 48.51 | -9.02% | 207.10 | -1.68% | 57.29 | 7.02% | 27.14 | -2.16% | 43.26 | 7.29% | 68.36 | 4.25% | 33.43 | 7.39% | 47.47 | -3.28% | 50.90 | -8.98% | 90.41 | -13.51% | 57.99 | -5.51% | | | 2,409.39 | 0.47% |
| 3/20/2020 | 54.71 | -14.05% | 40.70 | -9.62% | 62.93 | -12.45% | 71.45 | -11.58% | 41.63 | -10.43% | 36.16 | -22.25% | 49.55 | -12.29% | 83.00 | -2.82% | 47.18 | -14.37% | 39.47 | -18.64% | 191.75 | -7.41% | 48.25 | -15.78% | 25.71 | -5.27% | 36.14 | -16.46% | 65.55 | -4.11% | 29.93 | -10.47% | 40.28 | -15.15% | 46.36 | -8.92% | 74.09 | -18.05% | 50.63 | -12.69% | | | 2,304.92 | -4.34% |
| 3/23/2020 | 52.24 | -4.51% | 39.99 | -1.74% | 61.37 | -2.48% | 70.00 | -2.03% | 36.14 | -13.19% | 33.04 | -8.63% | 48.51 | -2.10% | 76.81 | -7.46% | 44.92 | -4.79% | 34.33 | -13.02% | 181.66 | -5.26% | 48.93 | 1.41% | 23.67 | -7.93% | 36.98 | 2.32% | 62.91 | -4.03% | 31.22 | 4.31% | 39.72 | -1.39% | 43.23 | -6.75% | 70.89 | -4.32% | 50.00 | -1.24% | | | 2,237.40 | -2.93% |
| 3/24/2020 | 57.01 | 9.13% | 43.86 | 9.68% | 65.29 | 6.39% | 72.05 | 2.93% | 37.66 | 4.21% | 38.05 | 15.16% | 51.43 | 6.02% | 86.52 | 12.64% | 50.71 | 12.89% | 38.98 | 13.55% | 206.53 | 13.69% | 52.62 | 7.54% | 27.03 | 14.20% | 40.82 | 10.38% | 71.04 | 12.92% | 33.78 | 8.20% | 43.32 | 9.06% | 49.04 | 13.44% | 80.21 | 13.15% | 54.05 | 8.10% | | | 2,447.33 | 9.38% |
| 3/25/2020 | 57.50 | 0.86% | 44.18 | 0.73% | 67.54 | 3.45% | 73.29 | 1.72% | 41.46 | 10.09% | 37.25 | -2.10% | 53.32 | 3.67% | 92.48 | 6.89% | 51.90 | 2.35% | 38.09 | -2.28% | 210.27 | 1.81% | 53.34 | 1.37% | 29.06 | 7.51% | 39.41 | -3.45% | 72.66 | 2.28% | 34.29 | 1.51% | 43.66 | 0.78% | 50.14 | 2.24% | 80.74 | 0.66% | 55.55 | 2.78% | | | 2,475.56 | 1.15% |
| 3/26/2020 | 62.32 | 8.38% | 47.90 | 8.42% | 72.79 | 7.77% | 81.80 | 11.61% | 44.85 | 8.18% | 40.26 | 8.08% | 56.94 | 6.79% | 97.98 | 5.95% | 58.16 | 12.06% | 40.75 | 6.98% | 231.10 | 9.91% | 59.10 | 10.80% | 31.37 | 7.95% | 44.09 | 11.88% | 79.34 | 9.19% | 38.79 | 13.12% | 48.02 | 9.99% | 55.14 | 9.97% | 86.77 | 7.47% | 57.91 | 4.25% | | | 2,630.07 | 6.24% |
| 3/27/2020 | 61.93 | -0.63% | 47.75 | -0.31% | 74.24 | 1.99% | 83.40 | 1.96% | 43.43 | -3.17% | 40.90 | 1.59% | 58.23 | 2.27% | 97.53 | -0.46% | 57.52 | -1.10% | 41.71 | 2.36% | 231.95 | 0.37% | 59.26 | 0.27% | 32.01 | 2.04% | 43.32 | -1.75% | 77.63 | -2.16% | 39.60 | 2.09% | 48.25 | 0.48% | 56.01 | 1.58% | 89.07 | 2.65% | 58.77 | 1.49% | | | 2,541.47 | -3.37% |
| 3/30/2020 | 62.49 | 0.90% | 50.57 | 5.91% | 78.17 | 5.29% | 83.71 | 0.37% | 44.72 | 2.97% | 44.37 | 8.48% | 61.94 | 6.37% | 99.43 | 1.95% | 59.11 | 2.76% | 44.22 | 6.02% | 246.01 | 6.06% | 61.56 | 2.62% | 31.90 | -0.34% | 46.17 | 6.58% | 78.36 | 0.94% | 39.42 | -0.45% | 51.23 | 6.18% | 57.99 | 3.54% | 91.89 | 3.17% | 62.56 | 6.45% | | | 2,626.65 | 3.35% |
| 3/31/2020 | 60.68 | -2.90% | 48.29 | -4.51% | 72.83 | -6.83% | 79.98 | -4.46% | 43.78 | -2.10% | 42.49 | -4.24% | 58.75 | -5.15% | 94.97 | -4.49% | 55.05 | -6.87% | 43.05 | -2.65% | 240.62 | -2.19% | 59.83 | -2.81% | 30.73 | -3.67% | 44.46 | -3.70% | 75.79 | -3.28% | 38.00 | -3.60% | 47.94 | -6.42% | 54.14 | -6.64% | 88.13 | -4.09% | 60.30 | -3.61% | | | 2,584.59 | -1.60% |
| 4/1/2020 | 56.82 | -6.36% | 44.97 | -6.88% | 67.73 | -7.00% | 74.57 | -6.76% | 41.20 | -5.89% | 39.49 | -7.06% | 55.71 | -5.17% | 88.08 | -7.25% | 51.75 | -5.99% | 40.34 | -6.30% | 218.23 | -9.31% | 55.71 | -6.89% | 29.08 | -5.37% | 42.14 | -5.22% | 70.84 | -6.53% | 36.20 | -4.74% | 47.17 | -1.61% | 50.14 | -7.39% | 83.52 | -5.23% | 58.08 | -3.68% | | | 2,470.50 | -4.41% |
| 4/2/2020 | 56.60 | -0.39% | 46.92 | 4.34% | 71.67 | 5.82% | 76.79 | 2.98% | 42.43 | 2.99% | 41.75 | 5.72% | 56.86 | 2.06% | 89.17 | 1.24% | 53.48 | 3.34% | 41.24 | 2.23% | 226.45 | 3.77% | 56.11 | 0.72% | 29.12 | 0.14% | 43.35 | 2.87% | 71.77 | 1.31% | 38.44 | 6.19% | 48.48 | 2.78% | 52.40 | 4.51% | 88.01 | 5.38% | 60.42 | 4.03% | | | 2,526.90 | 2.28% |
| 4/3/2020 | 54.51 | -3.69% | 45.15 | -3.77% | 68.75 | -4.07% | 72.50 | -5.59% | 39.89 | -5.99% | 40.60 | -2.75% | 54.55 | -4.06% | 87.13 | -2.29% | 51.80 | -3.14% | 40.00 | -3.01% | 221.64 | -2.12% | 52.84 | -5.83% | 26.58 | -8.72% | 42.86 | -1.13% | 68.19 | -4.99% | 38.10 | -0.88% | 46.31 | -4.48% | 50.27 | -4.06% | 85.25 | -3.14% | 57.86 | -4.24% | | | 2,488.65 | -1.51% |
| 4/6/2020 | 59.31 | 8.81% | 47.83 | 5.94% | 74.29 | 8.06% | 78.59 | 8.40% | 41.40 | 3.79% | 42.67 | 5.10% | 58.85 | 7.88% | 96.04 | 10.23% | 57.88 | 11.74% | 42.90 | 7.25% | 234.51 | 5.81% | 58.93 | 11.53% | 28.96 | 8.95% | 46.05 | 7.44% | 74.33 | 9.00% | 41.96 | 10.13% | 50.79 | 9.67% | 55.40 | 10.20% | 91.28 | 7.07% | 61.15 | 5.69% | | | 2,663.68 | 7.03% |
| 4/7/2020 | 58.46 | -1.43% | 48.03 | 0.42% | 71.53 | -3.72% | 78.75 | 0.20% | 41.14 | -0.63% | 40.78 | -4.43% | 57.34 | -2.57% | 97.45 | 1.47% | 57.08 | -1.38% | 42.26 | -1.49% | 228.49 | -2.57% | 57.70 | -2.09% | 29.79 | 2.87% | 43.71 | -5.08% | 73.60 | -0.98% | 42.19 | 0.55% | 49.05 | -3.43% | 55.12 | -0.51% | 87.76 | -3.86% | 59.23 | -3.14% | | | 2,659.41 | -0.16% |
| 4/8/2020 | 60.55 | 3.58% | 51.23 | 6.66% | 76.01 | 6.26% | 83.30 | 5.78% | 42.95 | 4.40% | 42.03 | 3.07% | 60.64 | 5.76% | 103.84 | 6.56% | 60.86 | 6.62% | 43.60 | 3.17% | 233.50 | 2.19% | 61.21 | 6.08% | 31.29 | 5.04% | 44.68 | 2.22% | 78.87 | 7.16% | 44.32 | 5.05% | 51.37 | 4.73% | 58.18 | 5.55% | 92.20 | 5.06% | 62.80 | 6.03% | | | 2,749.98 | 3.41% |
| 4/9/2020 | 61.88 | 2.20% | 53.14 | 3.73% | 79.60 | 4.72% | 86.31 | 3.61% | 45.92 | 6.92% | 45.39 | 7.99% | 62.33 | 2.79% | 111.25 | 7.14% | 63.10 | 3.68% | 45.60 | 4.59% | 245.28 | 5.04% | 64.60 | 5.54% | 32.52 | 3.93% | 47.55 | 6.42% | 82.23 | 4.26% | 46.58 | 5.10% | 54.12 | 5.35% | 60.33 | 3.70% | 98.22 | 6.53% | 66.27 | 5.53% | | | 2,789.82 | 1.45% |
| 4/13/2020 | 59.87 | -3.25% | 51.28 | -3.50% | 75.82 | -4.03% | 83.50 | -3.26% | 44.78 | -2.48% | 43.12 | -5.00% | 61.16 | -1.88% | 108.64 | -2.35% | 60.75 | -3.72% | 43.43 | -4.76% | 236.21 | -3.70% | 63.30 | -2.01% | 31.97 | -1.69% | 46.14 | -2.97% | 79.61 | -3.19% | 43.79 | -5.99% | 50.84 | -3.20% | 57.72 | -4.33% | 95.02 | -3.26% | 63.66 | -3.95% | | | 2,761.63 | -1.01% |
| 4/14/2020 | 61.04 | 1.95% | 53.62 | 4.56% | 77.17 | 1.78% | 86.25 | 3.29% | 46.06 | 2.86% | 44.60 | 3.43% | 62.27 | 1.81% | 108.34 | -0.28% | 62.54 | 2.95% | 43.53 | 0.23% | 242.38 | 2.61% | 64.39 | 1.72% | 32.93 | 3.00% | 46.86 | 1.56% | 81.83 | 2.79% | 45.02 | 2.81% | 51.71 | 0.65% | 59.00 | 2.22% | 99.33 | 4.54% | 66.25 | 4.08% | | | 2,846.06 | 3.06% |
| 4/15/2020 | 57.52 | -5.77% | 51.50 | -3.95% | 75.50 | -2.16% | 83.61 | -3.06% | 44.89 | -2.54% | 43.51 | -2.44% | 60.70 | -2.52% | 104.80 | -3.27% | 60.09 | -3.92% | 41.18 | -5.40% | 237.22 | -2.13% | 61.64 | -4.27% | 31.15 | -5.41% | 43.36 | -7.47% | 79.66 | -2.65% | 42.86 | -4.80% | 48.89 | -4.46% | 55.89 | -5.27% | 96.89 | -2.46% | 64.30 | -2.94% | | | 2,783.36 | -2.20% |
| 4/16/2020 | 56.39 | -1.96% | 51.61 | 0.21% | 77.26 | 2.33% | 84.05 | 0.53% | 45.54 | 1.45% | 44.15 | 1.47% | 61.88 | 1.94% | 101.57 | -3.08% | 59.96 | -0.22% | 41.17 | -0.02% | 237.48 | 0.11% | 60.93 | -1.15% | 30.73 | -1.35% | 44.30 | 2.17% | 79.01 | -0.82% | 42.66 | -0.47% | 49.33 | 0.90% | 55.32 | -1.02% | 98.26 | 1.41% | 65.25 | 1.48% | | | 2,799.55 | 0.58% |
| 4/17/2020 | 58.35 | 3.48% | 52.87 | 2.44% | 77.83 | 0.74% | 86.38 | 2.77% | 45.99 | 1.12% | 44.51 | 0.82% | 63.17 | 2.08% | 105.85 | 4.21% | 60.98 | 1.70% | 41.98 | 1.97% | 246.26 | 3.70% | 62.64 | 2.81% | 31.71 | 3.19% | 45.53 | 2.78% | 79.91 | 1.14% | 43.21 | 1.29% | 50.82 | 3.02% | 57.47 | 3.89% | 100.34 | 1.39% | 67.15 | 2.91% | | | 2,874.56 | 2.68% |
| 4/20/2020 | 54.67 | -6.31% | 49.99 | -5.45% | 73.24 | -5.90% | 82.91 | -4.02% | 44.11 | -4.09% | 43.50 | -2.27% | 59.19 | -6.30% | 100.76 | -4.81% | 59.12 | -3.05% | 40.02 | -4.67% | 237.61 | -3.51% | 58.30 | -6.93% | 30.25 | -4.60% | 43.93 | -3.51% | 76.60 | -4.14% | 40.63 | -5.97% | 47.95 | -5.65% | 55.53 | -3.38% | 95.88 | -4.44% | 64.35 | -4.17% | | | 2,823.16 | -1.79% |
| 4/21/2020 | 55.95 | 2.34% | 49.70 | -0.58% | 74.02 | 1.06% | 82.47 | -0.53% | 43.89 | -0.50% | 43.01 | -1.13% | 58.41 | -1.32% | 99.14 | -1.61% | 58.24 | -1.49% | 39.09 | -2.32% | 235.42 | -0.92% | 59.11 | 1.39% | 29.46 | -2.61% | 43.95 | 0.05% | 75.61 | -1.29% | 39.70 | -2.29% | 47.95 | 0.00% | 55.50 | -0.05% | 95.14 | -0.77% | 63.41 | -1.46% | | | 2,736.56 | -3.07% |
| 4/22/2020 | 55.78 | -0.30% | 51.03 | 2.68% | 76.78 | 3.73% | 85.00 | 3.07% | 45.37 | 3.37% | 43.21 | 0.47% | 59.99 | 2.71% | 102.36 | 3.25% | 59.55 | 2.25% | 39.64 | 1.41% | 245.15 | 4.13% | 59.19 | 0.14% | 30.69 | 4.18% | 43.71 | -0.55% | 77.58 | 2.61% | 41.61 | 4.81% | 49.59 | 3.42% | 57.05 | 2.79% | 96.40 | 1.32% | 65.32 | 3.01% | | | 2,799.31 | 2.29% |
| 4/23/2020 | 56.57 | 1.42% | 50.09 | -1.84% | 74.19 | -3.37% | 83.02 | -2.33% | 44.98 | -0.86% | 42.97 | -0.56% | 59.24 | -1.25% | 101.01 | -1.32% | 57.79 | -2.96% | 39.46 | -0.95% | 241.14 | -2.44% | 57.45 | -2.94% | 30.70 | 0.03% | 43.27 | -1.01% | 75.82 | -2.27% | 40.60 | -1.24% | 48.43 | -2.34% | 56.80 | -0.44% | 94.39 | -2.09% | 64.38 | -1.44% | | | 2,797.80 | -0.05% |
| 4/24/2020 | 57.34 | 1.36% | 49.98 | -0.22% | 73.64 | -0.74% | 83.23 | 0.25% | 44.95 | -0.07% | 42.84 | -0.30% | 59.40 | 0.27% | 103.02 | 1.99% | 58.51 | 1.25% | 39.52 | 0.15% | 239.70 | -0.60% | 56.80 | -1.13% | 31.27 | 1.86% | 43.28 | 0.02% | 77.14 | 1.74% | 41.32 | 1.77% | 46.41 | -4.17% | 57.73 | 1.64% | 93.77 | -0.66% | 64.57 | 0.30% | | | 2,836.74 | 1.39% |
| 4/27/2020 | 58.61 | 2.21% | 50.34 | 0.72% | 73.42 | -0.30% | 83.62 | 0.47% | 45.57 | 1.38% | 43.31 | 1.10% | 58.00 | -2.36% | 103.61 | 0.57% | 59.26 | 1.28% | 39.99 | 1.19% | 234.06 | -2.35% | 58.52 | 3.03% | 32.20 | 2.97% | 44.02 | 1.71% | 78.76 | 2.10% | 42.36 | 2.52% | 46.31 | -0.22% | 58.48 | 1.30% | 91.52 | -2.40% | 65.47 | 1.39% | | | 2,878.48 | 1.47% |
| 4/28/2020 | 60.27 | 2.83% | 50.65 | 0.62% | 74.25 | 1.13% | 84.63 | 1.21% | 44.98 | -1.29% | 43.63 | 0.74% | 59.21 | 2.09% | 106.32 | 3.54% | 60.09 | 1.40% | 40.53 | 1.35% | 239.30 | -1.77% | 60.75 | 3.81% | 32.43 | 0.71% | 45.08 | 2.41% | 79.99 | 1.56% | 42.67 | 0.73% | 47.41 | 2.38% | 58.06 | -0.72% | 94.73 | 3.51% | 66.17 | 1.07% | | | 2,863.39 | -0.52% |
| 4/29/2020 | 61.40 | 1.87% | 49.41 | -2.45% | 74.62 | 0.50% | 83.13 | -1.77% | 44.58 | -0.89% | 44.42 | 1.81% | 57.26 | -3.29% | 107.29 | 0.91% | 59.59 | -0.83% | 40.83 | 0.74% | 235.13 | -1.74% | 59.79 | -1.58% | 32.51 | 0.25% | 46.22 | 2.53% | 78.55 | -1.80% | 42.78 | 0.26% | 48.08 | 1.41% | 57.37 | -1.19% | 93.31 | -1.50% | 65.08 | -1.65% | | | 2,939.51 | 2.66% |
| 4/30/2020 | 57.56 | -6.25% | 48.55 | -1.74% | 72.75 | -2.51% | 83.11 | -0.02% | 43.00 | -3.54% | 43.04 | -3.11% | 57.09 | -0.30% | 103.74 | -3.31% | 58.43 | -1.95% | 39.47 | -3.33% | 231.12 | -1.71% | 57.69 | -3.51% | 31.52 | -3.05% | 44.38 | -3.98% | 76.99 | -1.99% | 40.49 | -5.35% | 46.79 | -2.68% | 56.73 | -1.12% | 90.55 | -2.96% | 63.56 | -2.34% | | | 2,912.43 | -0.92% |
| 5/1/2020 | 55.65 | -3.32% | 47.25 | -2.68% | 71.45 | -1.79% | 81.39 | -2.07% | 41.44 | -3.63% | 40.90 | -4.97% | 55.95 | -2.00% | 100.68 | -2.95% | 55.92 | -4.30% | 38.10 | -3.47% | 227.05 | -1.76% | 56.07 | -2.81% | 30.31 | -3.84% | 42.91 | -3.31% | 74.12 | -3.73% | 39.06 | -3.53% | 44.61 | -4.66% | 54.41 | -4.09% | 88.46 | -2.31% | 62.18 | -2.17% | | | 2,830.71 | -2.81% |
| 5/4/2020 | 55.54 | -0.20% | 47.50 | 0.52% | 71.44 | -0.01% | 83.05 | 2.04% | 41.32 | -0.29% | 41.28 | 0.93% | 56.74 | 1.41% | 100.83 | 0.15% | 56.63 | 1.27% | 38.32 | 0.58% | 230.09 | 1.34% | 56.29 | 0.39% | 30.46 | 0.49% | 43.44 | 1.24% | 73.65 | -0.63% | 38.81 | -0.64% | 45.58 | 2.17% | 54.92 | 0.94% | 88.96 | 0.57% | 62.39 | 0.34% | | | 2,842.74 | 0.43% |
| 5/5/2020 | 56.55 | 1.82% | 48.02 | 1.11% | 72.15 | 0.99% | 83.31 | 0.31% | 42.71 | 3.36% | 41.44 | 0.39% | 57.16 | 0.74% | 102.41 | 1.57% | 57.29 | 1.17% | 38.05 | -0.70% | 230.10 | 0.00% | 57.16 | 1.55% | 30.32 | -0.46% | 43.15 | -0.67% | 74.64 | 1.34% | 38.89 | 0.21% | 45.52 | -0.13% | 55.63 | 1.29% | 89.58 | 0.70% | 63.28 | 1.42% | | | 2,868.44 | 0.90% |
| 5/6/2020 | 52.23 | -7.64% | 46.17 | -3.85% | 69.84 | -3.20% | 78.82 | -5.39% | 41.48 | -2.88% | 39.29 | -5.19% | 54.66 | -4.37% | 100.51 | -1.86% | 54.93 | -4.12% | 36.44 | -4.23% | 222.66 | -3.23% | 54.19 | -5.20% | 29.25 | -3.53% | 41.26 | -4.38% | 72.01 | -3.52% | 37.20 | -4.35% | 43.33 | -4.81% | 53.64 | -3.58% | 84.94 | -5.18% | 61.22 | -3.25% | | | 2,848.42 | -0.70% |
| 5/7/2020 | 52.95 | 1.38% | 46.24 | 0.15% | 69.65 | -0.27% | 78.60 | -0.28% | 41.75 | 0.65% | 40.10 | 2.06% | 54.54 | -0.22% | 98.72 | -1.78% | 55.87 | 1.71% | 36.53 | 0.25% | 224.48 | 0.82% | 55.84 | 3.04% | 29.29 | 0.14% | 41.63 | 0.90% | 71.76 | -0.35% | 38.24 | 2.80% | 44.09 | 1.75% | 54.23 | 1.10% | 85.13 | 0.22% | 59.96 | -2.06% | | | 2,881.19 | 1.15% |
| 5/8/2020 | 55.78 | 5.34% | 47.99 | 3.78% | 70.86 | 1.74% | 79.86 | 1.60% | 42.48 | 1.75% | 39.93 | -0.42% | 55.29 | 1.38% | 101.26 | 2.57% | 57.50 | 2.92% | 38.19 | 4.54% | 229.73 | 2.34% | 58.03 | 3.92% | 31.05 | 6.01% | 43.46 | 4.40% | 73.87 | 2.94% | 39.35 | 2.90% | 45.31 | 2.77% | 55.41 | 2.18% | 85.68 | 0.65% | 60.31 | 0.58% | | | 2,929.80 | 1.69% |
| 5/11/2020 | 54.27 | -2.71% | 47.08 | -1.90% | 70.83 | -0.04% | 79.17 | -0.86% | 41.87 | -1.44% | 39.50 | -1.08% | 55.48 | 0.34% | 98.73 | -2.50% | 55.76 | -3.03% | 37.90 | -0.76% | 227.38 | -1.02% | 57.46 | -0.98% | 30.53 | -1.67% | 42.28 | -2.72% | 73.65 | -0.30% | 37.99 | -3.46% | 45.01 | -0.66% | 55.81 | 0.72% | 85.32 | -0.42% | 60.13 | -0.30% | | | 2,930.32 | 0.02% |
| 5/12/2020 | 52.68 | -2.93% | 46.40 | -1.45% | 68.97 | -2.63% | 77.91 | -1.59% | 40.77 | -2.63% | 37.99 | -3.82% | 55.55 | 0.13% | 99.26 | 0.54% | 56.10 | 0.61% | 36.81 | -2.88% | 227.93 | 0.24% | 56.00 | -2.54% | 29.94 | -1.93% | 40.57 | -4.04% | 72.48 | -1.59% | 36.81 | -3.11% | 42.85 | -4.80% | 55.52 | -0.52% | 85.01 | -0.36% | 58.79 | -2.23% | | | 2,870.12 | -2.05% |
| 5/13/2020 | 51.92 | -1.44% | 45.86 | -1.15% | 68.35 | -0.90% | 77.73 | -0.23% | 39.99 | -1.91% | 36.35 | -4.32% | 54.63 | -1.66% | 95.96 | -3.32% | 56.52 | 0.75% | 36.34 | -1.28% | 230.12 | 0.96% | 54.96 | -1.86% | 28.86 | -3.61% | 39.35 | -3.01% | 72.46 | -0.03% | 35.77 | -2.83% | 41.43 | -3.31% | 53.79 | -3.12% | 84.76 | -0.29% | 58.06 | -1.24% | | | 2,820.00 | -1.75% |
| 5/14/2020 | 50.01 | -3.68% | 45.94 | 0.17% | 68.72 | 0.54% | 78.10 | 0.48% | 40.89 | 2.25% | 36.29 | -0.17% | 54.37 | -0.48% | 98.00 | 2.13% | 56.68 | 0.28% | 36.43 | 0.25% | 232.23 | 0.92% | 54.99 | 0.05% | 29.34 | 1.66% | 38.54 | -2.06% | 72.02 | -0.61% | 36.04 | 0.75% | 41.22 | -0.51% | 54.75 | 1.78% | 84.71 | -0.06% | 58.20 | 0.24% | | | 2,852.50 | 1.15% |
| 5/15/2020 | 49.60 | -0.82% | 45.95 | 0.02% | 68.76 | 0.06% | 78.43 | 0.42% | 39.68 | -2.96% | 36.03 | -0.72% | 53.68 | -1.27% | 97.35 | -0.66% | 56.54 | -0.25% | 36.11 | -0.88% | 227.85 | -1.89% | 54.25 | -1.35% | 28.53 | -2.76% | 38.71 | 0.44% | 71.42 | -0.83% | 37.21 | 3.25% | 40.77 | -1.09% | 52.54 | -4.04% | 84.80 | 0.11% | 57.89 | -0.53% | | | 2,863.70 | 0.39% |
| 5/18/2020 | 53.49 | 7.84% | 47.74 | 3.90% | 72.23 | 5.05% | 79.88 | 1.85% | 41.00 | 3.33% | 38.29 | 6.27% | 56.09 | 4.49% | 103.24 | 6.05% | 58.92 | 4.21% | 38.28 | 6.01% | 235.45 | 3.34% | 57.71 | 6.38% | 30.79 | 7.92% | 41.24 | 6.54% | 74.86 | 4.82% | 40.00 | 7.50% | 43.22 | 6.01% | 54.42 | 3.58% | 87.62 | 3.33% | 60.13 | 3.87% | | | 2,953.91 | 3.15% |
| 5/19/2020 | 52.63 | -1.61% | 46.32 | -2.97% | 70.65 | -2.19% | 77.14 | -3.43% | 40.36 | -1.56% | 36.91 | -3.60% | 55.31 | -1.39% | 102.86 | -0.37% | 57.74 | -2.00% | 37.27 | -2.64% | 230.50 | -2.10% | 56.62 | -1.89% | 30.15 | -2.08% | 39.56 | -4.07% | 72.59 | -3.03% | 39.77 | -0.57% | 41.99 | -2.85% | 53.57 | -1.56% | 86.69 | -1.06% | 59.70 | -0.72% | | | 2,922.94 | -1.05% |
| 5/20/2020 | 54.04 | 2.68% | 46.66 | 0.73% | 70.33 | -0.45% | 77.75 | 0.79% | 40.51 | 0.37% | 38.09 | 3.20% | 55.44 | 0.24% | 103.25 | 0.38% | 59.11 | 2.37% | 38.23 | 2.58% | 232.79 | 0.99% | 57.80 | 2.08% | 31.12 | 3.22% | 40.87 | 3.31% | 72.77 | 0.25% | 39.70 | -0.18% | 42.81 | 1.95% | 54.83 | 2.35% | 87.30 | 0.70% | 60.25 | 0.92% | | | 2,971.61 | 1.67% |
| 5/21/2020 | 53.43 | -1.13% | 46.03 | -1.35% | 69.30 | -1.46% | 77.37 | -0.49% | 40.28 | -0.57% | 38.12 | 0.08% | 54.74 | -1.26% | 101.04 | -2.14% | 58.65 | -0.78% | 37.54 | -1.80% | 228.90 | -1.67% | 57.56 | -0.42% | 30.68 | -1.41% | 40.90 | 0.07% | 72.28 | -0.67% | 38.62 | -2.72% | 42.87 | 0.14% | 53.83 | -1.82% | 86.68 | -0.71% | 60.15 | -0.17% | | | 2,948.51 | -0.78% |
| 5/22/2020 | 53.49 | 0.11% | 46.38 | 0.76% | 69.82 | 0.75% | 78.78 | 1.82% | 40.96 | 1.69% | 38.07 | -0.13% | 55.59 | 1.55% | 102.12 | 1.07% | 60.00 | 2.30% | 37.27 | -0.72% | 233.85 | 2.16% | 57.84 | 0.49% | 30.80 | 0.39% | 41.41 | 1.25% | 72.66 | 0.53% | 38.52 | -0.26% | 42.95 | 0.19% | 54.58 | 1.39% | 86.14 | -0.62% | 60.37 | 0.37% | | | 2,955.45 | 0.24% |
| 5/26/2020 | 55.42 | 3.61% | 46.91 | 1.14% | 70.76 | 1.35% | 79.92 | 1.45% | 42.08 | 2.73% | 38.82 | 1.97% | 55.68 | 0.16% | 105.35 | 3.16% | 59.89 | -0.18% | 38.22 | 2.55% | 234.31 | 0.20% | 59.12 | 2.21% | 31.83 | 3.34% | 42.43 | 2.46% | 74.34 | 2.31% | 39.01 | 1.27% | 44.16 | 2.82% | 54.66 | 0.15% | 85.69 | -0.52% | 61.06 | 1.14% | | | 2,991.77 | 1.23% |
| 5/27/2020 | 58.21 | 5.03% | 47.33 | 0.90% | 70.51 | -0.35% | 81.44 | 1.90% | 42.90 | 1.95% | 38.92 | 0.26% | 55.97 | 0.52% | 106.50 | 1.09% | 60.93 | 1.74% | 38.38 | 0.42% | 241.13 | 2.91% | 60.12 | 1.69% | 31.42 | -1.29% | 42.58 | 0.35% | 75.50 | 1.56% | 39.24 | 0.59% | 44.76 | 1.36% | 55.01 | 0.64% | 85.90 | 0.25% | 61.73 | 1.10% | | | 3,036.13 | 1.48% |
| 5/28/2020 | 57.46 | -1.29% | 48.86 | 3.23% | 73.94 | 4.86% | 85.10 | 4.49% | 43.96 | 2.47% | 38.87 | -0.13% | 57.93 | 3.50% | 107.76 | 1.18% | 62.31 | 2.26% | 39.22 | 2.19% | 251.36 | 4.24% | 60.08 | -0.07% | 31.89 | 1.50% | 43.12 | 1.27% | 76.85 | 1.79% | 40.32 | 2.75% | 46.07 | 2.93% | 56.91 | 3.45% | 88.97 | 3.57% | 64.01 | 3.69% | | | 3,029.73 | -0.21% |
| 5/29/2020 | 58.73 | 2.21% | 49.36 | 1.02% | 74.73 | 1.07% | 85.25 | 0.18% | 44.48 | 1.18% | 39.17 | 0.77% | 58.58 | 1.12% | 107.57 | -0.18% | 61.69 | -1.00% | 39.46 | 0.61% | 255.56 | 1.67% | 60.12 | 0.07% | 31.32 | -1.79% | 42.91 | -0.49% | 77.90 | 1.37% | 40.82 | 1.24% | 47.11 | 2.26% | 57.07 | 0.28% | 91.73 | 3.10% | 65.03 | 1.59% | | | 3,044.31 | 0.48% |
| 6/1/2020 | 59.20 | 0.80% | 49.46 | 0.20% | 74.37 | -0.48% | 86.14 | 1.04% | 44.92 | 0.99% | 38.92 | -0.64% | 59.01 | 0.73% | 108.42 | 0.79% | 62.96 | 2.06% | 38.99 | -1.19% | 255.65 | 0.04% | 60.45 | 0.55% | 32.14 | 2.62% | 42.00 | -2.12% | 77.58 | -0.41% | 40.44 | -0.93% | 46.52 | -1.25% | 57.70 | 1.10% | 93.13 | 1.53% | 65.75 | 1.11% | | | 3,055.73 | 0.38% |
| 6/2/2020 | 59.89 | 1.17% | 50.16 | 1.42% | 74.91 | 0.73% | 85.98 | -0.19% | 45.77 | 1.89% | 39.30 | 0.98% | 59.50 | 0.83% | 110.41 | 1.84% | 63.04 | 0.13% | 38.58 | -1.05% | 256.60 | 0.37% | 60.21 | -0.40% | 32.18 | 0.12% | 42.05 | 0.12% | 78.16 | 0.75% | 40.74 | 0.74% | 47.49 | 2.09% | 58.00 | 0.52% | 93.97 | 0.90% | 66.07 | 0.49% | | | 3,080.82 | 0.82% |
| 6/3/2020 | 61.09 | 2.00% | 51.04 | 1.75% | 76.08 | 1.56% | 86.99 | 1.17% | 46.17 | 0.87% | 40.02 | 1.83% | 60.14 | 1.08% | 113.04 | 2.38% | 63.41 | 0.59% | 39.46 | 2.28% | 259.58 | 1.16% | 62.10 | 3.14% | 33.00 | 2.55% | 43.12 | 2.54% | 78.97 | 1.04% | 41.38 | 1.57% | 48.18 | 1.45% | 58.71 | 1.22% | 93.96 | -0.01% | 66.82 | 1.14% | | | 3,122.87 | 1.36% |
| 6/4/2020 | 60.57 | -0.85% | 50.10 | -1.84% | 73.99 | -2.75% | 84.40 | -2.98% | 45.15 | -2.21% | 39.95 | -0.17% | 58.79 | -2.24% | 111.13 | -1.69% | 62.41 | -1.58% | 38.90 | -1.42% | 251.89 | -2.96% | 60.76 | -2.16% | 32.66 | -1.03% | 41.84 | -2.97% | 77.83 | -1.44% | 40.64 | -1.79% | 47.00 | -2.45% | 57.95 | -1.29% | 92.57 | -1.48% | 65.03 | -2.68% | | | 3,112.35 | -0.34% |
| 6/5/2020 | 62.88 | 3.81% | 50.64 | 1.08% | 75.58 | 2.15% | 85.51 | 1.32% | 44.73 | -0.93% | 39.65 | -0.75% | 59.44 | 1.11% | 114.87 | 3.37% | 63.06 | 1.04% | 39.67 | 1.98% | 254.38 | 0.99% | 62.81 | 3.37% | 33.60 | 2.88% | 43.55 | 4.09% | 79.38 | 1.99% | 42.50 | 4.58% | 47.56 | 1.19% | 58.45 | 0.86% | 92.85 | 0.30% | 65.26 | 0.35% | | | 3,193.93 | 2.62% |
| 6/8/2020 | 63.66 | 1.24% | 52.32 | 3.32% | 77.22 | 2.17% | 87.91 | 2.81% | 46.61 | 4.20% | 39.56 | -0.23% | 60.98 | 2.59% | 117.41 | 2.21% | 65.10 | 3.24% | 40.54 | 2.19% | 260.48 | 2.40% | 63.24 | 0.68% | 34.80 | 3.57% | 44.20 | 1.49% | 82.04 | 3.35% | 43.15 | 1.53% | 48.28 | 1.51% | 60.27 | 3.11% | 95.28 | 2.62% | 66.95 | 2.59% | | | 3,232.39 | 1.20% |
| 6/9/2020 | 63.19 | -0.74% | 50.77 | -2.96% | 75.27 | -2.53% | 85.91 | -2.28% | 44.86 | -3.75% | 39.09 | -1.19% | 60.29 | -1.13% | 115.00 | -2.05% | 63.57 | -2.35% | 40.09 | -1.11% | 258.67 | -0.69% | 62.22 | -1.61% | 33.53 | -3.65% | 42.77 | -3.24% | 80.11 | -2.35% | 41.90 | -2.90% | 47.58 | -1.45% | 59.36 | -1.51% | 93.44 | -1.93% | 66.37 | -0.87% | | | 3,207.18 | -0.78% |
| 6/10/2020 | 62.12 | -1.69% | 50.72 | -0.10% | 74.86 | -0.54% | 85.37 | -0.63% | 44.91 | 0.11% | 38.59 | -1.28% | 59.90 | -0.65% | 112.94 | -1.79% | 63.43 | -0.22% | 39.64 | -1.12% | 256.79 | -0.73% | 60.70 | -2.44% | 32.73 | -2.39% | 42.86 | 0.21% | 78.13 | -2.47% | 40.74 | -2.77% | 46.70 | -1.85% | 59.20 | -0.27% | 93.71 | 0.29% | 66.93 | 0.84% | | | 3,190.14 | -0.53% |
| 6/11/2020 | 57.29 | -7.78% | 48.69 | -4.00% | 71.84 | -4.03% | 81.76 | -4.23% | 42.42 | -5.54% | 36.19 | -6.22% | 58.11 | -2.99% | 105.00 | -7.03% | 60.95 | -3.91% | 37.01 | -6.63% | 248.33 | -3.29% | 56.51 | -6.90% | 30.41 | -7.09% | 39.62 | -7.56% | 74.70 | -4.39% | 38.64 | -5.15% | 44.66 | -4.37% | 56.09 | -5.25% | 91.33 | -2.54% | 65.08 | -2.76% | | | 3,002.10 | -5.89% |
| 6/12/2020 | 57.73 | 0.77% | 48.55 | -0.29% | 71.75 | -0.13% | 81.80 | 0.05% | 42.26 | -0.38% | 36.48 | 0.80% | 58.30 | 0.33% | 105.07 | 0.07% | 60.08 | -1.43% | 37.04 | 0.08% | 246.91 | -0.57% | 55.58 | -1.65% | 30.86 | 1.48% | 39.90 | 0.71% | 75.60 | 1.20% | 38.73 | 0.23% | 44.63 | -0.07% | 56.17 | 0.14% | 90.31 | -1.12% | 63.65 | -2.20% | | | 3,041.31 | 1.31% |
| 6/15/2020 | 58.41 | 1.18% | 48.92 | 0.76% | 72.34 | 0.82% | 81.76 | -0.05% | 42.93 | 1.59% | 37.55 | 2.93% | 58.47 | 0.29% | 106.02 | 0.90% | 59.35 | -1.22% | 37.01 | -0.08% | 248.57 | 0.67% | 56.48 | 1.62% | 31.22 | 1.17% | 40.14 | 0.60% | 77.09 | 1.97% | 38.99 | 0.67% | 45.13 | 1.12% | 56.42 | 0.45% | 90.47 | 0.18% | 63.51 | -0.22% | | | 3,066.59 | 0.83% |
| 6/16/2020 | 57.95 | -0.79% | 49.00 | 0.16% | 72.55 | 0.29% | 81.60 | -0.20% | 42.66 | -0.63% | 37.48 | -0.19% | 59.13 | 1.13% | 107.98 | 1.85% | 59.97 | 1.04% | 37.05 | 0.11% | 248.17 | -0.16% | 56.82 | 0.60% | 31.29 | 0.22% | 40.12 | -0.05% | 77.23 | 0.18% | 39.30 | 0.80% | 45.07 | -0.13% | 56.22 | -0.35% | 90.82 | 0.39% | 63.74 | 0.36% | | | 3,124.74 | 1.90% |
| 6/17/2020 | 56.48 | -2.54% | 48.91 | -0.18% | 72.46 | -0.12% | 82.25 | 0.80% | 42.20 | -1.08% | 37.14 | -0.91% | 59.12 | -0.02% | 107.18 | -0.74% | 59.88 | -0.15% | 36.39 | -1.78% | 249.00 | 0.33% | 55.90 | -1.62% | 30.96 | -1.05% | 39.12 | -2.49% | 76.25 | -1.27% | 38.61 | -1.76% | 44.52 | -1.22% | 56.04 | -0.32% | 90.42 | -0.44% | 63.89 | 0.24% | | | 3,113.49 | -0.36% |
| 6/18/2020 | 56.31 | -0.30% | 49.03 | 0.25% | 72.46 | 0.00% | 81.77 | -0.58% | 41.73 | -1.11% | 36.94 | -0.54% | 59.03 | -0.15% | 107.73 | 0.51% | 60.56 | 1.14% | 36.13 | -0.71% | 248.93 | -0.03% | 55.71 | -0.34% | 30.98 | 0.06% | 38.99 | -0.33% | 76.65 | 0.52% | 38.52 | -0.23% | 44.25 | -0.61% | 56.11 | 0.12% | 89.86 | -0.62% | 64.51 | 0.97% | | | 3,115.34 | 0.06% |
| 6/19/2020 | 54.48 | -3.25% | 47.99 | -2.12% | 69.80 | -3.67% | 79.71 | -2.52% | 40.90 | -1.99% | 35.33 | -4.36% | 57.93 | -1.86% | 103.76 | -3.69% | 59.35 | -2.00% | 35.82 | -0.86% | 242.21 | -2.70% | 54.56 | -2.06% | 30.54 | -1.42% | 38.18 | -2.08% | 73.50 | -4.11% | 37.50 | -2.65% | 43.00 | -2.82% | 53.61 | -4.46% | 88.07 | -1.99% | 64.01 | -0.78% | | | 3,097.74 | -0.57% |
| 6/22/2020 | 54.71 | 0.42% | 48.49 | 1.03% | 70.62 | 1.17% | 80.62 | 1.14% | 41.48 | 1.42% | 35.52 | 0.54% | 58.77 | 1.45% | 106.75 | 2.88% | 59.92 | 0.96% | 36.18 | 1.01% | 247.04 | 1.99% | 54.60 | 0.07% | 30.84 | 0.98% | 39.08 | 2.34% | 73.28 | -0.30% | 38.19 | 1.84% | 43.03 | 0.07% | 54.67 | 1.98% | 87.85 | -0.25% | 65.15 | 1.78% | | | 3,117.86 | 0.65% |
| 6/23/2020 | 54.26 | -0.82% | 47.89 | -1.23% | 70.00 | -0.88% | 80.95 | 0.41% | 41.35 | -0.31% | 34.89 | -1.77% | 57.82 | -1.62% | 107.26 | 0.48% | 59.64 | -0.47% | 35.65 | -1.46% | 243.21 | -1.55% | 54.14 | -0.84% | 30.58 | -0.84% | 38.80 | -0.70% | 72.24 | -1.42% | 38.34 | 0.39% | 43.22 | 0.44% | 53.27 | -2.56% | 87.09 | -0.87% | 64.19 | -1.47% | | | 3,131.29 | 0.43% |
| 6/24/2020 | 53.84 | -0.77% | 47.12 | -1.61% | 69.46 | -0.77% | 80.71 | -0.30% | 41.42 | 0.17% | 35.35 | 1.32% | 57.40 | -0.73% | 105.27 | -1.86% | 59.04 | -1.01% | 35.50 | -0.42% | 241.67 | -0.63% | 52.86 | -2.36% | 30.34 | -0.78% | 38.07 | -1.88% | 71.62 | -0.86% | 37.95 | -1.02% | 41.79 | -3.31% | 52.38 | -1.67% | 86.79 | -0.34% | 63.68 | -0.79% | | | 3,050.33 | -2.59% |
| 6/25/2020 | 53.00 | -1.56% | 46.77 | -0.74% | 68.81 | -0.94% | 79.30 | -1.75% | 41.53 | 0.27% | 35.07 | -0.79% | 56.77 | -1.10% | 104.92 | -0.33% | 58.98 | -0.10% | 35.43 | -0.20% | 239.16 | -1.04% | 52.24 | -1.17% | 30.06 | -0.92% | 37.82 | -0.66% | 71.36 | -0.36% | 37.97 | 0.05% | 41.24 | -1.32% | 51.25 | -2.16% | 85.21 | -1.82% | 62.90 | -1.22% | | | 3,083.76 | 1.10% |
| 6/26/2020 | 52.48 | -0.98% | 47.05 | 0.60% | 68.90 | 0.13% | 78.00 | -1.64% | 41.08 | -1.08% | 33.77 | -3.71% | 56.52 | -0.44% | 104.12 | -0.76% | 58.11 | -1.48% | 35.10 | -0.93% | 236.22 | -1.23% | 52.14 | -0.19% | 29.37 | -2.30% | 36.91 | -2.41% | 71.05 | -0.43% | 37.10 | -2.29% | 40.28 | -2.33% | 50.92 | -0.64% | 85.54 | 0.39% | 62.31 | -0.94% | | | 3,009.05 | -2.42% |
| 6/29/2020 | 54.58 | 4.00% | 47.40 | 0.74% | 69.73 | 1.20% | 79.57 | 2.01% | 42.28 | 2.92% | 35.48 | 5.06% | 57.55 | 1.82% | 106.56 | 2.34% | 59.18 | 1.84% | 35.89 | 2.25% | 238.24 | 0.86% | 54.10 | 3.76% | 30.40 | 3.51% | 38.57 | 4.50% | 72.96 | 2.69% | 38.43 | 3.58% | 41.74 | 3.62% | 51.56 | 1.26% | 86.97 | 1.67% | 62.46 | 0.24% | | | 3,053.24 | 1.47% |
| 6/30/2020 | 54.61 | 0.05% | 47.84 | 0.93% | 70.36 | 0.90% | 79.64 | 0.09% | 41.98 | -0.71% | 36.39 | 2.56% | 58.42 | 1.51% | 107.50 | 0.88% | 59.29 | 0.19% | 36.06 | 0.47% | 240.17 | 0.81% | 54.52 | 0.78% | 30.36 | -0.13% | 38.79 | 0.57% | 73.29 | 0.45% | 38.44 | 0.03% | 41.81 | 0.17% | 51.85 | 0.56% | 87.65 | 0.78% | 62.50 | 0.06% | | | 3,100.29 | 1.54% |
| 7/1/2020 | 55.36 | 1.37% | 48.76 | 1.92% | 72.49 | 3.03% | 82.00 | 2.96% | 43.16 | 2.81% | 36.80 | 1.13% | 59.96 | 2.64% | 110.00 | 2.33% | 61.01 | 2.90% | 36.14 | 0.22% | 246.26 | 2.54% | 55.41 | 1.63% | 30.52 | 0.53% | 39.22 | 1.11% | 75.39 | 2.87% | 39.33 | 2.32% | 42.53 | 1.72% | 52.87 | 1.97% | 89.33 | 1.92% | 64.19 | 2.70% | | | 3,115.86 | 0.50% |
| 7/2/2020 | 55.94 | 1.05% | 49.42 | 1.35% | 73.23 | 1.02% | 82.52 | 0.63% | 43.11 | -0.12% | 36.65 | -0.41% | 60.30 | 0.57% | 109.97 | -0.03% | 61.46 | 0.74% | 36.12 | -0.06% | 246.40 | 0.06% | 55.31 | -0.18% | 30.63 | 0.36% | 39.26 | 0.10% | 76.03 | 0.85% | 39.28 | -0.13% | 42.71 | 0.42% | 52.79 | -0.15% | 90.17 | 0.94% | 64.10 | -0.13% | | | 3,130.01 | 0.45% |
| 7/6/2020 | 55.52 | -0.75% | 49.00 | -0.85% | 73.34 | 0.15% | 82.12 | -0.48% | 42.45 | -1.53% | 36.13 | -1.42% | 60.03 | -0.45% | 108.43 | -1.40% | 61.46 | 0.00% | 35.72 | -1.11% | 246.96 | 0.23% | 54.76 | -0.99% | 30.52 | -0.36% | 38.66 | -1.53% | 76.80 | 1.01% | 39.28 | 0.00% | 41.94 | -1.80% | 52.61 | -0.34% | 89.94 | -0.26% | 63.58 | -0.81% | | | 3,179.72 | 1.59% |
| 7/7/2020 | 56.45 | 1.68% | 48.47 | -1.08% | 73.34 | 0.00% | 82.39 | 0.33% | 42.69 | 0.57% | 35.72 | -1.13% | 59.49 | -0.90% | 107.09 | -1.24% | 60.84 | -1.01% | 35.72 | 0.00% | 246.72 | -0.10% | 53.30 | -2.67% | 30.82 | 0.98% | 38.12 | -1.40% | 76.00 | -1.04% | 38.41 | -2.21% | 41.15 | -1.88% | 52.72 | 0.21% | 88.70 | -1.38% | 63.60 | 0.03% | | | 3,145.32 | -1.08% |
| 7/8/2020 | 56.27 | -0.32% | 48.51 | 0.08% | 73.94 | 0.82% | 82.42 | 0.04% | 42.97 | 0.66% | 35.67 | -0.14% | 59.40 | -0.15% | 107.90 | 0.76% | 61.38 | 0.89% | 35.86 | 0.39% | 253.27 | 2.65% | 53.57 | 0.51% | 30.79 | -0.10% | 38.05 | -0.18% | 76.72 | 0.95% | 38.85 | 1.15% | 41.42 | 0.66% | 53.06 | 0.64% | 88.74 | 0.05% | 63.77 | 0.27% | | | 3,169.94 | 0.78% |
| 7/9/2020 | 56.28 | 0.02% | 48.25 | -0.54% | 73.65 | -0.39% | 82.02 | -0.49% | 42.54 | -1.00% | 35.19 | -1.35% | 58.99 | -0.69% | 106.67 | -1.14% | 60.87 | -0.83% | 35.54 | -0.89% | 251.99 | -0.51% | 52.42 | -2.15% | 29.97 | -2.66% | 37.39 | -1.73% | 76.25 | -0.61% | 37.87 | -2.52% | 40.52 | -2.17% | 51.94 | -2.11% | 87.47 | -1.43% | 63.24 | -0.83% | | | 3,152.05 | -0.56% |
| 7/10/2020 | 58.60 | 4.12% | 49.04 | 1.64% | 74.54 | 1.21% | 84.15 | 2.60% | 43.80 | 2.96% | 36.14 | 2.70% | 59.47 | 0.81% | 107.51 | 0.79% | 61.98 | 1.82% | 36.44 | 2.53% | 259.60 | 3.02% | 53.32 | 1.72% | 30.96 | 3.30% | 38.30 | 2.43% | 78.26 | 2.64% | 38.87 | 2.64% | 42.11 | 3.92% | 53.23 | 2.48% | 88.05 | 0.66% | 63.77 | 0.84% | | | 3,185.04 | 1.05% |
| Price 1/31/2020 | 83.48 | | 59.36 | | 82.05 | | 104.22 | | 53.26 | | 50.85 | | 68.51 | | 132.61 | | 72.16 | | 48.91 | | 268.20 | | 76.97 | | 45.85 | | 53.56 | | 97.69 | | 54.23 | | 61.50 | | 70.40 | | 99.89 | | 69.19 | | | | 3,225.52 | |
| Price 7/10/2020 | 58.60 | | 49.04 | | 74.54 | | 84.15 | | 43.80 | | 36.14 | | 59.47 | | 107.51 | | 61.98 | | 36.44 | | 259.60 | | 53.32 | | 30.96 | | 38.30 | | 78.26 | | 38.87 | | 42.11 | | 53.23 | | 88.05 | | 63.77 | | | | 3,185.04 | |
| Price Change (1) | -29.80% | | -17.39% | | -9.15% | | -19.26% | | -17.76% | | -28.93% | | -13.20% | | -18.93% | | -14.11% | | -25.50% | | -3.21% | | -30.73% | | -32.48% | | -28.49% | | -19.89% | | -28.32% | | -31.53% | | -24.39% | | -11.85% | | -7.83% | | **-20.64%** | | **-1.25%** | |
| Standard Deviation of Returns | | 4.49% | | 3.39% | | 3.88% | | 3.37% | | 3.90% | | 4.58% | | 3.43% | | 4.23% | | 4.28% | | 4.10% | | 3.64% | | 4.59% | | 3.79% | | 5.10% | | 3.87% | | 4.48% | | 4.30% | | 4.18% | | 3.84% | | 3.44% | | **4.04%** | | 3.08% |
| Annual Volatility (2) | | 71.29% | | 53.77% | | 61.57% | | 53.44% | | 61.86% | | 72.77% | | 54.46% | | 67.23% | | 68.00% | | 65.11% | | 57.71% | | 72.86% | | 60.24% | | 80.88% | | 61.39% | | 71.15% | | 68.29% | | 66.31% | | 60.92% | | 54.67% | | **64.20%** | | 48.84% |

Bloomberg and Value Line Beta Coefficients DEC Direct (6/28/2019)

| Company | Ticker | [1] Bloomberg | [2] Value Line |
|---|---|---|---|
| ALLETE, Inc. | ALE | 0.461 | 0.650 |
| Alliant Energy Corporation | LNT | 0.537 | 0.600 |
| Ameren Corporation | AEE | 0.465 | 0.600 |
| American Electric Power Company, Inc. | AEP | 0.511 | 0.550 |
| Avangrid, Inc. | AGR | 0.491 | 0.400 |
| CMS Energy Corporation | CMS | 0.479 | 0.550 |
| DTE Energy Company | DTE | 0.505 | 0.550 |
| Evergy, Inc | EVRG | 0.440 | 0.529 |
| Hawaiian Electric Industries, Inc. | HE | 0.488 | 0.600 |
| NextEra Energy, Inc. | NEE | 0.553 | 0.600 |
| NorthWestern Corporation | NWE | 0.494 | 0.600 |
| OGE Energy Corp. | OGE | 0.568 | 0.800 |
| Otter Tail Corporation | OTTR | 0.558 | 0.700 |
| Pinnacle West Capital Corporation | PNW | 0.447 | 0.550 |
| PNM Resources, Inc. | PNM | 0.521 | 0.650 |
| Portland General Electric Company | POR | 0.481 | 0.600 |
| Southern Company | SO | 0.479 | 0.500 |
| WEC Energy Group, Inc. | WEC | 0.483 | 0.500 |
| Xcel Energy Inc. | XEL | 0.497 | 0.500 |
| Mean | | 0.498 | 0.580 |

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line. Value Line does not report a Beta coefficient for Evergy, Inc. Therefore, the Beta coefficient for Evergy has been manually calculated according to Value Line's methodology.

Bloomberg and Value Line Beta Coefficients DEP Direct (8/16/2019)

| Company | Ticker | [1] Bloomberg | [2] Value Line |
|---|---|---|---|
| ALLETE, Inc. | ALE | 0.480 | 0.650 |
| Alliant Energy Corporation | LNT | 0.530 | 0.600 |
| Ameren Corporation | AEE | 0.475 | 0.600 |
| American Electric Power Company, Inc. | AEP | 0.514 | 0.550 |
| Avangrid, Inc. | AGR | 0.478 | 0.400 |
| CMS Energy Corporation | CMS | 0.481 | 0.550 |
| DTE Energy Company | DTE | 0.511 | 0.550 |
| Evergy, Inc | EVRG | 0.450 | 0.521 |
| Hawaiian Electric Industries, Inc. | HE | 0.495 | 0.550 |
| NextEra Energy, Inc. | NEE | 0.544 | 0.550 |
| NorthWestern Corporation | NWE | 0.504 | 0.600 |
| OGE Energy Corp. | OGE | 0.557 | 0.800 |
| Otter Tail Corporation | OTTR | 0.563 | 0.700 |
| Pinnacle West Capital Corporation | PNW | 0.441 | 0.550 |
| PNM Resources, Inc. | PNM | 0.529 | 0.600 |
| Portland General Electric Company | POR | 0.488 | 0.600 |
| Southern Company | SO | 0.464 | 0.500 |
| WEC Energy Group, Inc. | WEC | 0.479 | 0.500 |
| Xcel Energy Inc. | XEL | 0.502 | 0.500 |
| Mean | | 0.499 | 0.572 |

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line. Value Line does not report a Beta coefficient for Evergy, Inc. Therefore, the Beta coefficient for Evergy has been manually calculated according to Value Line's methodology.

Bloomberg and Value Line Beta Coefficients DEC Rebuttal (1/31/2020)

| Company | Ticker | [1] Bloomberg | [2] Value Line |
|---|---|---|---|
| ALLETE, Inc. | ALE | 0.484 | 0.650 |
| Alliant Energy Corporation | LNT | 0.537 | 0.600 |
| Ameren Corporation | AEE | 0.486 | 0.550 |
| American Electric Power Company, Inc. | AEP | 0.538 | 0.550 |
| Avangrid, Inc. | AGR | 0.508 | 0.400 |
| Avista | AVA | 0.492 | 0.600 |
| CMS Energy Corporation | CMS | 0.486 | 0.500 |
| DTE Energy Company | DTE | 0.528 | 0.550 |
| Evergy, Inc | EVRG | 0.437 | 0.511 |
| Hawaiian Electric Industries, Inc. | HE | 0.511 | 0.550 |
| NextEra Energy, Inc. | NEE | 0.523 | 0.550 |
| NorthWestern Corporation | NWE | 0.528 | 0.600 |
| OGE Energy Corp. | OGE | 0.583 | 0.750 |
| Otter Tail Corporation | OTTR | 0.631 | 0.700 |
| Pinnacle West Capital Corporation | PNW | 0.426 | 0.500 |
| PNM Resources, Inc. | PNM | 0.528 | 0.600 |
| Portland General Electric Company | POR | 0.524 | 0.550 |
| Southern Company | SO | 0.512 | 0.500 |
| WEC Energy Group, Inc. | WEC | 0.471 | 0.500 |
| Xcel Energy Inc. | XEL | 0.517 | 0.500 |
| Mean | | 0.513 | 0.561 |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Value Line. Value Line does not report a Beta coefficient for Evergy, Inc. Therefore, the Beta coefficient for Evergy has been manually calculated according to Value Line's methodology.

Bloomberg and Value Line Beta Coefficients DEP Rebuttal (4/17/2020)

| Company | Ticker | [1] Bloomberg | [2] Value Line |
|---|---|---|---|
| ALLETE, Inc. | ALE | 0.939 | 0.600 |
| Alliant Energy Corporation | LNT | 1.003 | 0.550 |
| Ameren Corporation | AEE | 0.922 | 0.500 |
| American Electric Power Company, Inc. | AEP | 0.983 | 0.500 |
| Avangrid, Inc. | AGR | 0.755 | 0.400 |
| Avista | AVA | 0.927 | 0.600 |
| CMS Energy Corporation | CMS | 0.940 | 0.500 |
| DTE Energy Company | DTE | 1.097 | 0.500 |
| Evergy, Inc | EVRG | 1.043 | 0.655 |
| Hawaiian Electric Industries, Inc. | HE | 0.768 | 0.550 |
| NextEra Energy, Inc. | NEE | 0.912 | 0.500 |
| NorthWestern Corporation | NWE | 1.184 | 0.600 |
| OGE Energy Corp. | OGE | 1.163 | 0.700 |
| Otter Tail Corporation | OTTR | 0.973 | 0.700 |
| Pinnacle West Capital Corporation | PNW | 1.051 | 0.500 |
| PNM Resources, Inc. | PNM | 1.269 | 0.600 |
| Portland General Electric Company | POR | 0.986 | 0.550 |
| Southern Company | SO | 1.050 | 0.500 |
| WEC Energy Group, Inc. | WEC | 0.978 | 0.500 |
| Xcel Energy Inc. | XEL | 0.958 | 0.450 |
| Mean | | 0.995 | 0.548 |

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line. Value Line does not report a Beta coefficient for Evergy, Inc. Therefore, the Beta coefficient for Evergy has been manually calculated according to Value Line's methodology using data as of March 13, 2020, the date of Value Line's report for Evergy.

Bloomberg and Value Line Beta Coefficients DEC/DEP Supplemental Rebuttal (6/30/2020)

| Company | Ticker | [1] Bloomberg | [2] Value Line |
|---|---|---|---|
| ALLETE, Inc. | ALE | 0.981 | 0.850 |
| Alliant Energy Corporation | LNT | 1.005 | 0.800 |
| Ameren Corporation | AEE | 0.921 | 0.800 |
| American Electric Power Company, Inc. | AEP | 0.969 | 0.750 |
| Avangrid, Inc. | AGR | 0.783 | 0.800 |
| Avista Corporation | AVA | 0.934 | 0.600 |
| CMS Energy Corporation | CMS | 0.938 | 0.800 |
| DTE Energy Company | DTE | 1.103 | 0.900 |
| Evergy, Inc | EVRG | 1.042 | 1.050 |
| Hawaiian Electric Industries, Inc. | HE | 0.773 | 0.550 |
| NextEra Energy, Inc. | NEE | 0.908 | 0.850 |
| NorthWestern Corporation | NWE | 1.212 | 0.550 |
| OGE Energy Corp. | OGE | 1.179 | 1.050 |
| Otter Tail Corporation | OTTR | 0.983 | 0.850 |
| Pinnacle West Capital Corporation | PNW | 1.041 | 0.450 |
| PNM Resources, Inc. | PNM | 1.261 | 0.500 |
| Portland General Electric Company | POR | 1.015 | 0.550 |
| Southern Company | SO | 1.036 | 0.900 |
| WEC Energy Group, Inc. | WEC | 0.969 | 0.800 |
| Xcel Energy Inc. | XEL | 0.954 | 0.450 |
| Mean | | 1.000 | 0.743 |

Notes:
[1] Source: Bloomberg Professional
[2] Source: Value Line.

Recently Authorized ROEs by RRA Ranking

| | | | | | | | | | Authorized ROE | | | Authorized Equity Ratio | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **State** | **Company** | **Case Identification** | **Service** | **Case Type** | **Date** | **Return on Equity (%)** | **Equity Ratio (%)** | **RRA Rank** | **Top Third (Average/1 and higher)** | **Middle Third (Average/2)** | **Bottom Third (Average/3 and lower)** | **Top Third (Average/1 and higher)** | **Middle Third (Average/2)** | **Bottom Third (Average/3 and lower)** |
| Washington | Avista Corp. | D-UE-150204 | Electric | Vertically Integrated | 1/6/2016 | 9.50 | 48.50 | Average / 3 | | | 9.50 | | | 48.50 |
| Arkansas | Entergy Arkansas LLC | D-15-015-U | Electric | Vertically Integrated | 2/23/2016 | 9.75 | NA | Average / 3 | | | 9.75 | | | NA |
| Indiana | Indianapolis Power & Light Co. | Ca-44576 | Electric | Vertically Integrated | 3/16/2016 | 9.85 | NA | Above Average / 3 | 9.85 | | | NA | | |
| New Mexico | El Paso Electric Co. | C-15-00127-UT | Electric | Vertically Integrated | 6/8/2016 | 9.48 | 49.29 | Below Average / 1 | | | 9.48 | | | 49.29 |
| Indiana | Northern IN Public Svc Co. | Ca-44688 | Electric | Vertically Integrated | 7/18/2016 | 9.98 | NA | Above Average / 3 | 9.98 | | | NA | | |
| Tennessee | Kingsport Power Company | D-16-00001 | Electric | Vertically Integrated | 8/9/2016 | 9.85 | 40.25 | Average / 1 | 9.85 | | | 40.25 | | |
| Arizona | UNS Electric Inc. | D-E-04204A-15-0142 | Electric | Vertically Integrated | 8/18/2016 | 9.50 | 52.83 | Average / 3 | | | 9.50 | | | 52.83 |
| Washington | PacifiCorp | D-UE-152253 | Electric | Vertically Integrated | 9/1/2016 | 9.50 | 49.10 | Average / 3 | | | 9.50 | | | 49.10 |
| Michigan | Upper Peninsula Power Co. | C-U-17895 | Electric | Vertically Integrated | 9/8/2016 | 10.00 | NA | Average / 1 | 10.00 | | | NA | | |
| New Mexico | Public Service Co. of NM | C-15-00261-UT | Electric | Vertically Integrated | 9/28/2016 | 9.58 | 49.61 | Below Average / 1 | | | 9.58 | | | 49.61 |
| Wisconsin | Madison Gas and Electric Co. | D-3270-UR-121 (Elec) | Electric | Vertically Integrated | 11/9/2016 | 9.80 | 57.16 | Above Average / 2 | 9.80 | | | 57.16 | | |
| Oklahoma | Public Service Co. of OK | Ca-PUD201500208 | Electric | Vertically Integrated | 11/10/2016 | 9.50 | 44.00 | Average / 2 | | 9.50 | | | 44.00 | |
| Wisconsin | Wisconsin Power and Light Co | D-6680-UR-120 (Elec) | Electric | Vertically Integrated | 11/18/2016 | 10.00 | 52.20 | Above Average / 2 | 10.00 | | | 52.20 | | |
| Florida | Florida Power & Light Co. | D-160021-EI | Electric | Vertically Integrated | 11/29/2016 | 10.55 | NA | Above Average / 3 | 10.55 | | | NA | | |
| California | Lbrty Utilities (CalPeco Elect | A-15-05-008 | Electric | Vertically Integrated | 12/1/2016 | 10.00 | 52.50 | Average / 1 | 10.00 | | | 52.50 | | |
| South Carolina | Duke Energy Progress LLC | D-2016-227-E | Electric | Vertically Integrated | 12/7/2016 | 10.10 | 53.00 | Average / 1 | 10.10 | | | 53.00 | | |
| Colorado | Black Hills Colorado Electric | D-16AL-0326E | Electric | Vertically Integrated | 12/19/2016 | 9.37 | 52.39 | Average / 1 | 9.37 | | | 52.39 | | |
| Nevada | Sierra Pacific Power Co. | D-16-06006 | Electric | Vertically Integrated | 12/22/2016 | 9.60 | 48.03 | Average / 2 | | 9.60 | | | 48.03 | |
| North Carolina | Virginia Electric & Power Co. | D-E-22, Sub 532 | Electric | Vertically Integrated | 12/22/2016 | 9.90 | 51.75 | Average / 1 | 9.90 | | | 51.75 | | |
| Idaho | Avista Corp. | C-AVU-E-16-03 | Electric | Vertically Integrated | 12/28/2016 | 9.50 | 50.00 | Average / 2 | | 9.50 | | | 50.00 | |
| Wyoming | MDU Resources Group Inc. | D-20004-117-ER-16 | Electric | Vertically Integrated | 1/18/2017 | 9.45 | 50.99 | Average / 2 | | 9.45 | | | 50.99 | |
| Michigan | DTE Electric Co. | C-U-18014 | Electric | Vertically Integrated | 1/31/2017 | 10.10 | NA | Average / 1 | 10.10 | | | NA | | |
| Arizona | Tucson Electric Power Co. | D-E-01933A-15-0322 | Electric | Vertically Integrated | 2/24/2017 | 9.75 | 50.03 | Average / 3 | | | 9.75 | | | 50.03 |
| Michigan | Consumers Energy Co. | C-U-17990 | Electric | Vertically Integrated | 2/28/2017 | 10.10 | NA | Average / 1 | 10.10 | | | NA | | |
| Minnesota | Otter Tail Power Co. | D-E-017/GR-15-1033 | Electric | Vertically Integrated | 3/2/2017 | 9.41 | 52.50 | Average / 2 | | 9.41 | | | 52.50 | |
| Oklahoma | Oklahoma Gas and Electric Co. | Ca-PUD201500273 | Electric | Vertically Integrated | 3/20/2017 | 9.50 | 53.31 | Average / 2 | | 9.50 | | | 53.31 | |
| Florida | Gulf Power Co. | D-160186-EI | Electric | Vertically Integrated | 4/4/2017 | 10.25 | NA | Above Average / 3 | 10.25 | | | NA | | |
| Missouri | Kansas City Power & Light | C-ER-2016-0285 | Electric | Vertically Integrated | 5/3/2017 | 9.50 | 49.20 | Average / 2 | | 9.50 | | | 49.20 | |
| Minnesota | Northern States Power Co. - MN | D-E-002/GR-15-826 | Electric | Vertically Integrated | 5/11/2017 | 9.20 | 52.50 | Average / 2 | | 9.20 | | | 52.50 | |
| Arkansas | Oklahoma Gas and Electric Co. | D-16-052-U | Electric | Vertically Integrated | 5/18/2017 | 9.50 | NA | Average / 1 | 9.50 | | | NA | | |
| North Dakota | MDU Resources Group Inc. | C-PU-16-666 | Electric | Vertically Integrated | 6/16/2017 | 9.65 | 51.40 | Average / 1 | 9.65 | | | 51.40 | | |
| Kentucky | Kentucky Utilities Co. | C-2016-00370 | Electric | Vertically Integrated | 6/22/2017 | 9.70 | NA | Average / 1 | 9.70 | | | NA | | |
| Kentucky | Louisville Gas & Electric Co. | C-2016-00371 (elec.) | Electric | Vertically Integrated | 6/22/2017 | 9.70 | NA | Average / 1 | 9.70 | | | NA | | |
| Arizona | Arizona Public Service Co. | D-E-01345A-16-0036 | Electric | Vertically Integrated | 8/15/2017 | 10.00 | 55.80 | Average / 3 | | | 10.00 | | | 55.80 |
| California | San Diego Gas & Electric Co. | Advice No. 3120-E | Electric | Vertically Integrated | 10/26/2017 | 10.20 | 52.00 | Above Average / 3 | 10.20 | | | 52.00 | | |
| California | Pacific Gas and Electric Co. | Advise No. 3887-G/5148-E | Electric | Vertically Integrated | 10/26/2017 | 10.25 | 52.00 | Above Average / 3 | 10.25 | | | 52.00 | | |
| California | Southern California Edison Co. | Advice No. 3665-E | Electric | Vertically Integrated | 10/26/2017 | 10.30 | 48.00 | Above Average / 3 | 10.30 | | | 48.00 | | |
| Florida | Tampa Electric Co. | D-20170210-EI | Electric | Vertically Integrated | 11/6/2017 | 10.25 | NA | Above Average / 2 | 10.25 | | | NA | | |
| Alaska | Alaska Electric Light Power | D-U-16-086 | Electric | Vertically Integrated | 11/15/2017 | 11.95 | 58.18 | Below Average / 1 | | | 11.95 | | | 58.18 |
| Washington | Puget Sound Energy Inc. | D-UE-170033 | Electric | Vertically Integrated | 12/5/2017 | 9.50 | 48.50 | Average / 3 | | | 9.50 | | | 48.50 |
| Wisconsin | Northern States Power Co - WI | D-4220-UR-123 (Elec) | Electric | Vertically Integrated | 12/7/2017 | 9.80 | 51.45 | Above Average / 2 | 9.80 | | | 51.45 | | |
| Texas | Southwestern Electric Power Co | D-46449 | Electric | Vertically Integrated | 12/14/2017 | 9.60 | 48.46 | Average / 3 | | | 9.60 | | | 48.46 |
| Texas | El Paso Electric Co. | D-46831 | Electric | Vertically Integrated | 12/14/2017 | 9.65 | 48.35 | Average / 3 | | | 9.65 | | | 48.35 |
| Oregon | Portland General Electric Co. | D-UE-319 | Electric | Vertically Integrated | 12/18/2017 | 9.50 | 50.00 | Average / 2 | | 9.50 | | | 50.00 | |
| New Mexico | Public Service Co. of NM | C-16-00276-UT | Electric | Vertically Integrated | 12/20/2017 | 9.58 | 49.61 | Below Average / 2 | | | 9.58 | | | 49.61 |
| Vermont | Green Mountain Power Corp. | C-17-3112-INV | Electric | Vertically Integrated | 12/21/2017 | 9.10 | 48.60 | Average / 2 | | 9.10 | | | 48.60 | |
| Idaho | Avista Corp. | C-AVU-E-17-01 | Electric | Vertically Integrated | 12/28/2017 | 9.50 | 50.00 | Average / 2 | | 9.50 | | | 50.00 | |
| Nevada | Nevada Power Co. | D-17-06003 | Electric | Vertically Integrated | 12/29/2017 | 9.51 | 49.99 | Average / 2 | | 9.51 | | | 49.99 | |

| State | Company | Case Identification | Service | Case Type | Date | Return on Equity (%) | Equity Ratio (%) | RRA Rank | Top Third (Average/1 and higher) | Middle Third (Average/2) | Bottom Third (Average/3 and lower) | Top Third (Average/1 and higher) | Middle Third (Average/2) | Bottom Third (Average/3 and lower) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kentucky | Kentucky Power Co. | C-2017-00179 | Electric | Vertically Integrated | 1/18/2018 | 9.70 | 41.68 | Average / 1 | 9.70 | | | 41.68 | | |
| Oklahoma | Public Service Co. of OK | Ca-PUD201700151 | Electric | Vertically Integrated | 1/31/2018 | 9.30 | 48.51 | Average / 3 | | | 9.30 | | | 48.51 |
| Iowa | Interstate Power & Light Co. | D-RPU-2017-0001 | Electric | Vertically Integrated | 2/2/2018 | 9.98 | 49.02 | Average / 1 | 9.98 | | | 49.02 | | |
| North Carolina | Duke Energy Progress LLC | D-E-2, Sub 1142 | Electric | Vertically Integrated | 2/23/2018 | 9.90 | 52.00 | Average / 1 | 9.90 | | | 52.00 | | |
| Minnesota | ALLETE (Minnesota Power) | D-E-015/GR-16-664 | Electric | Vertically Integrated | 3/12/2018 | 9.25 | 53.81 | Average / 2 | | 9.25 | | | 53.81 | |
| Michigan | Consumers Energy Co. | C-U-18322 | Electric | Vertically Integrated | 3/29/2018 | 10.00 | NA | Above Average / 3 | 10.00 | | | NA | | |
| Michigan | Indiana Michigan Power Co. | C-U-18370 | Electric | Vertically Integrated | 4/12/2018 | 9.90 | NA | Above Average / 3 | 9.90 | | | NA | | |
| Kentucky | Duke Energy Kentucky Inc. | C-2017-00321 | Electric | Vertically Integrated | 4/13/2018 | 9.73 | 49.25 | Average / 1 | 9.73 | | | 49.25 | | |
| Michigan | DTE Electric Co. | C-U-18255 | Electric | Vertically Integrated | 4/18/2018 | 10.00 | NA | Above Average / 3 | 10.00 | | | NA | | |
| Washington | Avista Corp. | D-UE-170485 | Electric | Vertically Integrated | 4/26/2018 | 9.50 | 48.50 | Average / 3 | | | 9.50 | | | 48.50 |
| Indiana | Indiana Michigan Power Co. | Ca-44967 | Electric | Vertically Integrated | 5/30/2018 | 9.95 | NA | Average / 1 | 9.95 | | | NA | | |
| Hawaii | Hawaiian Electric Co. | D-2016-0328 | Electric | Vertically Integrated | 6/22/2018 | 9.50 | 57.10 | Average / 2 | | 9.50 | | | 57.10 | |
| North Carolina | Duke Energy Carolinas LLC | D-E-7, Sub 1146 | Electric | Vertically Integrated | 6/22/2018 | 9.90 | 52.00 | Average / 1 | 9.90 | | | 52.00 | | |
| Hawaii | Hawaii Electric Light Co | D-2015-0170 | Electric | Vertically Integrated | 6/29/2018 | 9.50 | 56.69 | Average / 2 | | 9.50 | | | 56.69 | |
| New Mexico | Southwestern Public Service Co | C-17-00255-UT | Electric | Vertically Integrated | 9/5/2018 | 9.56 | 53.97 | Below Average / 2 | | | 9.56 | | | 53.97 |
| Wisconsin | Wisconsin Power and Light Co | D-6680-UR-121 (Elec) | Electric | Vertically Integrated | 9/14/2018 | 10.00 | 52.00 | Above Average / 2 | 10.00 | | | 52.00 | | |
| Wisconsin | Madison Gas and Electric Co. | D-3270-UR-122 (Elec) | Electric | Vertically Integrated | 9/20/2018 | 9.80 | 56.06 | Above Average / 2 | 9.80 | | | 56.06 | | |
| North Dakota | Otter Tail Power Co. | C-PU-17-398 | Electric | Vertically Integrated | 9/26/2018 | 9.77 | 52.50 | Average / 1 | 9.77 | | | 52.50 | | |
| Kansas | Westar Energy Inc. | D-18-WSEE-328-RTS | Electric | Vertically Integrated | 9/27/2018 | 9.30 | 51.24 | Below Average / 1 | | | 9.30 | | | 51.24 |
| Indiana | Indianapolis Power & Light Co. | Ca-45029 | Electric | Vertically Integrated | 10/31/2018 | 9.99 | NA | Average / 1 | 9.99 | | | NA | | |
| Kansas | Kansas City Power & Light | D-18-KCPE-480-RTS | Electric | Vertically Integrated | 12/13/2018 | 9.30 | 49.09 | Below Average / 1 | | | 9.30 | | | 49.09 |
| Oregon | Portland General Electric Co. | D-UE-335 | Electric | Vertically Integrated | 12/14/2018 | 9.50 | 50.00 | Average / 2 | | 9.50 | | | 50.00 | |
| Vermont | Green Mountain Power Corp. | C-18-0974-TF | Electric | Vertically Integrated | 12/21/2018 | 9.30 | 49.85 | Average / 3 | | | 9.30 | | | 49.85 |
| Michigan | Consumers Energy Co. | C-U-20134 | Electric | Vertically Integrated | 1/9/2019 | 10.00 | NA | Above Average / 3 | 10.00 | | | NA | | |
| West Virginia | Appalachian Power Co. | C-18-0646-E-42T | Electric | Vertically Integrated | 2/27/2019 | 9.75 | 50.16 | Below Average / 2 | | | 9.75 | | | 50.16 |
| Oklahoma | Public Service Co. of OK | Ca-PUD201800097 | Electric | Vertically Integrated | 3/14/2019 | 9.40 | NA | Average / 3 | | | 9.40 | | | NA |
| Kentucky | Kentucky Utilities Co. | C-2018-00294 | Electric | Vertically Integrated | 4/30/2019 | 9.73 | NA | Average / 1 | 9.73 | | | NA | | |
| Kentucky | Louisville Gas & Electric Co. | C-2018-00295 (elec.) | Electric | Vertically Integrated | 4/30/2019 | 9.73 | NA | Average / 1 | 9.73 | | | NA | | |
| South Carolina | Duke Energy Carolinas LLC | D-2018-319-E | Electric | Vertically Integrated | 5/1/2019 | 9.50 | 53.00 | Average / 3 | | | 9.50 | | | 53.00 |
| Michigan | DTE Electric Co. | C-U-20162 | Electric | Vertically Integrated | 5/2/2019 | 10.00 | NA | Above Average / 3 | 10.00 | | | NA | | |
| South Carolina | Duke Energy Progress LLC | D-2018-318-E | Electric | Vertically Integrated | 5/8/2019 | 9.50 | 53.00 | Average / 3 | | | 9.50 | | | 53.00 |
| South Dakota | Otter Tail Power Co. | D-EL18-021 | Electric | Vertically Integrated | 5/14/2019 | 8.75 | 52.92 | Average / 2 | | 8.75 | | | 52.92 | |
| Hawaii | Maui Electric Company Ltd | D-2017-0150 | Electric | Vertically Integrated | 5/16/2019 | 9.50 | 57.02 | Average / 2 | | 9.50 | | | 57.02 | |
| Michigan | Upper Peninsula Power Co. | C-U-20276 | Electric | Vertically Integrated | 5/23/2019 | 9.90 | NA | Above Average / 3 | 9.90 | | | NA | | |
| Vermont | Green Mountain Power Corp. | C-19-1932-TF | Electric | Vertically Integrated | 8/29/2019 | 9.06 | 49.46 | Average / 3 | | | 9.06 | | | 49.46 |
| Wisconsin | Northern States Power Co - WI | D- 4220-UR-124 (Elec) | Electric | Vertically Integrated | 9/4/2019 | 10.00 | 52.52 | Above Average / 2 | 10.00 | | | 52.52 | | |
| Wisconsin | Wisconsin Electric Power Co. | D-05-UR-109 (WEP-Elec) | Electric | Vertically Integrated | 10/31/2019 | 10.00 | 54.46 | Above Average / 2 | 10.00 | | | 54.46 | | |
| Wisconsin | Wisconsin Public Service Corp. | D-6690-UR-126 (Elec) | Electric | Vertically Integrated | 10/31/2019 | 10.00 | 51.96 | Above Average / 2 | 10.00 | | | 51.96 | | |
| Louisiana - NOCC | Entergy New Orleans LLC | D-UD-18-07 (elec.) | Electric | Vertically Integrated | 11/7/2019 | 9.35 | 50.00 | Average / 2 | | 9.35 | | | 50.00 | |
| Idaho | Avista Corp. | C-AVU-E-1904 | Electric | Vertically Integrated | 11/29/2019 | 9.50 | 50.00 | Average / 2 | | 9.50 | | | 50.00 | |
| Indiana | Northern IN Public Svc Co. | Ca-45159 | Electric | Vertically Integrated | 12/4/2019 | 9.75 | NA | Average / 1 | 9.75 | | | NA | | |
| Georgia | Georgia Power Co. | D-42516 | Electric | Vertically Integrated | 12/17/2019 | 10.50 | 56.00 | Above Average / 2 | 10.50 | | | 56.00 | | |
| California | San Diego Gas & Electric Co. | A-19-04-017 (Elec) | Electric | Vertically Integrated | 12/19/2019 | 10.20 | 52.00 | Average / 2 | | 10.20 | | | 52.00 | |
| California | Pacific Gas and Electric Co. | A-19-04-015 | Electric | Vertically Integrated | 12/19/2019 | 10.25 | 52.00 | Average / 2 | | 10.25 | | | 52.00 | |
| California | Southern California Edison Co. | A-19-04-014 | Electric | Vertically Integrated | 12/19/2019 | 10.30 | 52.00 | Average / 2 | | 10.30 | | | 52.00 | |
| Arkansas | Southwestern Electric Power Co | D-19-008-U | Electric | Vertically Integrated | 12/20/2019 | 9.45 | NA | Average / 1 | 9.45 | | | NA | | |
| Montana | NorthWestern Corp. | D2018.2.12 | Electric | Vertically Integrated | 12/20/2019 | 9.65 | 49.38 | Below Average / 1 | | | 9.65 | | | 49.38 |
| Nevada | Sierra Pacific Power Co. | D-19-06002 | Electric | Vertically Integrated | 12/24/2019 | 9.50 | 50.92 | Average / 2 | | 9.50 | | | 50.92 | |

| State | Company | Case Identification | Service | Case Type | Date | Return on Equity (%) | Equity Ratio (%) | RRA Rank | Top Third (Average/1 and higher) | Middle Third (Average/2) | Bottom Third (Average/3 and lower) | Top Third (Average/1 and higher) | Middle Third (Average/2) | Bottom Third (Average/3 and lower) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iowa | Interstate Power & Light Co. | D-RPU-2019-0001 | Electric | Vertically Integrated | 1/8/2020 | 10.02 | 51.00 | Average / 1 | 10.02 | | | 51.00 | | |
| Michigan | Indiana Michigan Power Co. | C-U-20359 | Electric | Vertically Integrated | 1/23/2020 | 9.86 | NA | Above Average / 3 | 9.86 | | | NA | | |
| California | PacifiCorp | A-18-04-002 | Electric | Vertically Integrated | 2/6/2020 | 10.00 | 51.96 | Average / 2 | | 10.00 | | | 51.96 | |
| Colorado | Public Service Co. of CO | D-19AL-0268E | Electric | Vertically Integrated | 2/11/2020 | 9.30 | 55.61 | Average / 2 | | 9.30 | | | 55.61 | |
| North Carolina | Virginia Electric & Power Co. | E-22, Sub 562 | Electric | Vertically Integrated | 2/24/2020 | 9.75 | 52.00 | Average / 1 | 9.75 | | | 52.00 | | |
| Indiana | Indiana Michigan Power Co. | Ca-45235 | Electric | Vertically Integrated | 3/11/2020 | 9.70 | NA | Average / 1 | 9.70 | | | NA | | |
| Washington | Avista Corp. | D-UE-190334 | Electric | Vertically Integrated | 3/25/2020 | 9.40 | 48.50 | Average / 3 | | | 9.40 | | | 48.50 |
| Kentucky | Duke Energy Kentucky Inc. | C-2019-00271 | Electric | Vertically Integrated | 4/27/2020 | 9.25 | 48.23 | Average / 1 | 9.25 | | | 48.23 | | |
| Michigan | DTE Electric Co. | C-U-20561 | Electric | Vertically Integrated | 5/8/2020 | 9.90 | NA | Above Average / 3 | 9.90 | | | NA | | |
| New Mexico | Southwestern Public Service Co | C-19-00170-UT | Electric | Vertically Integrated | 5/20/2020 | 9.45 | 54.77 | Below Average / 2 | | | 9.45 | | | 54.77 |
| Indiana | Duke Energy Indiana, LLC | Ca-45253 | Electric | Vertically Integrated | 6/29/2020 | 9.70 | NA | Average / 1 | 9.70 | | | NA | | |
| | | | | | Total Cases | 107 | | | 54 | 26 | 27 | 27 | 26 | 25 |
| | | | | | Mean | 9.74 | 51.20 | | 9.91 | 9.53 | 9.60 | 51.29 | 51.58 | 50.71 |
| | | | | | Median | 9.70 | 51.43 | | 9.90 | 9.50 | 9.50 | 52.00 | 51.48 | 49.61 |
| | | | | | Maximum | 11.95 | 58.18 | | 10.55 | 10.30 | 11.95 | 57.16 | 57.10 | 58.18 |
| | | | | | Minimum | 8.75 | 40.25 | | 9.25 | 8.75 | 9.06 | 40.25 | 44.00 | 48.35 |
| | | | | | # >=9.60% | 63 | | | | | | | | |

Source: Regulatory Research Associates
Note: Authorized equity ratios from Arkansas, Florida, Indiana, and Michigan have been excluded from the equity ratio analysis

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1214
Estimated Rate Impacts of the deferral

GIP Exhibit 1 – Deferral Granted
Page 1

***For Illustrative purposes only.***

| *Dollars in thousands* | 2018 Present Revenue Annualized | Years 1-5 | | Years 6-10 | |
|---|---|---|---|---|---|
| | | Annual Revenue Requirement | % Increase in Avg. Bill | Annual Revenue Requirement | % Decrease in Avg Bill from Year 5 |
| Residential | $ 2,280,641 | $ 156,279 | 6.9% | $ 95,959 | -2.5% |
| General Service | 886,498 | 34,522 | 3.9% | 21,146 | -1.5% |
| Industrial | 157,318 | 4,764 | 3.0% | 2,916 | -1.1% |
| Lighting | 115,650 | 7,431 | 6.4% | 4,568 | -2.3% |
| OPT | 1,400,366 | 32,360 | 2.3% | 19,744 | -0.9% |
| Total | $ 4,840,473 | $ 235,355 | 4.9% | $ 144,333 | -1.8% |

Rates assume the deferral is amortized over 5 years and removed deferral from revenue beginning in year 6.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1214
10 Year Impact - Grid Deferral
Dollars in thousands

GIP Exhibit 1 – Deferral Granted
Page 2

Total NC Retail

| Line No. | Description | Reference | 2023 | New Rates Effective 2024 | 2025 | 2026 | 2027 | 2028 | New Rates Effective 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | Electric operating revenue | Revenue Requirement | | 235,355 | 235,355 | 235,355 | 235,355 | 235,355 | 144,333 | 144,333 | 144,333 | 144,333 |
| 4 | | | | | | | | | | | | |
| 5 | Electric operating expenses: | | | | | | | | | | | |
| 6 | Operation and maintenance | | | | | | | | | | | |
| 7 | Fuel used in electric generation | | | | | | | | | | | |
| 8 | Regulatory Fee | (Revenue * Reg Fee rate) | | 305 | 305 | 305 | 305 | 305 | 187 | 187 | 187 | 187 |
| 9 | Uncollectibles | (Revenue * Uncollectible rate) | | 589 | 589 | 589 | 589 | 589 | 361 | 361 | 361 | 361 |
| 10 | Depreciation and amortization | Revenue Requirement | 39,969 | 39,969 | 39,969 | 39,969 | 39,969 | 39,969 | 39,969 | 39,969 | 39,969 | 39,969 |
| 11 | Amortization of Deferral | Revenue Requirement | | 90,677 | 90,677 | 90,677 | 90,677 | 90,677 | | | | |
| 12 | Deferral | Deferral until new rates | (39,972) | | | | | | | | | |
| 13 | General taxes | Revenue Requirement | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 14 | Interest on customer deposits | | - | - | - | - | - | - | - | - | - | - |
| 15 | Income taxes | Calculated | - | 24,241 | 24,241 | 24,241 | 24,241 | 24,241 | 24,241 | 24,241 | 24,241 | 24,241 |
| 16 | Amortization of investment tax credit | | - | - | - | - | - | - | - | - | - | - |
| 17 | | | | | | | | | | | | |
| 18 | Total electric operating expenses | Sum L8 through L15 | 0 | 155,783 | 155,783 | 155,783 | 155,783 | 155,783 | 64,761 | 64,761 | 64,761 | 64,761 |
| 19 | | | | | | | | | | | | |
| 20 | Operating income | L3 - L18 | $ (0) | 79,572 | 79,572 | 79,572 | 79,572 | 79,572 | 79,572 | 79,572 | 79,572 | 79,572 |
| 21 | | | | | | | | | | | | |
| 22 | Notes: | | | | | | | | | | | |
| 23 | Revenue: positive number increases revenue / negative number decreases revenue | | | | | | | | | | | |
| 24 | Expense: positive number increases expense / negative number decreases expense | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | |
| 27 | | **Rate Base Line Items** | | | | | | | | | | |
| 28 | | | | | | | | | | | | |
| 29 | Electric plant in service | | $ 1,170,019 | $ 1,170,019 | $ 1,170,019 | $ 1,170,019 | $ 1,170,019 | $ 1,170,019 | $ 1,170,019 | $ 1,170,019 | $ 1,170,019 | $ 1,170,019 |
| 30 | Accumulated depreciation and amortization | | (86,681) | (126,650) | (166,619) | (206,588) | (246,557) | (286,526) | (326,495) | (366,464) | (406,433) | (446,402) |
| 31 | Electric plant in service, net | Sum L29 through L30 | 1,083,338 | 1,043,369 | 1,003,400 | 963,431 | 923,462 | 883,493 | 843,524 | 803,555 | 763,586 | 723,617 |
| 32 | | | | | | | | | | | | |

Duke Energy Carolinas, LLC — GIP Exhibit 1 – Deferral Granted
Docket No. E-7, Sub 1214 — Page 3
Revenue Requirement - Grid Deferral
For the test period ended December 31, 2022 - Plant Update Period through December 2022, New Rates January 2024

Revenue Requirement ($ in thousands)

| Line | | NC Retail Asset Balance as of 12/31/2022 | NC Retail Accumulated Depreciation As of 12/31/2022 | Net Plant |
|---|---|---|---|---|
| 1 | **Plant** | | | |
| 2 | Distribution | 766,848 | (18,103) | 748,746 |
| 3 | Transmission | 244,862 | (7,287) | 237,576 |
| 4 | General Plant | 158,309 | (21,323) | 136,986 |
| 5 | Total | 1,170,019 | (46,712) | 1,123,307 |
| 6 | | | | |
| 7 | WACC - Pre Tax | 9.28% | | |
| 8 | Capital Revenue Requirement (Net Plant * WACC) | | | |
| 9 | Distribution | 69,461 | | |
| 10 | Transmission | 22,040 | | |
| 11 | General Plant | 12,708 | | |
| 12 | Total | 104,209 | | |
| 13 | | | | |
| 14 | **Impact to Income Statement Line Items** | | | |
| 15 | Depreciation and amortization: | Years 1-5 | Years 6-10 | |
| 16 | Distribution depreciation expense | $ 15,490 | $ 15,490 | |
| 17 | Transmission depreciation expense | 5,460 | 5,460 | |
| 18 | General Plant depreciation expense | 19,018 | 19,018 | |
| 19 | Impact to deprec. and amortization (Sum L16 through L18) | $ 39,969 | $ 39,969 | |
| 20 | | | | |
| 21 | Amortization of 2022 deferral: | | | |
| 22 | Distribution depreciation expense | $ 52,765 | | |
| 23 | Transmission depreciation expense | 18,044 | | |
| 24 | General Plant depreciation expense | 19,867 | | |
| 25 | Impact to deprec. and amortization (Sum L22 through L24) | 90,677 | | |
| 26 | | | | |
| 27 | General taxes: | | | |
| 28 | Property tax rate | 0.26% | | |
| 29 | | | | |
| 30 | Property tax ( December 2022 Plant Balance * Property tax rate) | | | |
| 31 | Distribution property tax expense | $ 2 | $ 2 | |
| 32 | Transmission property tax expense | 1 | 1 | |
| 33 | General Plant property tax expense | 0 | 0 | |
| 34 | Impact to general taxes (Sum L70 through L74) | $ 3 | $ 3 | |
| 35 | | | | |
| 36 | Total Operating Expenses (Depreciation + Amortization + Property Taxes) | | | |
| 37 | Distribution | $ 68,257 | $ 15,492 | |
| 38 | Transmission | 23,506 | 5,461 | |
| 39 | General Plant | 38,885 | 19,019 | |
| 40 | Total income taxes | $ 130,649 | $ 39,972 | |
| 41 | | | | |
| 42 | Taxes | 23.35% | 23.35% | |
| 43 | Distribution | $ (15,938) | $ (3,618) | |
| 44 | Transmission | (5,489) | (1,275) | |
| 45 | General Plant | (9,080) | (4,441) | |
| 46 | Total income statement impact | $ (30,507) | $ (9,334) | |
| 47 | | | | |
| 48 | Income Statement Impact (Operating expenses + Taxes) | | | |
| 49 | Distribution | $ 52,319 | $ 11,875 | |
| 50 | Transmission | 18,017 | 4,186 | |
| 51 | General Plant | 29,806 | 14,578 | |
| 52 | Total income statement Requirement | $ 100,142 | $ 30,638 | |
| 53 | | | | |
| 54 | Retention Factor | 76.36% | 76.36% | |
| 55 | | | | |
| 56 | Total Revenue Requirement (Capital Revenue Requirement + Income Statement impact/ Retention factor) | | | |
| 57 | Distribution | $ 137,978 | $ 85,012 | |
| 58 | Transmission | 45,635 | 27,522 | |
| 59 | General Plant | 51,742 | 31,799 | |
| 60 | Total Revenue Requirement | $ 235,355 | $ 144,333 | |
| 61 | | | | |

**<u>Grid Deferral Assumptions</u>**

CWIP spend is spent evenly throughout the year

**Timing of assets going in service**
Distribution - Assumed 1 month delay from time of CWIP spend to asset placed in service.
Transmission - Assumed 6 month delay from time of CWIP spend to asset placed in service.
Communications - Assumed 3 month delay from time of CWIP spend to asset placed in service.
Advance DMS and Enterprise applications - assumed CWIP spend placed in service annually in December.

**Depreciation rates**
Distribution - applied a total distribution depreciation rate excluding meters.
Transmission - applied a total transmission depreciation rate
Communication - applied a total communications depreciation rate
Advanced DMS - assumed a 10 year asset life
Enterprise application - assumed a 5 year life

**Returns**
Assumed the weighted average cost of capital as reflected in the company's application.

**O&M**
Reflected estimated installation O&M expenses.
Assumed no incremental on going O&M expenses.
Assumed new depreciation rates effective 8/1/2020.

**Property Taxes**
Property taxes begin the next calendar year after the asset is placed in service.

**Deferral**
Assumed deferral begins 1/1/2020, and with assets placed in service beginning 2/1/2020.
Assumed plant additions stopped being eligible for deferral 1/1/2023.
Deferral of return, depreciation, property tax continued until 12/31/2023 on electric plant in service balances as of 12/31/2022.

**Deferral recovery**
Assumed a 5 year levelized amortization of the deferral.

**Revenue Requirement**
Assumes the test period was twelve months ended December 2022.
Assumed there was no additional update period for plant additions after the test period.
Assumed new rates were effective 1/1/2024.
Assumed rates were adjusted after the 5 year amortization of the deferral expired on 1/1/2029.

**Rate impacts**
Allocations are based on 2018 cost of service study as presented in the current rate case.
For modeling purposes, forecasted distribution costs were allocated using a composite distribution plant allocator, excluding extra facilities and FERC accounts 370, 371 and 373.
In actuals, distribution costs will be allocated more specifically based on the individual FERC accounts they are booked to.
Does not include any savings that might be realized in the base rate cases as a result of the investments.
Percent increases shown based on present revenues annualized with riders as presented in current case.

**DUKE ENERGY CAROLINAS LLC** GIP Exhibit 1 – Deferral Granted
E7 Sub 1214 Page 5
NORTH CAROLINA RETAIL GRID IMPROVEMENT PLAN

**DEC NC Summary Grid Impact**

| *Dollars in thousands (000s)* | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| System CWIP Spend | 442,845 | 580,407 | 702,957 | |
| NC Retail CWIP Spend | 292,768 | 419,941 | 516,024 | |
| Cumulative In Service (Beg Feb 2020) | 257,012 | 663,075 | 1,170,019 | |
| Accum Depr | (2,693) | (17,534) | (46,712) | |
| Total Rate Base | 254,318 | 645,541 | 1,123,307 | |
| | | | | |
| Installation O&M (Beg Jan 2020) | 5,447 | 6,424 | 10,612 | - |
| Depreciation (Beg Mar 2020) | 2,693 | 14,840 | 29,178 | 39,969 |
| Property Tax | - | 666 | 1,717 | 3,031 |
| Debt Return - Capital Asset | 2,220 | 9,272 | 18,459 | 23,387 |
| Debt Return - Deferred Balance | 93 | 747 | 2,322 | 4,832 |
| Equity Return - Capital Asset | 7,458 | 31,152 | 62,022 | 78,579 |
| Equity Return - Deferred Balance | 311 | 2,509 | 7,801 | 16,236 |
| Annual Deferral | 18,222 | 65,609 | 132,111 | 166,034 |
| | | | | |
| Cumulative Deferral Balance | 18,222 | 83,831 | 215,942 | 381,976 |

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1214
Estimated Rate Impacts of Grid with no Deferral

GIP Exhibit 2 – Deferral Denied
Page 1

***For Illustrative purposes only.***

*Dollars in thousands*

| | | Years 1-10 | |
|---|---|---|---|
| | 2018 Present Revenue Annualized | Annual Revenue Requirement | % Increase in Avg. Bill |
| Residential | 2,280,641 | 20,453 | 0.9% |
| General Service | 886,498 | 4,684 | 0.5% |
| Industrial | 157,318 | 654 | 0.4% |
| Lighting | 115,650 | 967 | 0.8% |
| OPT | 1,400,366 | 4,643 | 0.3% |
| Total | 4,840,473 | 31,401 | 0.6% |

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1214
10 Year Impact of Grid with No Deferral
Dollars in thousands

GIP Exhibit 2 – Deferral Denied
Page 2

Total NC Retail

| Line No. | Description | Reference | 2023 | New Rates Effective 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | Electric operating revenue | Revenue Requirement | | 31,401 | 31,401 | 31,401 | 31,401 | 31,401 | 31,401 | 31,401 | 31,401 | 31,401 |
| 4 | | | | | | | | | | | | |
| 5 | Electric operating expenses: | | | | | | | | | | | |
| 6 | Operation and maintenance | | | | | | | | | | | |
| 7 | Fuel used in electric generation | | | | | | | | | | | |
| 8 | Regulatory Fee | (Revenue * Reg Fee rate) | | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 9 | Uncollectibles | (Revenue * Uncollectible rate) | | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| 10 | Depreciation and amortization | Revenue Requirement | 8,681 | 8,681 | 8,681 | 8,681 | 8,681 | 8,681 | 8,681 | 8,681 | 8,681 | 8,681 |
| 11 | Amortization of Deferral | | | - | - | - | - | - | | | | |
| 12 | Deferral | | | | | | | | | | | |
| 13 | General taxes | Revenue Requirement | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 14 | Interest on customer deposits | | - | - | - | - | - | - | - | - | - | - |
| 15 | Income taxes | Calculated | (2,027) | 5,277 | 5,277 | 5,277 | 5,277 | 5,277 | 5,277 | 5,277 | 5,277 | 5,277 |
| 16 | Amortization of investment tax credit | | - | - | - | - | - | - | - | - | - | - |
| 17 | | | | | | | | | | | | |
| 18 | Total electric operating expenses | Sum L8 through L15 | 6,654 | 14,078 | 14,078 | 14,078 | 14,078 | 14,078 | 14,078 | 14,078 | 14,078 | 14,078 |
| 19 | | | | | | | | | | | | |
| 20 | Operating income | L3 - L18 | $ (6,654) | 17,323 | 17,323 | 17,323 | 17,323 | 17,323 | 17,323 | 17,323 | 17,323 | 17,323 |
| 21 | | | | | | | | | | | | |
| 22 | Notes: | | | | | | | | | | | |
| 23 | Revenue: positive number increases revenue / negative number decreases revenue | | | | | | | | | | | |
| 24 | Expense: positive number increases expense / negative number decreases expense | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | |
| 27 | **Rate Base Line Items** | | | | | | | | | | | |
| 28 | | | | | | | | | | | | |
| 29 | Electric plant in service | | $ 255,748 | $ 255,748 | $ 255,748 | $ 255,748 | $ 255,748 | $ 255,748 | $ 255,748 | $ 255,748 | $ 255,748 | $ 255,748 |
| 30 | Accumulated depreciation and amortization | | (19,880) | (28,561) | (37,242) | (45,923) | (54,604) | (63,285) | (71,966) | (80,647) | (89,328) | (98,009) |
| 31 | Electric plant in service, net | Sum L29 through L30 | 235,868 | 227,187 | 218,506 | 209,825 | 201,144 | 192,463 | 183,782 | 175,101 | 166,420 | 157,739 |
| 32 | | | | | | | | | | | | |

Duke Energy Carolinas, LLC | GIP Exhibit 2 – Deferral Denied
Docket No. E-7, Sub 1214 | Page 3
Revenue Requirement - Grid no deferral
For the test period ended December 31, 2022 - Plant Update Period through December 2022, New Rates January 2024

Revenue Requirement ($ in thousands)

| | | | NC Retail | | | |
|---|---|---|---|---|---|---|
| | | | Asset Balance | | Accumulated Depreciation | Net |
| 1 | **Plant** | | as of 12/31/2022 | | As of 12/31/2022 | Plant |
| 2 | Distribution | | 153,370 | | (3,621) | 149,749 |
| 3 | Transmission | | 68,112 | | (2,587) | 65,526 |
| 4 | General Plant | | 34,266 | | (4,992) | 29,274 |
| 5 | Total | | 255,748 | | (11,199) | 244,549 |
| 6 | | | | | | |
| 7 | WACC - Pre Tax | | 9.28% | | | |
| 8 | Capital Revenue Requirement (Net Plant * WACC) | | | | | |
| 9 | Distribution | | 13,892 | | | |
| 10 | Transmission | | 6,079 | | | |
| 11 | General Plant | | 2,716 | | | |
| 12 | Total | | 22,687 | | | |
| 13 | | | | | | |
| 14 | **Impact to Income Statement Line Items** | | | | | |
| 15 | Depreciation and amortization: | | Years 1-5 | | Years 6-10 | |
| 16 | Distribution depreciation expense | $ | 3,098 | $ | 3,098 | |
| 17 | Transmission depreciation expense | | 1,519 | | 1,519 | |
| 18 | General Plant depreciation expense | | 4,064 | | 4,064 | |
| 19 | Impact to deprec. and amortization (Sum L16 through L18) | $ | 8,681 | $ | 8,681 | |
| 20 | | | | | | |
| 21 | Amortization of 2022 deferral: | | | | | |
| 22 | Distribution depreciation expense | | | | | |
| 23 | Transmission depreciation expense | | | | | |
| 24 | General Plant depreciation expense | | | | | |
| 25 | Impact to deprec. and amortization (Sum L22 through L24) | | - | | | |
| 26 | | | | | | |
| 27 | General taxes: | | | | | |
| 28 | Property tax rate | | 0.26% | | | |
| 29 | | | | | | |
| 30 | Property tax ( December 2022 Plant Balance * Property tax rate) | | | | | |
| 31 | Distribution property tax expense | $ | 0 | $ | 0 | |
| 32 | Transmission property tax expense | | 0 | | 0 | |
| 33 | General Plant property tax expense | | 0 | | 0 | |
| 34 | Impact to general taxes (Sum L70 through L74) | $ | 1 | $ | 1 | |
| 35 | | | | | | |
| 36 | Total Operating Expenses (Depreciation + Amortization + Property Taxes) | | | | | |
| 37 | Distribution | $ | 3,098 | $ | 3,098 | |
| 38 | Transmission | | 1,519 | | 1,519 | |
| 39 | General Plant | | 4,064 | | 4,064 | |
| 40 | Total income taxes | $ | 8,682 | $ | 8,682 | |
| 41 | | | | | | |
| 42 | Taxes | | 23.35% | | 23.35% | |
| 43 | Distribution | $ | (724) | $ | (724) | |
| 44 | Transmission | | (355) | | (355) | |
| 45 | General Plant | | (949) | | (949) | |
| 46 | Total income statement impact | $ | (2,027) | $ | (2,027) | |
| 47 | | | | | | |
| 48 | Income Statement Impact (Operating expenses + Taxes) | | | | | |
| 49 | Distribution | $ | 2,375 | $ | 2,375 | |
| 50 | Transmission | | 1,164 | | 1,164 | |
| 51 | General Plant | | 3,115 | | 3,115 | |
| 52 | Total income statement Requirement | $ | 6,654 | $ | 6,654 | |
| 53 | | | | | | |
| 54 | Retention Factor | | 76.36% | | 76.36% | |
| 55 | | | | | | |
| 56 | Total Revenue Requirement (Capital Revenue Requirement + Income Statement impact/ Retention factor) | | | | | |
| 57 | Distribution | $ | 17,002 | $ | 17,002 | |
| 58 | Transmission | | 7,604 | | 7,604 | |
| 59 | General Plant | | 6,795 | | 6,795 | |
| 60 | Total Revenue Requirement | $ | 31,401 | $ | 31,401 | |
| 61 | | | | | | |

**<u>Grid Deferral Assumptions</u>**

CWIP spend is spent evenly throughout the year
Assumed only 20% of original Grid plan would be spent without deferral.

**Timing of assets going in service**
Distribution - Assumed 1 month delay from time of CWIP spend to asset placed in service.
Transmission - Assumed 6 month delay from time of CWIP spend to asset placed in service.
Communications - Assumed 3 month delay from time of CWIP spend to asset placed in service.
Advance DMS and Enterprise applications - assumed CWIP spend placed in service annually in December.

**Depreciation rates**
Distribution - applied a total distribution depreciation rate excluding meters.
Transmission - applied a total transmission depreciation rate
Communication - applied a total communications depreciation rate
Advanced DMS - assumed a 10 year asset life
Enterprise application - assumed a 5 year life

**Returns**
Assumed the weighted average cost of capital as reflected in the company's application.

**O&M**
Reflected estimated installation O&M expenses.
Assumed no incremental on going O&M expenses.
Assumed new depreciation rates effective 8/1/2020.

**Property Taxes**
Property taxes begin the next calendar year after the asset is placed in service.

**Deferral**
Assumed no deferral

**Revenue Requirement**
Assumes the test period was twelve months ended December 2022.
Assumed there was no additional update period for plant additions after the test period.
Assumed rates were effective 1/1/2024.

**Rate impacts**
Allocations are based on 2018 cost of service study as presented in the current rate case.
For modeling purposes, forecasted distribution costs were allocated using a composite distribution plant allocator, excluding extra facilities and FERC accounts 370, 371 and 373.
In actuals, distribution costs will be allocated more specifically based on the individual FERC accounts they are booked to.
Does not include any savings that might be realized in the base rate cases as a result of the investments.
Percent increases shown based on present revenues annualized with riders as presented in current case.

**DUKE ENERGY CAROLINAS LLC** GIP Exhibit 2 – Deferral Denied
E7 Sub 1214 Page 5
NORTH CAROLINA RETAIL GRID IMPROVEMENT PLAN
SUMMARY OF DEFERRAL

**Not Applicable.**

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1214
Estimated Rate Impacts of the deferral - Settlement

GIP Exhibit 3 – Deferral Granted (Settlement)
Page 1

***For Illustrative purposes only.***

*Dollars in thousands*

| | 2018 Present Revenue Annualized | Years 1-5 Annual Revenue Requirement | Years 1-5 % Increase in Avg. Bill | Years 6-10 Annual Revenue Requirement | Years 6-10 % Decrease in Avg Bill from Year 5 |
|---|---|---|---|---|---|
| Residential | $ 2,280,641 | $ 87,601 | 3.8% | $ 54,541 | -1.4% |
| General Service | 886,498 | 18,306 | 2.1% | 11,417 | -0.8% |
| Industrial | 157,318 | 2,523 | 1.6% | 1,577 | -0.6% |
| Lighting | 115,650 | 2,732 | 2.4% | 1,613 | -0.9% |
| OPT | 1,400,366 | 15,501 | 1.1% | 9,695 | -0.4% |
| Total | $ 4,840,473 | $ 126,663 | 2.6% | $ 78,842 | -1.0% |

Rates assume the deferral is amortized over 5 years and removed deferral from revenue beginning in year 6.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1214
10 Year Impact - Grid Deferral Settlement
Dollars in thousands



Total NC Retail

| Line No. | Description | Reference | 2023 | New Rates Effective 2024 | 2025 | 2026 | 2027 | 2028 | New Rates Effective 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | Electric operating revenue | Revenue Requirement | | 126,663 | 126,663 | 126,663 | 126,663 | 126,663 | 78,842 | 78,842 | 78,842 | 78,842 |
| 4 | | | | | | | | | | | | |
| 5 | Electric operating expenses: | | | | | | | | | | | |
| 6 | Operation and maintenance | | | | | | | | | | | |
| 7 | Fuel used in electric generation | | | | | | | | | | | |
| 8 | Regulatory Fee | (Revenue * Reg Fee rate) | | 164 | 164 | 164 | 164 | 164 | 102 | 102 | 102 | 102 |
| 9 | Uncollectibles | (Revenue * Uncollectible rate) | | 317 | 317 | 317 | 317 | 317 | 197 | 197 | 197 | 197 |
| 10 | Depreciation and amortization | Revenue Requirement | 19,549 | 19,549 | 19,549 | 19,549 | 19,549 | 19,549 | 19,549 | 19,549 | 19,549 | 19,549 |
| 11 | Amortization of Deferral | Revenue Requirement | | 47,640 | 47,640 | 47,640 | 47,640 | 47,640 | | | | |
| 12 | Deferral | Deferral until new rates | (19,551) | | | | | | | | | |
| 13 | General taxes | Revenue Requirement | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 14 | Interest on customer deposits | | - | - | - | - | - | - | - | - | - | - |
| 15 | Income taxes | Calculated | - | 13,775 | 13,775 | 13,775 | 13,775 | 13,775 | 13,775 | 13,775 | 13,775 | 13,775 |
| 16 | Amortization of investment tax credit | | - | - | - | - | - | - | - | - | - | - |
| 17 | | | | | | | | | | | | |
| 18 | Total electric operating expenses | Sum L8 through L15 | 0 | 81,446 | 81,446 | 81,446 | 81,446 | 81,446 | 33,625 | 33,625 | 33,625 | 33,625 |
| 19 | | | | | | | | | | | | |
| 20 | Operating income | L3 - L18 | $ (0) | 45,217 | 45,217 | 45,217 | 45,217 | 45,217 | 45,217 | 45,217 | 45,217 | 45,217 |
| 21 | | | | | | | | | | | | |
| 22 | Notes: | | | | | | | | | | | |
| 23 | Revenue: positive number increases revenue / negative number decreases revenue | | | | | | | | | | | |
| 24 | Expense: positive number increases expense / negative number decreases expense | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | |
| 27 | **Rate Base Line Items** | | | | | | | | | | | |
| 28 | | | | | | | | | | | | |
| 29 | Electric plant in service | | $ 710,476 | $ 710,476 | $ 710,476 | $ 710,476 | $ 710,476 | $ 710,476 | $ 710,476 | $ 710,476 | $ 710,476 | $ 710,476 |
| 30 | Accumulated depreciation and amortization | | (41,057) | (60,606) | (80,156) | (99,705) | (119,254) | (138,803) | (158,352) | (177,902) | (197,451) | (217,000) |
| 31 | Electric plant in service, net | Sum L29 through L30 | 669,419 | 649,870 | 630,321 | 610,772 | 591,223 | 571,673 | 552,124 | 532,575 | 513,026 | 493,476 |
| 32 | | | | | | | | | | | | |

Duke Energy Carolinas, LLC — GIP Exhibit 3 – Deferral Granted (Settlement)
Docket No. E-7, Sub 1214 — Page 3
Revenue Requirement - Grid Deferral Settlement
For the test period ended December 31, 2022 - Plant Update Period through December 2022, New Rates January 2024

Revenue Requirement ($ in thousands)

| Line | | NC Retail | | |
|---|---|---|---|---|
| | | Asset Balance | Accumulated Depreciation | Net |
| 1 | **Plant** | as of 12/31/2022 | As of 12/31/2022 | Plant |
| 2 | Distribution | 586,923 | (12,662) | 574,262 |
| 3 | Transmission | 79,086 | (2,118) | 76,968 |
| 4 | General Plant | 44,468 | (6,729) | 37,739 |
| 5 | Total | 710,476 | (21,508) | 688,969 |
| 6 | | | | |
| 7 | WACC - Pre Tax | 8.59% | | |
| 8 | Capital Revenue Requirement (Net Plant * WACC) | | | |
| 9 | Distribution | 49,358 | | |
| 10 | Transmission | 6,615 | | |
| 11 | General Plant | 3,244 | | |
| 12 | Total | 59,217 | | |
| 13 | | | | |
| 14 | **Impact to Income Statement Line Items** | | | |
| 15 | Depreciation and amortization: | Years 1-5 | Years 6-10 | |
| 16 | Distribution depreciation expense | $ 11,856 | $ 11,856 | |
| 17 | Transmission depreciation expense | 1,764 | 1,764 | |
| 18 | General Plant depreciation expense | 5,930 | 5,930 | |
| 19 | Impact to deprec. and amortization (Sum L16 through L18) | $ 19,549 | $ 19,549 | |
| 20 | | | | |
| 21 | Amortization of 2022 deferral: | | | |
| 22 | Distribution depreciation expense | $ 35,918 | | |
| 23 | Transmission depreciation expense | 4,946 | | |
| 24 | General Plant depreciation expense | 6,775 | | |
| 25 | Impact to deprec. and amortization (Sum L22 through L24) | 47,640 | | |
| 26 | | | | |
| 27 | General taxes: | | | |
| 28 | Property tax rate | 0.26% | | |
| 29 | | | | |
| 30 | Property tax ( December 2022 Plant Balance * Property tax rate) | | | |
| 31 | Distribution property tax expense | $ 2 | $ 2 | |
| 32 | Transmission property tax expense | 0 | 0 | |
| 33 | General Plant property tax expense | 0 | 0 | |
| 34 | Impact to general taxes (Sum L70 through L74) | $ 2 | $ 2 | |
| 35 | | | | |
| 36 | Total Operating Expenses (Depreciation + Amortization + Property Taxes) | | | |
| 37 | Distribution | $ 47,775 | $ 11,857 | |
| 38 | Transmission | 6,710 | 1,764 | |
| 39 | General Plant | 12,705 | 5,930 | |
| 40 | Total income taxes | $ 67,191 | $ 19,551 | |
| 41 | | | | |
| 42 | Taxes | 23.35% | 23.35% | |
| 43 | Distribution | $ (11,156) | $ (2,769) | |
| 44 | Transmission | (1,567) | (412) | |
| 45 | General Plant | (2,967) | (1,385) | |
| 46 | Total income statement impact | $ (15,689) | $ (4,565) | |
| 47 | | | | |
| 48 | Income Statement Impact (Operating expenses + Taxes) | | | |
| 49 | Distribution | $ 36,620 | $ 9,089 | |
| 50 | Transmission | 5,143 | 1,352 | |
| 51 | General Plant | 9,738 | 4,545 | |
| 52 | Total income statement Requirement | $ 51,501 | $ 14,986 | |
| 53 | | | | |
| 54 | Retention Factor | 76.36% | 76.36% | |
| 55 | | | | |
| 56 | Total Revenue Requirement (Capital Revenue Requirement + Income Statement impact/ Retention factor) | | | |
| 57 | Distribution | $ 97,315 | $ 61,260 | |
| 58 | Transmission | 13,351 | 8,386 | |
| 59 | General Plant | 15,997 | 9,196 | |
| 60 | Total Revenue Requirement | $ 126,663 | $ 78,842 | |
| 61 | | | | |

**Grid Deferral Assumptions**

CWIP spend is spent evenly throughout the year
Amount of CWIP spend has been adjusted to amounts reflected in the settlement agreement.

**Timing of assets going in service**
Distribution - Assumed 1 month delay from time of CWIP spend to asset placed in service.
Transmission - Assumed 6 month delay from time of CWIP spend to asset placed in service.
Communications - Assumed 3 month delay from time of CWIP spend to asset placed in service.
Advance DMS and Enterprise applications - assumed CWIP spend placed in service annually in December.

**Depreciation rates**
Distribution - applied a total distribution depreciation rate excluding meters.
Transmission - applied a total transmission depreciation rate
Communication - applied a total communications depreciation rate
Advanced DMS - assumed a 10 year asset life
Enterprise application - assumed a 5 year life

**Returns**
Assumed the weighted average cost of capital as reflected in the company's settlement agreement.

**O&M**
Reflected estimated installation O&M expenses beginning June 2020.
Assumed no incremental on going O&M expenses.
Assumed new depreciation rates effective 8/1/2020.

**Property Taxes**
Property taxes begin the next calendar year after the asset is placed in service.

**Deferral**
Assumed deferral begins 6/1/2020, and with assets placed in service beginning 6/1/2020.
Assumed plant additions stopped being eligible for deferral 1/1/2023.
Deferral of return, depreciation, property tax continued until 12/31/2023 on electric plant in service balances as of 12/31/2022.

**Deferral recovery**
Assumed a 5 year levelized amortization of the deferral.

**Revenue Requirement**
Assumes the test period was twelve months ended December 2022.
Assumed there was no additional update period after the test period.
Assumed new rates were effective 1/1/2024.
Assumed rates were adjusted after the 5 year amortization of the deferral expired on 1/1/2029.

**Rate impacts**
Allocations are based on 2018 cost of service study as presented in the current rate case.
For modeling purposes, forecasted distribution costs were allocated using a composite distribution plant allocator, excluding extra facilities and FERC accounts 370, 371 and 373.
In actuals, distribution costs will be allocated more specifically based on the individual FERC accounts they are booked to.
Does not include any savings that might be realized in the base rate cases as a result of the investments.
Percent increases shown based on present revenues annualized with riders as presented in current case

**DUKE ENERGY CAROLINAS LLC** GIP Exhibit 3 – Deferral Granted (Settlement)
E7 Sub 1214 Page 5
NORTH CAROLINA RETAIL GRID IMPROVEMENT PLAN
SUMMARY OF DEFERRAL

**DEC NC Summary Grid Impact - Settlement**

| *Dollars in thousands (000s)* | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| System CWIP Spend | 249,205 | 368,547 | 430,673 | |
| NC Retail CWIP Spend | 181,047 | 281,438 | 329,928 | |
| Cumulative In Service (Beg Feb 2020) | 110,293 | 379,153 | 710,476 | |
| Accum Depr | (465) | (7,136) | (21,508) | |
| Total Rate Base | 109,828 | 372,017 | 688,969 | |
| | | | | |
| Installation O&M (Beg Jan 2020) | 3,382 | 6,542 | 7,337 | - |
| Depreciation (Beg Mar 2020) | 465 | 6,671 | 14,372 | 19,549 |
| Property Tax | - | 286 | 982 | 1,840 |
| Debt Return - Capital Asset | 559 | 4,722 | 10,738 | 13,921 |
| Debt Return - Deferred Balance | 24 | 330 | 1,158 | 2,473 |
| Equity Return - Capital Asset | 1,775 | 15,006 | 34,119 | 44,234 |
| Equity Return - Deferred Balance | 75 | 1,050 | 3,679 | 7,859 |
| Annual Deferral | 6,279 | 34,607 | 72,385 | 89,877 |
| | | | | |
| Cumulative Deferral Balance | 6,279 | 40,886 | 113,271 | 203,148 |

**Docket # E-7, Sub 1214**
MCGEE EXHIBIT 1
Page 1 of 2



**DUKE ENERGY CAROLINAS, LLC**
**North Carolina Retail Fuel and Fuel-Related Rates as Filed in Docket No. E-7, Sub 1190**

cents/kWh

| Line No. | Class | Base Fuel Rate | Decrement to Base Fuel Rate | Proposed Prospective Rate |
|---|---|---|---|---|
| | | (a) | (b) | (c) |
| 1 | Residential | 1.7828 | 0.0298 | 1.8126 |
| 2 | General Service | 1.9163 | 0.0398 | 1.9561 |
| 3 | Industrial | 2.0207 | (0.1273) | 1.8934 |

Note: Base Fuel Rates taken from Docket No. E-7, Sub 1146 and all other amounts obtained from Second Supplemental Revised McGee Exhibits in Docket No. E-7, Sub 1190

**Docket # E-7, Sub 1214**
MCGEE EXHIBIT 1
Page 2 of 2

**DUKE ENERGY CAROLINAS, LLC**
**North Carolina Retail Adjusted Fuel and Fuel-Related Costs**
**Twelve Months Ended December 31, 2018**

| Line No. | Description | Residential (Col. 1) | General Service/ Lighting (Col. 2) | Industrial (Col. 3) | NC Retail (Col. 6) | Note |
|---|---|---|---|---|---|---|
| 1 | NC retail sales per books (kWh) | 22,763,028,911 | 24,161,924,463 | 12,555,749,214 | 59,480,702,588 | (a) |
| 2 | Weather adjustment (kWh) | (532,258,782) | (743,525,423) | (104,107,446) | (1,379,891,651) | (b) |
| 3 | Customer growth adjustment (kWh) | 80,506,293 | 41,713,812 | 26,433,414 | 148,653,519 | (c) |
| 4 | NC retail sales, adjusted (lines 1+2+3) (kWh) | 22,311,276,422 | 23,460,112,852 | 12,478,075,182 | 58,249,464,456 | |
| 5 | System fuel and fuel-related costs factors per kWh (¢/kWh) | 1.8126 | 1.9561 | 1.8934 | | (d) |
| 6 | Total NC retail fuel and fuel-related costs ((line 4 * line 5)/100) | $404,414,196 | $458,903,267 | $236,259,875 | $1,099,577,339 | |

(a) Proforma NC-0302 - 2018 kWh Sales - Per Book
(b) Proforma NC0301-Normalize for weather, Line 6
(c) Proforma NC0401-Annualize revenues for customer growth, Line 6
(d) McGee Revised Exhibit 1, Page 1 in E-7, Sub 1190

# Duke Energy Carolinas, LLC
# NCUC Docket No. E-7, Sub 1214
# Summary of Existing and Proposed Transition Fees

| | (a) | (b) | (c ) | (d) |
|---|---|---|---|---|
| | **Existing Approved Transition Fees** | | | |
| | **Fixture Type** | **Product Type** | **Schedule OL** | **Schedule PL** |
| 1 | Mercury Vapor | Standard | No Fee | No Fee |
| 2 | Mercury Vapor | Decorative / Non-Standard | No Fee | No Fee |
| 3 | Mercury Vapor | Floodlight | Not Applicable | Not Applicable |
| 4 | Metal Halide (1) | Standard | $57 | $40 |
| 5 | Metal Halide (1) | Decorative / Non-Standard | Loss Due to Early Retirement (2) | Loss Due to Early Retirement (2) |
| 6 | Metal Halide (1) | Floodlight | $112 | $112 |
| 7 | High Pressure Sodium (1) | Standard | $57 | $40 |
| 8 | High Pressure Sodium (1) | Decorative / Non-Standard | Loss Due to Early Retirement (2) | Loss Due to Early Retirement (2) |
| 9 | High Pressure Sodium (1) | Floodlight | $112 | $112 |
| | **Proposed Transition Fees** | | | |
| | **Fixture Type** | **Product Type** | **Schedule OL** | **Schedule PL** |
| 10 | Mercury Vapor | Standard | No Fee | No Fee |
| 11 | Mercury Vapor | Decorative / Non-Standard | No Fee | No Fee |
| 12 | Mercury Vapor | Floodlight | Not Applicable | Not Applicable |
| 13 | Metal Halide (1) | Standard | $50 | $36 |
| 14 | Metal Halide (1) | Decorative / Non-Standard | Loss Due to Early Retirement (2) | Loss Due to Early Retirement (2) |
| 15 | Metal Halide (1) | Floodlight | $101 | $101 |
| 16 | High Pressure Sodium (1) | Standard | $50 | $36 |
| 17 | High Pressure Sodium (1) | Decorative / Non-Standard | Loss Due to Early Retirement (2) | Loss Due to Early Retirement (2) |
| 18 | High Pressure Sodium (1) | Floodlight | $101 | $101 |

(1) A transition fee applies for customer requested replacements only. If the fixture fails, the Company replaces the fixture with a comparable LED fixture at no charge to the customer.

(2) Loss Due to Early Retirement ("LDER") is a calculation of the value lost when equipment is taken out of service (retired) before the end of its useful life. LDER is calculated by taking the original cost (including material and labor), less accumulated depreciation, less salvage of material removed, plus the cost of removal.

**Docket No. E-7, Sub 1214**
**Reed Direct Exhibit 2**
**Page 1 of 1**

## Duke Energy Carolinas, LLC
## NCUC Docket No. E-7, Sub 1214
## Summary of the Net Book Value Analysis as of 12/31/2018

| | (a) | (b) | (c ) | (d) | (e ) | (f) | (g) | (h) | (i) | (j) | (k) | (l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **State + Fixture Type** | **Utility Acct (a)** | **State** | **Type of Fixture** | **Annual Depreciation Rate (b)** | **# of Light Fixtures (c)** | **Net Book Value @ 12/31/18 (d)** | **NBV per Fixture** | **% of Fixtures Replaced over 20 Years (Take Rate %) (e)** | **Period For 100% Total Replacement (Years) (f)** | **Required Transition Charge ($ per fixture) (g)** | **Prior Analysis Required Transition Charge ($ per fixture) (h)** |
| | | | | | | | | e = (g) / (f) | | | | |
| 1 | NC standard lights | 371 | NC | Standard | 2.04% | 577,819 | 106,638,840 | $ 185 | 45% | 44 | $ 50 | $ 57 |
| 2 | NC standard lights | 373 | NC | Standard | 2.32% | 203,862 | 38,434,149 | $ 189 | 50% | 40 | $ 36 | $ 40 |
| 3 | ***NC standard lights Total*** | | | | | ***781,681*** | ***145,072,989*** | ***$ 186*** | | | | |
| 4 | NC flood lights | 371 | NC | Flood | 2.04% | 96,284 | 28,285,902 | $ 294 | 45% | 44 | $ 101 | $ 112 |
| 5 | NC flood lights | 373 | NC | Flood | 2.32% | NA | NA | NA | NA | NA | | |
| 6 | ***NC flood lights Total*** | | | | | ***96,284*** | ***28,285,902*** | ***$ 294*** | | | | |
| 7 | NC decorative lights* | 371 | NC | Decorative | 2.04% | 117,292 | 72,782,120 | $ 621 | NA | NA | NA | NA |
| 8 | NC decorative lights* | 373 | NC | Decorative | 2.32% | 9,499 | 5,568,101 | $ 586 | NA | NA | NA | NA |
| 9 | ***NC decorative lights Total*** | | | | | ***126,791*** | ***$ 78,350,220*** | ***$ 618*** | | | | |
| 10 | **Grand Total** | | | | | **1,004,756** | **251,709,112** | **$ 251** | | | | |

**(a)** The Company maintains it books and records in accordance with the FERC Uniform System of Accounts. FERC Account 371 is Installations on Customer's Premise, which includes private area lighting assets. FERC Account 373 is Streetlighting and Signal Systems, which includes public street lighting assets.

**(b)** The annual depreciation was effective during the last depreciation study. For assets in FERC Account 371 the annual depreciation rate is 2.04% (49 years). For assets in FERC Account 373 the annual depreciation rate is 2.32% (43 years).

**(c)** The number of light fixtures reflect the quantities placed in-service in the PowerPlan Sub-ledger as of 12/31/2018.

**(d)** The net book value reflects the amount net of accumulated depreciation for mercury vapor, metal halide, and high pressure sodium fixtures placed in-service in the PowerPlan Sub-ledger as of 12/31/2018.

**(e)** The take rate percentage is the percentage of fixtures in Col. (f) that are assumed to be replaced within 20 years.

**(f)** The number of years is presumably the amount of time, given the assumed take rate in Col. (i) for 100% of the fixtures in Col. (f) to be fully depreciated.

**(g)** The required transition fee is the amount per fixture given the take rate percentage in Col. (i) and the annual depreciation rate in Col. (e).

**(h)** The prior analysis is the required transition fee per fixture based on a take rate of 45%, which is the current Commission approved methodology for Standard and Flood Lights.

*The Company uses a Loss Due to Early Retirement methodology to calculate the required transition charge for decorative fixtures

# Duke Energy Carolinas
## Docket No. E-7 SUB 1214
### Storm Costs Recovery Total
### Exhibit RSJ-1, Page 1 of 1

| Line No. | Description | REF. | (A) Storm Costs ($000's) |
|---|---|---|---|
| 1 | **Total Storm Costs (2018)** | | |
| 2 | Florence | RSJ-2 p1 line 16 column H | $89,933 |
| 3 | Michael | RSJ-2 p2 line 16 column H | 79,572 |
| 4 | Diego | RSJ-2 p3 line 16 column H | 54,740 |
| 5 | | | |
| 6 | **Total Recoverable Restoration Costs** | lines 4:6 | $224,244 |
| 7 | | | |
| 8 | **Total Capital Costs** | RSJ-2 p1-3 line 18 column H | $23,700 |

I/A



# Duke Energy Carolinas
## Docket No. E-7 SUB 1214
## Storm Costs by Storm - Florence
## Exhibit RSJ-2, Page 1 of 3

| | | | (A) | (B) | (C) | (D) | (E) |
|---|---|---|---|---|---|---|---|
| | | | **Storm Costs By Function ($000's)** | | | | |
| **Line No.** | **Description** | **REF.** | **Distribution** | **Transmission** | **Customer Operations** | **Generation** | **Total** |
| 1 | **Storm Related Restoration Costs** | | | | | | |
| 2 | Company Labor | | 4,829 | 1,494 | 17 | - | 6,340 |
| 3 | Contract Labor | | 73,538 | 5,246 | 85 | - | 78,869 |
| 4 | Veg Management Contract Labor | | 4,770 | 2,949 | - | - | 7,719 |
| 5 | Fleet | | 142 | 65 | - | - | 207 |
| 6 | Materials | | 2,019 | 95 | - | - | 2,114 |
| 7 | Other | | (262) | 83 | 1,122 | - | 943 |
| 8 | **Subtotal - Storm Related Restoration Costs** | lines 2:7 | **85,036** | **9,932** | **1,225** | **-** | **96,192** |
| 9 | | | | | | | |
| 10 | **Less: Estimated Non-Incremental Costs** | | | | | | |
| 11 | Company Labor | | (1,839) | (1,367) | (8) | - | (3,213) |
| 12 | Fleet | | (141) | (61) | - | - | (202) |
| 13 | Other | | (2,386) | (458) | | | (2,844) |
| 14 | **Subtotal - Estimated Non-Incremental Costs** | lines 11:13 | **(4,366)** | **(1,885)** | **(8)** | **-** | **(6,259)** |
| 15 | | | | | | | |
| 16 | **Total Recoverable Restoration Costs** | lines (8 + 14) | **80,670** | **8,046** | **1,217** | **-** | **89,933** |
| 17 | | | | | | | |
| 18 | **Capital Costs** | | **5,400** | **-** | **-** | **-** | **5,400** |

# Duke Energy Carolinas
## Docket No. E-7 SUB 1214
## Storm Costs by Storm - Michael
## Exhibit RSJ-2, Page 2 of 3

| | | | (A) | (B) | (C) | (D) | (E) |
|---|---|---|---|---|---|---|---|
| | | | Storm Costs By Function ($000's) | | | | |
| Line No. | Description | REF. | Distribution | Transmission | Customer Operations | Generation | Total |
| 1 | **Storm Related Restoration Costs** | | | | | | |
| 2 | Company Labor | | 7,117 | 739 | 772 | - | 8,628 |
| 3 | Contract Labor | | 71,592 | 1,137 | 332 | - | 73,062 |
| 4 | Veg Management labor | | 4,087 | 475 | - | - | 4,561 |
| 5 | Fleet | | 265 | 89 | - | - | 353 |
| 6 | Materials | | 2,955 | 80 | 10 | - | 3,045 |
| 7 | Other | | (4,316) | 49 | 256 | - | (4,012) |
| 8 | **Subtotal - Storm Related Restoration Costs** | lines 2:7 | **81,699** | **2,569** | **1,370** | **-** | **85,638** |
| 9 | | | | | | | |
| 10 | **Less: Estimated Non-Incremental Costs** | | | | | | |
| 11 | Company Labor | | (2,271) | (705) | - | - | (2,976) |
| 12 | Fleet | | (198) | (87) | - | - | (285) |
| 13 | Other | | (3,096) | 290 | - | | (2,806) |
| 14 | **Subtotal - Estimated Non-Incremental Costs** | lines 11:13 | **(5,565)** | **(502)** | **-** | **-** | **(6,067)** |
| 15 | | | | | | | |
| 16 | **Total Recoverable Restoration Costs** | lines (8 + 14) | **76,134** | **2,068** | **1,370** | **-** | **79,572** |
| 17 | | | | | | | |
| 18 | **Capital Costs** | | **11,500** | **-** | **-** | **-** | **11,500** |

# Duke Energy Carolinas
## Docket No. E-7 SUB 1214
## Storm Costs by Storm - Diego
## Exhibit RSJ-2, Page 3 of 3

| Line No. | Description | REF. | (A) Distribution | (B) Transmission | (C) Customer Operations | (D) Generation | (E) Total |
|---|---|---|---|---|---|---|---|
| | | | Storm Costs By Function ($000's) | | | | |
| 1 | **Storm Related Restoration Costs** | | | | | | |
| 2 | Company Labor | | 7,133 | 435 | 452 | - | 8,020 |
| 3 | Contract Labor | | 45,148 | 486 | 4 | - | 45,637 |
| 4 | Veg Management labor | | 3,974 | 229 | - | - | 4,203 |
| 5 | Fleet | | 167 | 58 | - | - | 225 |
| 6 | Materials | | 2,264 | 14 | 0 | - | 2,278 |
| 7 | Other | | 275 | 42 | 252 | - | 569 |
| 8 | **Subtotal - Storm Related Restoration Costs** | lines 2:7 | **58,961** | **1,263** | **708** | **-** | **60,932** |
| 9 | | | | | | | |
| 10 | **Less: Estimated Non-Incremental Costs** | | | | | | |
| 11 | Company Labor | | (2,895) | (432) | (81) | - | (3,408) |
| 12 | Fleet | | (140) | (58) | (0) | - | (198) |
| 13 | Other | | (2,675) | 89 | | | (2,586) |
| 14 | **Subtotal - Estimated Non-Incremental Costs** | lines 11:13 | **(5,710)** | **(402)** | **(81)** | **-** | **(6,193)** |
| 15 | | | | | | | |
| 16 | **Total Recoverable Restoration Costs** | lines (8 + 14) | **53,251** | **862** | **627** | **-** | **54,740** |
| 17 | | | | | | | |
| 18 | **Capital Costs** | | **6,800** | **-** | **-** | **-** | **6,800** |

Geosyntec consultants



**RUDOLPH BONAPARTE**

**geotechnical engineering**
**geoenvironmental engineering**
**CCR unit design/permitting/closure**
**MSW/IW/HW/LLRW facility design/permitting**
**natural hazard assessment/mitigation**
**soil, sediment, and groundwater remediation**

## EDUCATION

University of California, Berkeley: Ph.D., Geotechnical Engineering, 1982
University of California, Berkeley: M.S., Geotechnical Engineering, 1978
University of Texas at Austin: B.S., Civil Engineering, 1977

## PROFESSIONAL REGISTRATION

Alabama P.E. Number 17793
Arkansas P.E. Number 9175
California P.E. Number 047076
Colorado P.E. Number 27485
Florida P.E. Number 0052202
Georgia P.E. Number 17516
Illinois P.E. Number 054352
Kansas P.E. Number 17542
Maryland P.E. Number 18232
Michigan P.E. Number 47814
Missouri P.E. Number 298461
New Jersey P.E. Number GE44827
New York P.E. Number 067675
North Carolina P.E. Number 030150
Ohio P.E. Number 56679
South Carolina P.E. Number 31778
Texas P.E. Number 64329
Virginia P.E. Number 020498
Washington P.E. Number 49626

## AWARDS AND HONORS

Georgia Society of Professional Engineers, Lifetime Achievement in Engineering Award (2019)
American Society of Civil Engineers, Terzaghi Lecture Award (2018)
American Society of Civil Engineers, OPAL Lifetime Achievement Award in Design (2016)
American Society of Civil Engineers, Fellow (2015)
University of California, Berkeley – CEE Academy of Distinguished Alumni, Charter Member, (2012)
Academy of Geo-Professionals (ASCE) – Diplomate, Geotechnical Engineering, by Invitation (2009)
American Academy of Environmental Engineers – Board Certification, by Eminence (2008)
National Academy of Engineering – Elected to Membership (2007)
Georgia Engineering Alliance – Grand Project Award (2007)
University of Texas at Austin – CAEE Academy of Distinguished Alumni (2006)
Georgia Engineering Alliance – Georgia Engineer of the Year (2004)
American Society of Civil Engineers – James R. Croes Medal (2000)
International Geosynthetics Society – IGS Award (1994)

North American Geosynthetics Society – Award of Excellence (1991)
International Geosynthetics Society – Special Finalists Award (1990)
National Science Foundation – Graduate Research Fellow (1977-1980)
University of Texas at Austin, Outstanding Graduate Award (1977)
Academic Honor Societies (Phi Kappa Phi, Tau Beta Pi, Chi Epsilon)

**REPRESENTATIVE EXPERIENCE**

***Geotechnical and Geoenvironmental Engineering***

Dr. Bonaparte has substantial experience in site investigations for building foundations, embankments, landslides and natural slopes, underwater sediments, and waste containment facilities. He also has extensive experience in laboratory testing of soils and in the use of subsurface exploration techniques such as cone penetrometer testing, pressuremeter testing, rock coring, and borehole geophysics. Throughout his career, Dr. Bonaparte has been a leader in the development of geotechnical and geoenvironmental applications of geosynthetics, including geomembranes, geogrids and high-strength geotextiles, and geocomposite drainage layers. He has conducted research and developed testing and design methodologies for these materials related to: allowable stresses and strains, interface friction and shear characteristics, puncture and tearing resistance, flow capacity and filtration characteristics, construction survivability, and aging, degradation, and service life. He is experienced in developing and implementing construction quality assurance and quality control plans for these materials. He is also experienced in developing construction specifications and design details (e.g., connections, geometric transitions, terminations, overlaps, and ballasting). He is knowledgeable in the polymer characteristics of these materials (e.g., HDPE, PVC, polyester, polypropylene), manufacturing/fabrication processes, and field installation methods.

Dr. Bonaparte has substantial expertise and experience in the design, construction, and performance evaluation of earth-retaining structures, particularly mechanically stabilized earth structures. As reflected in his publication list, in the 1980s, he was one of the original developers of design methods for use of geogrids in the construction of steep reinforced-soil slopes, mechanically stabilized earth retaining walls, and the use of geogrids and geotextiles for the repair od landslides. He was also heavily involved in the development of design methods for geogrid-reinforced embankments, levees, roads, and work platforms to be constructed over weak foundations and karst terrains. His design experience includes several large reinforced-soil retaining walls and slopes at a fossil power plant in Ohio, a 100-ft high reinforced-soil buttress for a hillside in southern California, and large reinforced-soil highway embankments in Arizona, Montana, Georgia, Florida, and Arkansas. He was also heavily involved in the investigation and repair of several large landslides in northern and southern California. Repair elements included steel H-piles, rock buttresses, gravel buttresses, reinforced soil buttresses, and drainage features.

Dr. Bonaparte has designed unreinforced and reinforced earthen dikes for sludge and industrial waste containment for projects in Alabama, Georgia, and California. He has also provided engineering services under contracts to the U.S. Army Corps of Engineers and U.S. Federal Highway Administration (FHWA) on projects involving reinforced soil structures. He was a member of the AASHTO/AGC/ARTBA Task Force 27 that authored the widely used design guideline *In Situ Soil Improvement Techniques*. He also co-authored the FHWA geotechnical engineering circular *Earth Retaining Systems* and FHWA research report *Laboratory Characterization of Soil Properties.* Dr. Bonaparte is experienced in earth dam evaluation and design. His experience in this area includes Lake Petit Dam, Blue Ridge Dam, and

Martins Landing Dam in Georgia, Park Dam in Colorado, Pickwick Dam in Tennessee, and Tablachaca Dam in Peru.

During the early 1980s, Dr. Bonaparte was a member of the engineering team that evaluated the seismic risk potential of a proposed state office complex in Anchorage, Alaska. This evaluation involved detailed back-analyses of slope failures which occurred in Anchorage during the 1964 Good Friday earthquake, as well as an evaluation of the probability of a slope failure at the office complex site due to future seismic events. He was also the lead engineer on a project for the U.S. Army Corps of Engineers involving the interpretation of pile load tests and the development of recommendations on pile load capacities for a lock and dam structure in Louisiana. Other geotechnical assignments include: (i) performing and interpreting static and cyclic steel pipe pile load tests in soft clays adjacent to San Francisco Bay; (ii) investigation of the loss of soil support for several cracked, large-diameter underground pressure conduits at the Sacramento Regional Wastewater Treatment Plant in California, and the construction monitoring of a remedial grouting program to re-establish support for the pipes; and (iii) engineering studies and support for emergency repairs at the Tablachaca Dam landslide (13 million cubic meter earth and rock slide) in the Peruvian Andes. With respect to Tablachaca Dam, Dr. Bonaparte led slope stability and construction feasibility studies of various conceptual designs for stabilizing river sediments for construction of an overlying rock stabilization buttress. Conceptual designs that were evaluated included stone columns, displacement piles, vibratory densification, and dynamic compaction. Gravel columns constructed using the Franki method and vibroreplacement method were ultimately selected and implemented to densify and strengthen the river sediments.

Dr. Bonaparte is experienced in the geotechnics of industrial by-product materials, dredged materials, and wastes, including specifically coal-combustion residuals (CCR), chromite ore processing residues (COPR), solvay wastes, ammonia soda ash wastes (ASAW), brine muds, phosphogypsum wastes, sulfate sludges, and municipal solid wastes (MSW).

***Coal Combustion Residual Unit Design and Closure***

Dr. Bonaparte is presently serving as the engineer-of-record and project director for consolidated lined closure of a 250-acre coal combustion residuals (CCR) impoundment in the southeast for a major power utility. The impoundment is being closed to comply with state and federal regulations governing the design, operation, and closure of CCR impoundments. Dr. Bonaparte is also serving as the project director for the consolidated lined closure of CCR impoundments at another site for the same power utility. This second plant location contains four CCR impoundments totaling more than 500 acres cubic yards of CCR. In a third project, Dr. Bonaparte is a subject matter expert and peer reviewer for the consolidated in-place closure for a 340-acre CCR impoundment. Over the past 25 years, Dr. Bonaparte has been involved in additional CCR landfill/impoundment design, construction, closure, and/or assessment projects in Georgia, Tennessee, Virginia, Ohio, Florida, Kentucky, Alabama, and Iowa. He is also co-author of a technical paper related to CCRs titled "Overview of Final Cover Systems for CCR Unit Closures and Major Design Considerations," contained in the proceedings *2017 World of Coal Ash (WOCA) Conference.*

***MSW, IW, HW, and LLRW Facility Design, Permitting, and Performance Evaluation***

Dr. Bonaparte was the project manager and design engineer-of-record for a state-of-the-art low-level radioactive waste (LLRW) disposal facility constructed as part of a CERCLA remedial action at the

Department of Energy (DOE) Fernald Environmental Management Project (FEMP) in Fernald, Ohio. This project included Title I, II and III design services for a 2.5 million cubic yard facility for the long-term disposal of a variety of impacted materials from the demolition and restoration of the Fernald Feed Materials Plant. The scope of work included preparation of design criteria packages (DCPs), plans, specifications, and calculations, soil-liner test pad program, leachate-geomembrane liner compatibility study, soil-geomembrane-GCL interface shear testing program, vegetative cover study, and preparation of support plans including CQA plan, waste placement plan, stormwater management and erosion control plan, O&M plan, and air monitoring plan. The Fernald project was started in 1995 and successfully completed (i.e., construction, filling, and closure of the facility) in 2006. Presently, Dr. Bonaparte is serving as technical director for Title I and II design services for a similar state-of-the-art LLRW disposal facility at the DOE Portsmouth Gaseous Diffusion Plant in Piketon, Ohio.

Dr. Bonaparte is experienced in the siting, design, permitting, construction, and closure of municipal (MSW), industrial (IW), and hazardous waste (HW) landfills and surface impoundments in a variety of geological and hydrogeological settings, including coastal plains, Piedmont deposits, glacial tills, hilly and mountainous topography, karst terrains, former coal and iron ore surface mines, and desert alluvium. He has been involved in the analysis and/or design of projects at sites involving geological hazards, including landslides, ground faulting, seismically induced strong ground motions, sinkholes, and mine works. Dr. Bonaparte has directed, managed, and served as engineer-of-record for many public-sector clients, including Anne Arundel County (Maryland), Town of Babylon (New York), Chester County Solid Waste Authority (Pennsylvania), Delaware Solid Waste Authority (Delaware), Forsyth County (Georgia), Gloucester County (New Jersey), City of High Point (North Carolina), Hudson County (New Jersey), King County (Washington), Los Angeles Sanitation Districts (California), Orange County (California), Riverside County (California), Sonoma County (California), and the U.S. Army Rocky Mountain Arsenal (Denver). He has also managed, directed, or provided engineering review for design projects for many private-sector clients, including Arco Chemical Company, Browning-Ferris Industries, Ciba-Geigy Corporation, City Management Corporation, Energy Solutions, Inc., Honeywell, Inc., Laidlaw, Mine Reclamation Corporation, USA Waste Services, and Waste Management, Inc.

Over a period of more than 20 years, Dr. Bonaparte worked extensively in a contract research capacity for the U.S. Environmental Protection Agency (EPA) in the evaluation of liner and final cover systems for municipal, industrial, and hazardous waste disposal facilities. Through this work, he is today widely regarded as a national leader in the design and performance evaluation of waste containment systems for all types of solid waste landfills in the U.S. and around the world. Starting in the mid-1980s, he and colleagues conducted basic studies under contract to EPA that resulted in the first analytical model for quantifying potential leachate leakage rates through composite liners and double-liner systems being considered by EPA at that time for inclusion in hazardous waste landfill regulations. He and colleagues developed another analytical model for performance evaluation and design of leakage detection layers, and they introduced the concepts of action leakage rate and response action plans that are in wide use today. Dr. Bonaparte was the lead author of two major EPA technical documents in 1987 (see list of publications) that formed the basis for new landfill regulations under the Resource Conservation and Recovery Act (RCRA) that are still in force today. Subsequently, under a later EPA contract, he conducted a seminal nationwide study of the field performance of 187 operating landfill cells. This work was published in a major 2002 EPA report ("*Assessment and Recommendations for Improving the Performance of Waste Containment Systems*") and is today widely used and cited. Under a more recent EPA contract, Dr. Bonaparte led preparation of the draft EPA document "*Technical Guidance for RCRA/CERCLA Final Covers.*" In addition to the foregoing, he is the author/co-author of numerous publications on this topic and he served as Editor of a 1990 ASCE Geotechnical Special Publication No.

26 "*Waste Containment Systems: Construction, Regulation, and Performance*". He was also an invited keynote speaker/author for the 1995 ASCE Specialty Conference and resulting Geotechnical Special Publication No. 46 "*Geoenvironment 2000*". The title of his keynote lecture and paper were "*Long-term Performance of Landfills*".

Through the work described above, Dr. Bonaparte and his colleagues have been at the forefront of the development and validation of design methods for waste containment systems. These include methods to: estimate potential leakage rates through geomembrane, soil, and composite liners; calculate hydraulic heads and flow rates in leachate collection systems and leakage detection systems; calculate action leakage rates; calculate detection times in leakage detection systems; calculate slope stability factors of safety for liner systems and cover systems and for deep-seated waste failures; estimate seismically-induced landfill movements and deformations; design mechanically-stabilized earthen berms integrated into the landfill structure for stability and volume enhancement; design of geosynthetic foundation reinforcement systems to mitigate potential adverse effects of differential foundation systems; and design of geosynthetic foundation reinforcement systems for "piggyback" landfills.

***Contaminated Soil/Sediment/Groundwater Investigation and Remediation***

Dr. Bonaparte has been extensively involved in projects involving remedial investigations and remedial designs for soil, sediment, and groundwater contamination. His project experience includes:

- Project director for remedial design (RD) of the Berry's Creek Study Area (BCSA); the BCSA is a 12-square mile side embayment of the Hackensack River Estuary in Bergen County, New Jersey (the "Meadowlands"); this ongoing project involves design of the EPA Record of Decision (ROD) for the Phase 1 remediation of the study area; the remediation will involve: bank-to-bank dredging of soft sediment within 84-acres of tidal waterways and tributaries; backfilling/capping the dredged areas with clean backfill; removal of Hg-contaminated sediment in a 28-acre marsh (formerly tidal, but now cut off by a tide gate), followed by backfilling and marsh restoration; dewatering and stabilization of the dredged/excavated sediment for off-site disposal; water treatment; a marsh-treatability demonstration project (about 8-acres in size); and a remedy performance monitoring program.

- Project director for remedial investigation and feasibility study (RI/FS) of the BCSA and project manager for the FS; the project, completed in 2018, involved investigation of legacy contamination of waterway sediment, *Phragmites* marshland, surface water, and groundwater; development of a detailed conceptual site model (CSM) for the entire study area; treatability and pilot studies; and, preparation of an FS for interim source control measures for select waterways and marshes;

- project director for remedial design of the Gowanus Canal Superfund site in Brooklyn, New York; the canal is nearly two-miles long, running through the heart of Brooklyn and discharging into Upper New York Bay; heavily contaminated by historical industrial and municipal discharges, a group of PRPs is responsible for the design and implementation of an EPA Record of Decision; Geosyntec is currently performing the remedial design which includes: dredging, treating, and disposing of contaminated sediment; stabilizing in-situ remaining sediment containing DNAPL; installing a multi-layer sediment cap over the remaining sediment after dredging is complete; and stabilizing/rehabilitating bulkheads that line the banks of the canal.

- consultant to industrial client in conceptual development and design of sediment consolidation area (SCA) at Onondaga Lake, New York; SCA will be sited on top of existing 70 ft. thick Solvay waste bed, creating significant geotechnical challenges, and will contain sediments dredged from the lake that are impacted by mercury and other chemicals;

- consultant to industrial client in evaluation of the stability of in-lake waste deposits (ILWD) at Onondaga Lake, New York; project involved evaluation of the geotechnical stability of the ILWD and underlying sediments; related projects involved design of lakefront steel sheet pile subsurface barriers to prevent DNAPL migration into the lake and provide lake bank geotechnical stability in an area designated for dredging;

- principal-in-charge for evaluation and design of permeable reactive barriers (PRBs) for hexavalent chromium impacted groundwater in Hudson County, New Jersey; reactive media evaluated include zero valent iron (ZVI), peat, and organic amendments;

- consultant to Port of Houston Authority (PHA) for the design of soil, sediment, and groundwater remediation measures for property along Green's Bayou, Houston Ship Channel, Texas; contaminants of concern included DDT, DDE, BHC isomers, chlorobenzene, and arsenic; served on core technical team that assisted client in negotiating financial settlement with an adjacent manufacturer of organochlorine pesticides;

- core member of multi-disciplinary client team to develop in-situ and ex-situ treatment technologies for remediating sites containing chromium-containing industrial process slag in New Jersey and Maryland; the slag material contains high hexavalent chromium concentrations (>3,000 mg/kg), high alkalinity (pH>12), and it is expansive; treatment technologies considered include chemical reduction, pH adjustment, stabilization/solidification, and vitrification; led design and oversight of large-scale pilot tests of chemical treatment using pugmills, shallow soil mixing vertical augers, and horizontal rotary mixers;

- principal-in-charge and engineer-of-record for preparation of a focused feasibility study (FFS), ROD amendment, Explanations of Significant Differences (ESD), and remedial design for the Bailey Dump NPL site, Orange, Texas; the project involved removal of tarry sludges and contaminated sediments from tidal marshlands along the Neches River on the Texas/Louisiana border; the project also involved innovative closure of two uncontrolled dumps in the marshland using lightweight RCRA caps and other measures;

- member of external technical review team (focus on in-situ containment and sludge solidification) for the Chevron Port Arthur Refinery remediation project, Port Arthur, Texas;

- consultant to PRP technical committee for negotiation of the Proposed Plan and ROD for the MIG/DeWane NPL site, Belvidere, Illinois;

- technical director for work plan and remediation design development, Yeoman Creek NPL site, Waukegan, Illinois; project involved CERCLA landfill closure, active methane gas extraction system, subsurface barriers, and stream sediment investigation and remediation;

- technical director for remedial design of soft sludge sulfate basins at the Avtex Fibers NPL site, Front Royal, Virginia; design included geotechnical stabilization measures, water management, and capping over the soft sludges;
- principal-in-charge for analysis, conceptual design, and regulatory negotiation for the final cover system for the Operating Industries Inc. (OII) NPL site in Monterey Park, California;
- principal-in-charge for work plan development, preliminary design, and design/build contractor procurement and oversight, Wingate Road NPL Site, Fort Lauderdale, Florida;
- principal-in-charge of site characterization and corrective measures, Eagle No. 2 coal mine site, Shauneetown, Illinois;
- project manager for investigation of groundwater impacts due to treated spent potliner disposal in bauxite mine pit backfill, Bryant, Arkansas;
- project engineer for design of removal actions for the LCP Chemicals NPL site in Brunswick, Georgia;
- technical team member for geotechnical investigation, landslide stabilization design, and remedial design for the Vandale Junkyard NPL site, Marietta, Ohio;
- principal-in-charge of soil and groundwater remedial investigations for CERCLA landfills near Baltimore, Maryland and Mt. Holly, New Jersey;
- project manager for preparation and implementation of a remedial action plan (RAP) for acid-impacted groundwater at a former metal finishing site in Dade County, Florida;
- principal-in-charge and engineer-of-record for design and preparation of construction bid documents for remediation (final cover, subsurface leachate interceptor, and waste slope toe buttress) for a closed municipal/ industrial landfill in Cuyahoga County, Ohio;
- project engineer for investigation of organic solvent contamination of groundwater at three semiconductor manufacturing plants in northern California;
- project engineer for asbestos and asbestos-contaminated soil remediation of a former industrial site in Redwood City, California; and
- project engineer for remedial investigation of an abandoned leather tannery in south San Francisco, California.

## AFFILIATIONS

American Society of Civil Engineers
American Society of Civil Engineers: Geo-Institute
American Society of Civil Engineers: Environmental and Water Resources Institute
Deep Foundations Institute
International Society on Soil Mechanics and Geotechnical Engineering
International Geosynthetics Society
National Ground Water Association
North American Geosynthetics Society

## PROFESSIONAL HISTORY

Geosyntec Consultants, Atlanta, Georgia, Chairman, 2016-date; President & CEO, 1996-2016; Senior Principal, 1988-date; Senior Engineer, 1986-1987
Georgia Institute of Technology, Atlanta, Georgia, Professor of the Practice (part-time), School of Civil & Environmental Engineering, 2016-date
The Tensar Corporation, Morrow, Georgia, Applications Technology Manager, 1984-1986
Woodward-Clyde Consultants, San Francisco, California, Assistant Project Engineer, 1982-1983
University of California, Berkeley, California, National Science Foundation Graduate Research Fellow, 1977-1980

## LITIGTION SUPPORT ACTIVITIES

- The Coakley Landfill Group v. IT Corporation v. Gary Blake, Inc. et al., Civil Action No. 98-CV-167 in the U.S. District Court for the District of New Hampshire.(expert report, deposition, and trial testimony, 2000/2001)

- Browning-Ferris Industries, Inc. et al. v. Certain Underwriters at Lloyd's London, et al., Cause No. 98-56362, in the District Court of Harris County, Texas, 80th Judicial District. (expert report, deposition, trial testimony, 2000-2012 [intermittent])

- Port of Houston Authority vs. G. B. Biosciences et al., Cause No. 2001-07795, in the District Court of Harris County, Texas, 151st Judicial District.(expert report, 2003)

- Waste Management of Georgia, Inc. v. Harold Reheis, Director, Environmental Protection Division, Department of Natural Resources, before the Office of State Administrative Hearings, State of Georgia. (testimony before a state administrative law judge, 2003)

- Friends of the Green Swamp, Petitioner, v. North Carolina Department of Environment and Natural Resources and Division of Water Quality, Respondent, and Riegel Ridge, LLC, Intervenor-Respondent, in the Office of Administrative Hearings, O3 EHR 0058, County of Columbus, State of North Carolina. (qualified as expert by administrative law judge and provided testimony, 2004)

- Interfaith Community Organization, et al., Plaintiffs, v. Honeywell International, Inc., et al., Defendants, Civil No. 95-2907 (DMC), in the U.S. District Court, District of New Jersey. (declaration submitted to the court under Rule 60(b)(5), 2005)
- State of Maryland, Department of Environment, Plaintiffs, v. Honeywell International, Inc. and Maryland Port Administration, Defendants, Civil Action No. 07-CV-00724-MJG, in the U.S. District Court, District of Maryland/Northern Division. (expert report, deposition and trial testimony, 2007/2008)
- Hackensack Riverkeeper, Inc., et al., Plaintiffs, v. Honeywell International, Inc. et al., Defendants, Civil No. 06-22, in the U.S. District Court, District of New Jersey. (expert report, 2008/2009)
- Intalco Aluminum Corporation, Plaintiffs, v. Central National Insurance Company of Omaha, et al., Defendants, Case No. 06-2-01842-3 in The Superior Court of the State of Washington for Whatcom County. (expert report and deposition testimony, 2009/2010)
- Texas Disposal Systems Landfill, Inc., Plaintiffs, v. Waste Management Holdings, Inc., Defendants, Cause No. 97-12163, District Court of Travis County, Texas, 126th District. (expert report, deposition testimony, trial testimony, 2010/2011)
- Hackensack Riverkeeper, Inc., et al., Plaintiffs, v. Honeywell International, Inc. et al., Defendants, Civil No. 06-22, in the U.S. District Court, District of New Jersey. (expert report, 2015)

## SIGNIFICANT INVITED LECTURES, WORKSHOPS, AND COMMITTEES
## RUDOLPH BONAPARTE

86-1 American Society of State Highway and Transportation Officials – AASHTO/AGC/ARTBA Task Force 27 on In-Situ Soil Improvement Techniques (1986 – 1990)

87-1 NATO Advanced Study Institute – "Polymeric Reinforcement in Soil Retaining Structures," Kingston, Canada (1987) (Invited Lecture and Participant)

89-1 American Society of Civil Engineers, New York Metro Annual Geotechnical Lecture Series – Geosynthetic Reinforcement of Embankment Slopes (1989) (Invited Lecture)

90-1 American Society of Civil Engineers – Member, Soil Improvement and Geosynthetics Committee, Geotechnical Engineering Division (1990 – 1993)

90-2 American Society of Civil Engineers, ASCE National Convention, Symposium on "Waste Containment Systems: Construction, Regulation, and Performance," (1990) (Symposium Organizer and Chair)

91-1 American Society of Civil Engineers – Chairman, Session Program Committee, Geotechnical Engineering Division (1991 – 1994)

91-2 National Science Foundation – Workshop on Soil Improvement and Foundation Remediation with Emphasis on Seismic Hazards (1991) (Invited Participant)

92-1 American Society of Civil Engineers – Editorial Board, Journal of Geotechnical Engineering (1991 – 1994)

94-1 National Science Foundation – Workshop on Research Priorities for Seismic Design of Solid Waste Landfills (1994) (Invited Lecture and Participant)

94-2 International Geosynthetics Society – Editorial Board, Geosynthetics International Journal (1994 – present)

95-1 NATO Advanced Study Institute – "Advances in Groundwater Pollution Control and Remediation," Antalya, Turkey (1995) (Invited Lecture and Participant)

95-2 American Society of Civil Engineers – "Long-Term Performance of Landfills," Geoenvironment 2000 Conference (1995) (Invited Keynote Lecture)

00-1 American Society of Civil Engineers – Member, Geo-Institute Awards Committee (2000 – 2002)

01-1 National Research Council – Workshop on Safeguarding the Future: Assessing the Performance of Engineered Containment Systems for Waste Disposal (2001) (Invited Lecture and Participant)

02-1 American Society of Civil Engineers – Geo-Institute Board of Governors (2002)

03-1 U.S. Environmental Protection Agency – Workshop on Bioreactor Landfills (2003) (Invited Lecture and Participant)

06-1 Editorial Board – International Journal of Geoengineering Case Histories (2006 – present)

06-2 University of California, Berkeley – Civil and Environmental Engineering (CEE) Advisory Council (2006 – 2016), Chair (2008-2012)

07-1 University of California, Berkeley – CEE Geoengineering Distinguished Lecture Series (2007) (Invited Lecture)

07-2 National Research Council – Assessment of the Performance of Engineered Waste Containment Barriers - NRC (2007) (Independent Reviewer)

08-1 Global Waste Management Symposium – Technical Committee (2008)

08-2 Virginia Tech – Center for Geotechnical Practice and Research Annual Lecture Program (2008) (Invited Lecture)

08-3 National Research Council – Fourth Report of the Academy of Engineering/National Research Council Committee on New Orleans Regional Hurricane Protection Projects: Review of the IPET Volume III (2008) (Independent Reviewer)

08-4 University of Texas at Austin – Civil, Architectural, and Environmental Engineering (CAEE) External Advisory Committee (2008 – 2012), Chair (2011-2012)

08-5 U.S. Department of Energy – Landfill Technology Development Workshop (2008) (Invited Lecture and Participant)

09-1 National Research Council – Advice on the Department of Energy's Cleanup Technology Roadmap – (2009) (Independent Reviewer)

09-2 National Research Council – The New Orleans Hurricane Protection System, Assessing Pre-Katrina Vulnerability and Improving Mitigation and Preparedness - NRC (2009) (Independent Reviewer)

09-3 St. Martins Episcopal School – Board of Trustees (2009-2016), Vice Chair (2014)

10-1 American Society of Civil Engineers, GeoFlorida Conference – "Research, Teaching, and Practice Interrelationships in Geo-Engineering Development" (2010) (Invited Panel Participant)

11-1 Texas A&M University – Spencer J. Buchanan Annual Distinguished Lecture Program (2011) (Invited Buchanan Lecturer)

11-2 University of Texas at Austin – CAEE Distinguished Young Alumni Committee (2011-2012), Chair (2012)

11-3 National Academy of Engineering – Nominating Committee (2011-2012)

12-1 American Society of Civil Engineers, GeoCongress 2012 Conference – "Demonstrating the Value Geo-Professionals Provide to Projects" (2012) (Invited Panel Participant)

12-2 American Society of Civil Engineers, GeoCongress 2012 Conference – "The Business of Geotechnical and Geoenvironmental Engineering – State of Practice" (2012) (Invited Keynote Lecture)

12-3 University of California, Berkeley, Board Chair, Civil and Environmental Engineering Academy of Distinguished Alumni (2012-2021)

13-1 National Academy of Engineering – Peer Committee, Section 4 (2013-2015)

13-2 National Research Council – Levees and the National Flood Insurance Programs: Improving Policies and Practices – NRC (2013) (Independent Reviewer)

13-3 University of Minnesota, 61st Minnesota Geotechnical Conference (2013) (Invited Keynote Speaker)

14-1 National Research Council – Reducing Coastal Risks on the East and Gulf Coasts – NRC (2014) (Independent Reviewer)

15-1 Stanford University – Invited Lectures, CEE 275K: The Practice of Environmental Consulting and Engineering

15-2 California Geotechnical Engineering Association (CalGeo) Annual Conference (2015) (Invited Keynote Lecture)

15-3 Georgia Institute of Technology – Lead-Instructor, CEE 4000: Global Engineering Leadership and Management (2015-2018)

16-1 Georgia Institute of Technology and ASCE Georgia Section, 19th George F. Sowers Lecturer, George F. Sowers Annual Symposium (2016) (Invited Keynote Lecture)

16-2 American Society of Civil Engineers, Geo-Institute - Nominations and Elections Committee (2016)

16-3 American Society of Civil Engineers, Geo-Chicago 2016 Conference – "The Interface of Professional Practice, Research, and Education" (2016) (Invited Panel Participant)

16-4 American Society of Civil Engineers, Committee on Claims Reduction and Management (2016-2020)

17-1 National Academy of Engineering, Committee on Membership (2017-2020)

18-1 University of California, Davis – Invited Lectures to Geotechnical Graduate Student Society (2018)

18-2 University of Kansas – 50th Annual Geotechnical Engineering Conference (2018) (Keynote Speaker)

18-3 Queens University – 20th Victor Milligan Lecture (2018)

19-1 American Society of Civil Engineers – GeoCarolinas (2019) (Invited Keynote Lecture)

19-2 Virginia Tech – Center for Geotechnical Practice and Research Annual Lecture Program (2019) (Invited Keynote Lecture)

19-3 University of Washington – Robert G. Hennes Memorial Lecture (2019)

19-4 Boston Society of Civil Engineers – Geotechnical Seminar Series (Invited Keynote Lecture)

19-5 University of California, Berkeley – Symposium Honoring James K. Mitchell (2019) (Invited Guest Speaker)

19-6 University of Colorado, Boulder – 27th Jack W. Hilf Lecture (2019)

19-7 Texas A&M University – Spencer J. Buchanan Annual Distinguished Lecture Program (2019) (Invited Guest Lecturer)

19-8 American Society of Civil Engineers – Geo-Institute Awards Committee (2019-2020)

20-1 National Academy of Engineering – Bernard M. Gordon Prize for Innovation and Technology and Evaluation Selection Committee (2020-2022)

# LIST OF PUBLICATIONS
# RUDOLPH BONAPARTE

79-1 Bonaparte, R. and Mitchell, J.K., *Engineering Properties of San Francisco Bay Mud*, Geotechnical Engineering Report, University of California, Berkeley, 1979.

80-1 Bonaparte, R. and Mitchell, J.K., *Evaluation of a General Stress-Deformation-Time Model for Cohesive Soils*, Geotechnical Engineering Report, University of California, Berkeley, 1980.

80-2 Bonaparte, R. and Mitchell, J.K., *Development of Experimental Concepts for Investigating the Strength Behavior of Fine Grained Cohesive Soils in the Spacelab/Space Shuttle Zero-G Environment,* NASA Contract Report 3365, Marshall Space Flight Center, Huntsville, 1980.

80-3 Kavazanjian, E., Mitchell, J.K., and Bonaparte, R., "Stress-Deformation Predictions Using a General Phenomenological Model," *Proceedings of the NSF/NSERC Workshop on Plasticity Theories and Stress-Strain Modeling of Soils*, American Society of Civil Engineers, Montreal, 1980.

81-1 Bonaparte, R. and Mitchell, J.K., *Evaluation of Laboratory Characterization of Cohesive Soils,* Geotechnical Engineering Report, University of California, Berkeley, 1981.

81-2 Bonaparte, R., *A General Time-Dependent Constitutive Model for Cohesive Soils,* submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, University of California, Berkeley, 1981.

82-1 Singh, R.D., Bonaparte, R., and Gardner, W.S., *Laboratory Characterization of Soil Properties,* final report, Contract No. DOT-FH-11-9627, Office of Research and Development, Federal Highway Administration, U.S. Department of Transportation, Washington D.C., 1982.

82-2 Bonaparte, R., *Hazardous Waste-Soil Interactions,* report to Woodward-Clyde Consultants, Professional Development Committee, 1982, 54 p.

84-1 Giroud, J.P., Ah-Line, C., and Bonaparte, R., "Design of Unpaved Roads and Trafficked Areas with Geogrids," *Proceedings of the Conference on Polymer Grid Reinforcement*, Institution of Civil Engineers, London, 1984, pp. 116-127.

84-2 Bonaparte, R. and Margason, E., "Repair of Landslides in the San Francisco Bay Area," *Proceedings of the Conference on Polymer Grid Reinforcement*, Institution of Civil Engineers, London, 1984, pp. 64-68.

84-3 Giroud, J.P., and Bonaparte, R., "Waterproofing and Drainage: Geomembranes and Synthetic Drainage Layers," *Proceedings of the Second International Symposium on Plastic and Rubber Waterproofing in Civil Engineering,* Liege, 1984.

84-4 Williams, N., Giroud, J.P., and Bonaparte, R., "Properties of Plastic Nets for Liquid and Gas Drainage Associated with Geomembranes," *Proceedings of the International Conference on Geomembranes,* Denver, 1984, pp. 399-404.

84-5 Margason, E. and Bonaparte, R., "Landslide Repair in Orinda Claystone Utilizing Geogrid Reinforcement," *Proceedings of the International Symposium on Landslides*, Toronto, 1984.

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# CCR SURFACE IMPOUNDMENT PUBLIC INFORMATION REVIEW

## COAL-FIRED ELECTRIC POWER UTILITIES GEORGIA, NORTH CAROLINA, SOUTH CAROLINA, AND VIRGINIA

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# 1. INTRODUCTION AND SCOPE

This report was prepared by Geosyntec Consultants of NC, P.C. (Geosyntec) for Duke Energy Carolinas, LLC (Duke Energy) to document our observations and findings regarding closure planning of coal combustion residual (CCR) surface impoundments in the states of Georgia, North Carolina, South Carolina, and Virginia during the approximate timeframe of 2009 to 2011, or earlier. The report presents the results of a review of two sets of publicly available documents for coal-fired electric power plants for these states:

- reports presenting the results of safety assessments for CCR impoundment dams prepared by private engineering firms under subcontract to the U.S. Environmental Protection Agency (USEPA) in the timeframe 2009-2011 (hereafter referred to as USEPA dam safety assessment reports); and,

- for the CCR impoundments identified in the USEPA dam safety assessment reports, closure plans prepared by the utility owners/operators of the CCR impoundments (or their consultants) in or around 2016 pursuant to the Federal CCR Rule (40 CFR §257.102(b)); in a few instances, the posted closure plans were prepared pursuant to state regulations rather than the CCR Rule; for this report, these facilities are considered together and collectively referred to as CCR Rule closure plans.

From the USEPA dam safety assessment reports, Geosyntec recorded information regarding each CCR impoundment's location, year built, report preparer (engineering consultant), active/inactive status, lined or unlined condition, operating information, and most relevant to this report, whether there was any indication in the report that planning for, or implementation of, an engineered impoundment closure had occurred prior to or during the 2009-2011 timeframe.

From the CCR Rule closure plans, Geosyntec recorded information about each CCR impoundment's closure plan date, closure plan preparer, closure method (e.g., closure by removal, cap-in-place), details of the closure cover system, actual or anticipated closure construction start date, and whether the CCR Rule closure plans referenced or mentioned prior closure plans (in or prior to the 2009-2011 timeframe) and/or any earlier closure planning or closure construction activities.

The results of the review of this publicly available information are contained in two tables for each of the reference states, one presenting the results of the review of the USEPA dam safety assessment reports, and the second presenting the results of the review of the CCR Rule closure plans.

## 2. QUALIFICATIONS

Geosyntec is a 37-year old, 1,400-person engineering and consulting firm with more than 50 offices across the U.S. and in several international locations. The firm practices in North Carolina through its subsidiary Geosyntec Consultants of North Carolina, P.C. (NC Engineering License C-3500). Geosyntec specializes in the areas of environmental planning and management, water and natural resources, municipal and industrial waste management facility design and permitting, and environmental remediation and restoration, amongst others.

Over the last nearly 30 years, Geosyntec has provided a wide range of engineering and consulting services to electric power utility clients. These services include siting, permitting, design, construction quality assurance (CQA), environmental monitoring, facility performance assessment, and wastewater treatment system design for CCR storage and disposal facilities. Geosyntec has provided these engineering and consulting services across the United States, including extensive involvement in projects in North Carolina and the surrounding states of Georgia, South Carolina, and Virginia.

Geosyntec also actively advances the state-of-practice through technical innovations, research collaborations with industry partners, and contributions to the technical literature. The Electric Power Research Institute (EPRI) has on several occasions contracted with Geosyntec to develop guidance manuals and research reports on CCR-related topics, including guidance on the closure of CCR surface impoundments and landfills. The firm, along with its client, Tennessee Valley Authority (TVA), received the 2014 Grand Award for Engineering Excellence from the American Council of Engineering Companies of Georgia for its work on the Peninsula Site CCR Landfill at TVA's Kingston plant in Tennessee.

The literature review for this project was conducted by Scott Sheridan, P.E. (VA) and Jintai Wang, Ph.D., EIT (VA) under the direction and review of Rudolph Bonaparte, Ph.D., P.E. (NC), NAE. The literature review was also conducted under the responsible charge of James McNash, P.E. (NC), who resides in the firm's Charlotte, North Carolina office. Dr. Bonaparte is a Senior Principal with Geosyntec. He has nearly 40 years of professional experience in the areas of geoenvironmental and geotechnical engineering applied to municipal, industrial, hazardous, and low-level radioactive waste disposal facility projects. In addition to his project experience, he was lead co-author of several technical resource and guidance documents on the design, construction, and performance of waste containment systems published by USEPA. His experience with CCR landfills and impoundments spans 25 years. He is knowledgeable regarding the physical and chemical characteristics of CCRs, the Federal CCR Rule, and the design and construction of storage, disposal, and closure systems for CCRs. Dr. Bonaparte is an elected member of the U.S. National Academy of Engineering (NA). He is a Fellow of the American Society of Civil Engineers and received the society's 2016 Lifetime Achievement Award in Design. He also received the 2019 Georgia Engineering Alliance Lifetime Achievement in Engineering Award. He is a registered professional civil engineer in 19 states.

# 3. RESULTS OF REVIEW

## 3.1 Overview

As described in Section 1, Geosyntec reviewed publicly available USEPA dam safety assessment reports and CCR Rule closure plans for CCR impoundments at electric power utility facilities for North Carolina and the bordering states of Georgia, South Carolina and Virginia. A summary of information pertinent to the purpose of this report is provided in the table below.

| State | No. of Coal-Fired Power Generating Stations Reviewed[1] | Total No. of Coal-Fired Generating Stations in State[2] | Percentage of Total Stations Reviewed for this Report (est.) | No. of CCR Impoundments Reviewed for This Report | No. of Unlined CCR Impoundments (and percentage unlined) | No. of CCR Impoundments with Indication of Historical Closure Planning[3] |
|---|---|---|---|---|---|---|
| Georgia | 11 | 13 | 85% | 30 | 28 (93%) | 1 |
| North Carolina | 14 | 16 | 88% | 30 | 27 (90%) | 0 |
| South Carolina | 9 | 11 | 82% | 22 | 19 (86%) | 0 |
| Virginia | 6 | 10 | 60% | 11 | 11 (100%) | 2 |

[1] Includes all facilities for which USEPA dam safety assessment reports were found in the on-line database.
[2] Estimate based on a review of multiple on-line information sources. Note that the scope of the review only includes coal-fired electric power utilities that stored or disposed CCRs on site (either in landfills or surface impoundments). Cogeneration facilities or privately-operated coal-fired boilers were excluded from this report.
[3] Historical in this context refers to the time frame of 2009-2011 or earlier. Note, simple placement of a layer of non-engineered fill above the CCR impoundment and/or allowing grass/vegetation to grow on the surface of the impoundment, is not recorded as "closure planning" (which is defined herein as including engineered final impoundment grades, cover system, and surface water management system), but is recorded as a "closure activity" in the more detailed discussion that follows. This closure activity is interpreted as being an extension of CCR impoundment operations.

A summary of Geosyntec's review is presented in the remainder of this section of the report. The detailed results of the review are presented in the following eight tables that can be found at the end of this report.

Table 1. Georgia – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports

Table 2. Georgia – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule

Table 3. North Carolina – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports

Table 4. North Carolina – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule

Table 5. South Carolina – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports

Table 6. South Carolina – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule

Table 7. Virginia – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports

Table 8. Virginia – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule

## 3.2 Georgia

The following observations are made based on Geosyntec's review of the USEPA dam assessment reports for Georgia (Table 1):

- only 1 of the 30 USEPA dam safety assessment reports in the Georgia review had an indication of CCR impoundment closure planning during the timeframe of the reports or during earlier periods;
- all but 2 of 30 CCR impoundments were unlined; most of the impoundments were active and receiving sluiced CCR at the time of the reports; and,
- at the time of the reports, 7 of the 30 CCR impoundments were reported as having had some closure activity. For 6 of the impoundments, the closure activity is interpreted as involving a non-engineered cover soil layer and vegetation. For one impoundment, the closure involved installation of a 2-foot thick layer of compacted clay.

The following observations are made based on Geosyntec's review of the CCR Rule closure plans for Georgia (Table 2):

- publicly available CCR Rule closure plans were found for 18 of the 30 CCR impoundments included in Geosyntec's search; of these, none had any indication in the closure plan of the existence of an earlier closure plan for the CCR impoundment (in or before the 2009-2011 timeframe) and/or any earlier closure planning or construction activities;
- the CCR Rule closure plans for the various CCR impoundments described a mix of closure methods, specifically cap-in-place, closure by removal, and closure by consolidation; and,
- the anticipated start of closure construction for these CCR impoundments ranged in the reports from 2014 to 2021.

## 3.3 North Carolina

The following observations are made based on Geosyntec's review of the USEPA dam assessment reports for North Carolina (Table 3):

- none of the 30 USEPA dam safety assessment reports in the North Carolina review had an indication of CCR impoundment closure planning during the timeframe of the reports or during earlier periods;
- all but 4 of the 30 CCR impoundments were unlined; most of the impoundments were active and receiving sluiced CCR at the time of the reports; and,
- at the time of the reports, 3 of the 30 CCR impoundments were described as being closed with a soil or vegetative cap.

The following observations are made based on Geosyntec's review of the CCR Rule closure plans for North Carolina (Table 4):

- publicly available CCR Rule closure plans were found for 21 of the 30 CCR impoundments included in Geosyntec's search; of these, none had any indication in the closure plan of the existence of an earlier closure plan for the CCR impoundment (in or before the 2009-2011 timeframe) and/or any earlier closure planning or construction activities;
- the CCR Rule closure plans for the various CCR impoundments described a mix of closure methods, specifically cap-in-place and closure by removal; and,
- the anticipated start of closure construction for these CCR impoundments ranged in the reports from 2015 to 2018.

## 3.4 South Carolina

The following observations are made based on Geosyntec's review of the USEPA dam assessment reports for South Carolina (Table 5):

- none of the 22 USEPA dam safety assessment reports in the South Carolina review had information on CCR impoundment closure planning;
- all but 3 of the 22 CCR impoundments were unlined; for two impoundments, the reports were silent on the presence or absence of a liner; most of the impoundments were active and receiving sluiced CCR at the time of the reports; and,
- at the time of the reports, none of the 22 CCR impoundments was described as having had closure activity.

The following observations are made based on Geosyntec's review of the CCR Rule closure plans for South Carolina (Table 6):

- publicly available CCR Rule closure plans were found for 19 of the 22 CCR impoundments included in Geosyntec's search; of these, none had any indication in the closure plan of the existence of an earlier closure plan for the CCR impoundment (in or before the 2009-2011 timeframe) and/or any earlier closure planning or construction activities;
- the CCR Rule closure plans for the various CCR impoundments all describe the closure method as closure by removal; and,
- the anticipated start of closure construction for the CCR impoundments ranged in the reports from 2017 to 2020; several CCR units did not have a closure construction start date but indicated closure would be complete by the end of 2020.

## 3.5 Virginia

The following observations are made based on Geosyntec's review of the USEPA dam assessment reports for Virginia (Table 7):

- only 2 of the 11 USEPA dam safety assessment reports in the Virginia review had an indication of CCR impoundment closure planning during the timeframe of the reports or during earlier periods;
- all but 1 of the 11 CCR impoundments were unlined; most of the impoundments were active and receiving sluiced CCR at the time of the reports; and,
- at the time of the reports, 2 of the 11 CCR impoundments were described as undergoing closure or preparing for closure, with closure in one case reported as covering the impoundment with compacted, dry-placed CCR and closure in the other case reported as placement of a multi-component geosynthetic cover system.

The following observations are made based on Geosyntec's review of the CCR Rule closure plans for Virginia (Table 8):

- publicly available CCR Rule closure plans were found for 9 of the 11 CCR impoundments included in Geosyntec's search; of these, one had a brief discussion of the existence of earlier closure planning (i.e., existence of a 2003 closure plan for the CCR impoundment);
- the CCR Rule closure plans for the various CCR impoundments described a mix of closure methods, specifically cap-in-place and closure by removal; and,
- the anticipated start of closure construction for these CCR impoundments ranged in the reports from 2015 to 2019.

# 4. SUMMARY

The results of Geosyntec's review of available EPA dam safety assessment reports and CCR Rule closure plans for CCR impoundments at coal-fired electric generating utilities in Georgia, North Carolina, South Carolina, and Virginia are briefly summarized as follows:

- The literature review conducted by Geosyntec included all CCR impoundments for which USEPA dam safety assessment reports are publicly available. The review includes the CCR impoundments at an estimated 40 of the 50 generating stations in the four states (80%). USEPA dam safety assessment reports were not prepared for some generating stations because CCRs at the stations were being disposed in landfills and not surface impoundments (and thus there were no dams to assess).

- Information was reviewed for 93 CCR impoundments at the 40 generating stations. Of these, only three (3.2%) CCR impoundments were identified as having engineered closure plans and/or engineering-related closure planning in the 2009-2011 timeframe, or earlier. A few additional impoundments had received a layer of non-engineered fill above the CCR impoundment and/or had grass/vegetation growing on the surface of the impoundment, but this non-engineered closure activity is interpreted herein as being a simple extension of CCR impoundment operations.

- Of the 93 CCR impoundments reviewed, 85 (91%) were either directly reported or interpreted as being unlined; most of the CCR impoundments reviewed were reported as being active in the 2009-2011 timeframe (although some were inactive), and of the active impoundments, the majority were reported as receiving sluiced CCR at the time of the USEPA dam safety assessment reports.

- Only 1 of the 57 CCR Rule closure plans had any indication of closure planning for the subject CCR impoundment for the 2009-2011 timeframe, or earlier.

# TABLES

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**Table 1. Georgia – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Georgia Power Company | Kraft Power Station | Port Wentworth, GA | Ash Pond | 1958 | March 2011 | Dewberry & Davis | Active | No liner | No | No | None | None |
| Georgia Power Company | McIntosh Power Station | Rincon, GA | Ash Pond | 1982 | March 2011 | Dewberry & Davis | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Bowen | Cartersville, GA | Plant Bowen Ash Pond | 1968 | May 2009 | CHA Engineers, sub to Lockheed Martin | Active | Partially retrofitted geosynthetic clay liners(GCL), or HDPE liners, and/or clay soil liners. The lining was due to the underlying karst topography. | No | No | None | None |
| Georgia Power Company | Plant Branch | Milledgeville, GA | Ash Pond B | 1967 | November 2009 | CHA Engineers, sub to Lockheed Martin | Active | No liner | No | No | None | A portion of this pond has a soil cap of varying thickness. Trees are growing on it. There is no indication whether this was a permit requirement or not. |
| Georgia Power Company | Plant Branch | Milledgeville, GA | Ash Pond C | 1971 | November 2009 | CHA Engineers, sub to Lockheed Martin | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Branch | Milledgeville, GA | Ash Pond D | 1980 | November 2009 | CHA Engineers, sub to Lockheed Martin | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Branch | Milledgeville, GA | Ash Pond E | 1982 | November 2009 | CHA Engineers, sub to Lockheed Martin | Active | No liner | No | No | None | None |
| Crisp County Power Commission | Plant Crisp | Warwick, GA | CCW Impoundment, Ash Pond | 1970s | August 2012 | CDM Smith | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Hammond | Coosa, GA | Ash Pond 1 | 1952 | April 2010 | AMEC | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Hammond | Coosa, GA | Ash Pond 2 | 1969 | April 2010 | AMEC | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Hammond | Coosa, GA | Ash Pond 3 | 1974 | April 2010 | AMEC | Inactive | No liner | No | Yes | None | None |
| Georgia Power Company | Plant Hammond | Coosa, GA | Ash Pond 4 | 1986 | April 2010 | AMEC | Inactive | No liner | No | No Indication | None | None |
| Georgia Power Company | Plant McDonough | Smyrna, GA | Ash Pond 1 | 1964 | April 2010 | AMEC | Inactive | No liner | No | No Indication | None | The pond was removed from service at full storage capacity in 1968. The pond was filled, covered, and used as a lay-down and parking area. Interpret to be soil cover only. |
| Georgia Power Company | Plant McDonough | Smyrna, GA | Ash Pond 2 | 1968 | April 2010 | AMEC | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant McDonough | Smyrna, GA | Ash Pond 3 | 1969 | April 2010 | AMEC | Active | No liner | No | No | None | None |

I/A

**Table 1. Georgia – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Georgia Power Company | Plant McDonough | Smyrna, GA | Ash Pond 4 | 1972 | April 2010 | AMEC | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Mitchell | Albany, GA | Ash Pond 1 | 1963 | May 2010 | AMEC | Inactive | No liner | No | No Indication | None | Inactive; no longer receives liquid borne waste. The aerial photo shows that ash pond 1 was covered by vegetation. Interpret to be soil cover only. |
| Georgia Power Company | Plant Mitchell | Albany, GA | Ash Pond 2 | 1979 | May 2010 | AMEC | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Mitchell | Albany, GA | Ash Pond A | 1948 | May 2010 | AMEC | Inactive | No liner | No | No Indication | None | "The pond is currently full, inactive, covered, no longer receives liquid-borne material, and is completely incised." "The site is now occupied by the combustion turbine installation." Interpret to be soil cover only. |
| Georgia Power Company | Plant Scherer | Juliette, GA | Ash Pond | 1980 | May 2010 | AMEC | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Scherer | Juliette, GA | Settling Pond | 1980 | May 2010 | AMEC | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Wansley | Carrolton, GA | Ash Pond | 1975 | June 2010 | Dewberry & Davis | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Yates | Newnan, GA | Ash Pond 1 | 1950 | May 2010 | AMEC | Inactive; does not currently receive CCR (does receive coal pile run off) | No liner | No | No | None | None |
| Georgia Power Company | Plant Yates | Newnan, GA | Ash Pond 2 | 1966 | May 2010 | AMEC | Active | No liner | No | No | None | None |
| Georgia Power Company | Plant Yates | Newnan, GA | Ash Pond 3 | 1976 | May 2010 | AMEC | Inactive; does not currently receive CCR (does receive process water discharge from Ash Pond B and storm water runoff) | No liner | No | No | None | None |
| Georgia Power Company | Plant Yates | Newnan, GA | B' Pond | 1976 | May 2010 | AMEC | Active; two active areas serve to dewater dredged ash from Ash Pond 2 | No liner | No | No | None | None |
| Georgia Power Company | Plant Yates | Newnan, GA | Gypsum Pond | 1992 | May 2010 | AMEC | Active | HDPE Liner | No | No | None | None |

I/A

**Table 1. Georgia – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Georgia Power Company | Plant Yates | Newnan, GA | A Pond | 1975 | May 2010 | AMEC | Inactive | No liner | No | No Indication | None | Pond is covered with soil and vegetation; Inactive |
| Georgia Power Company | Plant Yates | Newnan, GA | B Pond | 1976 | May 2010 | AMEC | Inactive | No liner | No | No Indication | None | Pond is covered with soil and vegetation; Inactive |
| Georgia Power Company | Plant Yates | Newnan, GA | C Pond | 1975 - 1976 | May 2010 | AMEC | Inactive | No liner | No | No Indication | Yes | Pond is covered and inactive; Cover consists of 2 feet of clay |
| Notes | 1. Data are based on the information provided in the publicly available USEPA reports at the time of the report (~ 2009 - 2011).<br>2. Some terminologies used in the spreadsheet are directly from the original USEPA reports.<br>3. Simple placement of a layer of non-engineered fill above the CCR impoundment and/or allowing grass/vegetation to grow on the surface of the impoundment is not recorded in the table as closure planning, but is recorded as a closure activity that is interpreted to be a simple extension of CCR impoundment operations. | | | | | | | | | | | |

I/A

**Table 2. Georgia – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule**

| Company | Facility | Location | Coal Ash Pond | Closure Plan Date | Prepared in Response to CCR Rule | Closure Plan Preparer | Closure Plan Proposed for CCR Rule Compliance | Closure Cover System Proposed for CCR Rule Compliance | Closure Construction Start Date | Indication of Historical Closure Planning (2011 or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|
| Georgia Power Company | Kraft Power Station | Port Wentworth, GA | Ash Pond | Closure plan is not available. | | | | | | |
| Georgia Power Company | McIntosh Power Station | Rincon, GA | Ash Pond | October 2016 | Yes | Georgia Power | Closure by Removal | Not Applicable | 2019 (Expected) | None |
| Georgia Power Company | Plant Bowen | Cartersville, GA | Plant Bowen Ash Pond | September 2018 (Amended) | Yes | Georgia Power | Close by Consolidation | Soil-geosynthetic composite cover system or a synthetic engineered turf (ClosureTurf) | 2021 (Expected) | None |
| Georgia Power Company | Plant Branch | Milledgeville, GA | Ash Pond B | Closure plan is not available. | | | | | | |
| Georgia Power Company | Plant Branch | Milledgeville, GA | Ash Pond C | | | | | | | |
| Georgia Power Company | Plant Branch | Milledgeville, GA | Ash Pond D | | | | | | | |
| Georgia Power Company | Plant Branch | Milledgeville, GA | Ash Pond E | | | | | | | |
| Crisp County Power Commission | Plant Crisp | Warwick, GA | CCW Impoundment, Ash Pond | November 2018 | Yes | Geosyntec | Closure by Removal | Not Applicable | 2020 (Expected) | None |
| Georgia Power Company | Plant Hammond | Coosa, GA | Ash Pond 1 | October 2016 | Yes | Georgia Power | Closure by Removal | Not Applicable | 2019 (Expected) | None |
| Georgia Power Company | Plant Hammond | Coosa, GA | Ash Pond 2 | October 2016 | Yes | Georgia Power | Closure by Removal | Not Applicable | 2019 (Expected) | None |
| Georgia Power Company | Plant Hammond | Coosa, GA | Ash Pond 3 | April 2018 | Yes | Stantec | Close In-Place | Engineered cover system consisting of geosynthetic and soil layer | Q2 2016 | None |
| Georgia Power Company | Plant Hammond | Coosa, GA | Ash Pond 4 | Closure plan is not available. | | | | | | |
| Georgia Power Company | Plant McDonough | Smyrna, GA | Ash Pond 1 | April 2019 (Amended) | Yes | Georgia Power | Close In-Place | Engineered, relatively impermeable cover system utilizing geosynthetic materials | 2016 | None |
| Georgia Power Company | Plant McDonough | Smyrna, GA | Ash Pond 2 | April 2018 | Yes | Georgia Power | Closure by Removal | Not Applicable | 2016 | None |
| Georgia Power Company | Plant McDonough | Smyrna, GA | Ash Pond 3 | April 2019 (Amended) | Yes | Golder | Close In-Place | Engineered cover system | Q1 2016 | None |
| Georgia Power Company | Plant McDonough | Smyrna, GA | Ash Pond 4 | April 2019 (Amended) | Yes | Golder | Close In-Place | Engineered cover system | Q1 2016 | None |
| Georgia Power Company | Plant Mitchell | Albany, GA | Ash Pond 1 | Closure plan is not available. | | | | | | |
| Georgia Power Company | Plant Mitchell | Albany, GA | Ash Pond 2 | | | | | | | |
| Georgia Power Company | Plant Mitchell | Albany, GA | Ash Pond A | | | | | | | |
| Georgia Power Company | Plant Scherer | Juliette, GA | Ash Pond | October 2016 | Yes | Georgia Power | Close In-Place | Final cover design not yet complete | 2019 (Expected) | None |
| Georgia Power Company | Plant Scherer | Juliette, GA | Settling Pond | Closure plan is not available. | | | | | | |
| Georgia Power Company | Plant Wansley | Carrolton, GA | Ash Pond | October 2016 | Yes | Georgia Power | Close In-Place | Final cover design not yet complete | 2019 (Expected) | None |

I/A

**Table 2. Georgia – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule**

| Company | Facility | Location | Coal Ash Pond | Closure Plan Date | Prepared in Response to CCR Rule | Closure Plan Preparer | Closure Plan Proposed for CCR Rule Compliance | Closure Cover System Proposed for CCR Rule Compliance | Closure Construction Start Date | Indication of Historical Closure Planning (2011 or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|
| Georgia Power Company | Plant Yates | Newnan, GA | Ash Pond 1 | April 2018 | Yes | Georgia Power | Closure by Removal | Not Applicable | July 2015 | None |
| Georgia Power Company | Plant Yates | Newnan, GA | Ash Pond 2 | October 2016 | Yes | Georgia Power | Closure by Removal | Not Applicable | 2019 (Expected) | None |
| Georgia Power Company | Plant Yates | Newnan, GA | Ash Pond 3 | October 2016 | Yes | Georgia Power | Close In-Place | Final cover design not yet complete | 2019 (Expected) | None |
| Georgia Power Company | Plant Yates | Newnan, GA | B' Pond | October 2016 | Yes | Georgia Power | Close In-Place | Final cover design not yet complete | 2019 (Expected) | None |
| Georgia Power Company | Plant Yates | Newnan, GA | Gypsum Pond | Closure plan is not available. | | | | | | |
| Georgia Power Company | Plant Yates | Newnan, GA | A Pond | April 2018 | Yes | Georgia Power | Closure by Removal | Not Applicable | October 2014 | None |
| Georgia Power Company | Plant Yates | Newnan, GA | B Pond | September 2018 (Amended) | Yes | Georgia Power | Closure by Removal | Not Applicable | 2019 (Expected) | None |
| Georgia Power Company | Plant Yates | Newnan, GA | C Pond | Closure plan is not available. | | | | | | |
| Notes | 1. Data are based on the information provided in the publicly available Closure Plans.<br>2. Some terminologies used in the spreadsheet are directly from the original Closure Plans. | | | | | | | | | |

I/A

**Table 3. North Carolina – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duke Energy | Belews Creek | Walnut Cove, NC | Active Ash Pond | 1970-1972 | September 2009 | CHA Engineers, sub to Lockheed Martin | Active; Receiving sluiced CCR | No Liner | No | No | None | None |
| Duke Energy | Buck Steam Station | Spencer, NC | New Primary Pond | 1956 | June 2009 | CHA Engineers, sub to Lockheed Martin | Active | No Liner | No | No | None | None |
| Duke Energy | Buck Steam Station | Spencer, NC | Primary Pond | 1977 | June 2009 | CHA Engineers, sub to Lockheed Martin | Active | No Liner | No | No | None | None |
| Duke Energy | Buck Steam Station | Spencer, NC | Secondary Pond | 1977 | June 2009 | CHA Engineers, sub to Lockheed Martin | Active | No Liner | No | No | None | None |
| Duke Energy | Dan River | Eden, NC | Primary Pond | 1967-1977 | May 2009 | RIZZO, sub to Lockheed Martin | Active | No Liner | The Primary Pond has been dredged at various times in its life, with the dredge spoils stored on site in a dry ash storage landfill. | No | None | None |
| Duke Energy | Dan River | Eden, NC | Secondary Pond | 1967-1977 | May 2009 | RIZZO, sub to Lockheed Martin | Active | No Liner | No | No | None | None |
| Duke Energy | Allen Steam Station | Belmont, NC | Active Ash Pond | 1965 | June 2009 | GZA GeoEnvironmental, sub to Lockheed Martin | Active. Take relatively small amount of slurry, as ash from dry process is going to an onsite landfill. | No Liner | No | No | None | None |
| Duke Energy | Marshall Steam Station | Catawba County, NC | Active Ash Pond | 1965 | May 2009 | GZA GeoEnvironmental, sub to Lockheed Martin | Active | No Liner | No | No | None | None |
| Duke Energy | Riverbend Steam Station | Mt. Holly, NC | Primary Pond | 1957 | June 2009 | CHA Engineers, sub to Lockheed Martin | Active | No Liner | No | No | None | None |
| Duke Energy | Riverbend Steam Station | Mt. Holly, NC | Secondary Pond | 1979 | June 2009 | CHA Engineers, sub to Lockheed Martin | Active | No Liner | No | No | None | None |
| Duke Energy Corp | Cliffside Power Station | Mooresboro, NC | Active Pond | Late 80s | February 2011 | Dewberry & Davis | Active | No Liner | No | No | None | None |
| Duke Energy Corp | Cliffside Power Station | Mooresboro, NC | Retired Unit 1-4 Basin | N/A | February 2011 | Dewberry & Davis | Inactive. Unit has been repurposed to manage stormwater runoff from the site. | No Liner | Yes. There may be minimal amounts of ash remaining. | Yes | None | None |
| Duke Energy Corp | Cliffside Power Station | Mooresboro, NC | Retired Unit 5 Basin | N/A | February 2011 | Dewberry & Davis | Inactive; No longer receive ash or impound water | No Liner | No | Yes | None | Closed; Capped with soil |
| Progress Energy | Roxboro | Person County, NC | West Ash Pond | 1973 | September 2009 | RIZZO, sub to Lockheed Martin | Active | No Liner | No | No | None | None |

I/A

**Table 3. North Carolina – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Progress Energy | Roxboro | Person County, NC | FGD Flush Pond | 2007 | September 2009 | RIZZO, sub to Lockheed Martin | Active | Geomembrane Liner | Not Applicable | No Indication | None | None |
| Progress Energy | Roxboro | Person County, NC | FGD Settling Pond | 2007 | September 2009 | RIZZO, sub to Lockheed Martin | Active | Geosynthetic Clay Liner | Not Applicable | No Indication | None | None |
| Progress Energy | Asheville Electric Plant | Buncombe County, NC | 1964 Pond | 1964 | May 2009 | Dewberry & Davis | Inactive; Pond was removed from service in 1982. | Geomembrane Liner | No | Pond was drained in 1982. | None | None |
| Progress Energy | Asheville Electric Plant | Buncombe County, NC | 1982 Pond | 1982 | May 2009 | Dewberry & Davis | Active | No Liner | No | No | None | None |
| Progress Energy | Cape Fear Plant | Moncure, NC | 1956 Ash Pond | 1956 | June 2009 | CHA Engineers, sub to Lockheed Martin | Inactive. "At present, the pond no longer impounds water and is overgrown with trees and heavy vegetation". | No Liner | No | No Indication | None | Closed; Vegetation Cap |
| Progress Energy | Cape Fear Plant | Moncure, NC | 1963/1970 Ash Pond | 1963/1970 | June 2009 | CHA Engineers, sub to Lockheed Martin | Inactive. "No longer receives CCW or storm water discharges from the plant". | No Liner | No | No Indication | None | Closed; Vegetation Cap |
| Progress Energy | Cape Fear Plant | Moncure, NC | 1978 Ash Pond | 1978 | June 2009 | CHA Engineers, sub to Lockheed Martin | Active; Receiving storm water, coal pile run off and low-volume categorical waste water from plant; Does not receive CCR | No Liner | No | No | None | None |
| Progress Energy | Cape Fear Plant | Moncure, NC | 1985 Ash Pond | 1985 | June 2009 | CHA Engineers, sub to Lockheed Martin | Active; Receiving sluiced CCR | No Liner | No | No | None | None |
| Progress Energy | Mayo Generating Plant | Roxboro, NC | 1982 Pond | 1982 | June 2009 | Dewberry & Davis, sub to Lockheed Martin | Active | No Liner | No | No | None | None |
| Progress Energy Carolinas Inc | L. V. Sutton Power Station | Wilmington, NC | 1971 Pond | 1971 | February 2011 | Dewberry & Davis | Active | No Liner | No | No | None | None |
| Progress Energy Carolinas Inc | L. V. Sutton Power Station | Wilmington, NC | 1984 Pond | 1984 | February 2011 | Dewberry & Davis | Active | One-foot thick clay liner on the interior face. The clay lining was covered with a two-foot thick protective sand fill. | No | No | None | None |
| Progress Energy Carolinas Inc | H.F. Lee Power Station | Goldsboro, NC | Active Ash Pond | 1980 | February 2011 | Dewberry & Davis | Active | No Liner | No | No | None | None |

I/A

**Table 3. North Carolina – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Progress Energy Carolinas Inc | H.F. Lee Power Station | Goldsboro, NC | Inactive Ash Pond 1 | 1950s and 1960s | February 2011 | Dewberry & Davis | Inactive; Taken out of service in 1973 and have not been used since | No Liner | No | No Indication | None | None |
| Progress Energy Carolinas Inc | H.F. Lee Power Station | Goldsboro, NC | Inactive Ash Pond 2 | 1950s and 1960s | February 2011 | Dewberry & Davis | Inactive; Taken out of service in 1973 and have not been used since | No Liner | No | No Indication | None | None |
| Progress Energy Carolinas Inc | H.F. Lee Power Station | Goldsboro, NC | Inactive Ash Pond 3 | 1950s and 1960s | February 2011 | Dewberry & Davis | Inactive; Taken out of service in 1973 and have not been used since | No Liner | No | No Indication | None | None |
| Progress Energy Carolinas Inc | W. H. Weatherspoon Power Station | Lumberton, NC | 1979 Pond | 1979 | February 2011 | Dewberry & Davis | Active | No Liner | No | No Indication | None | None |
| Notes | 1. Data are based on the information provided in the publicly available USEPA reports at the time of the report (~ 2009 - 2011).<br>2. Some terminologies used in the spreadsheet are directly from the original USEPA reports.<br>3. Simple placement of a layer of non-engineered fill above the CCR impoundment and/or allowing grass/vegetation to grow on the surface of the impoundment is not recorded in the table as closure planning, but is recorded as a closure activity that is interpreted to be a simple extension of CCR impoundment operations. | | | | | | | | | | | |

**Table 4. North Carolina – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule**

| Company | Facility | Location | Coal Ash Pond | Closure Plan Date | Prepared in Response to CCR Rule | Closure Plan Preparer | Closure Plan Proposed for CCR Rule Compliance | Closure Cover System Proposed for CCR Rule Compliance | Closure Construction Start Date | Indication of Historical Closure Planning (2011 or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|
| Duke Energy | Belews Creek | Walnut Cove, NC | Active Ash Pond | October 2016 | Yes | AECOM | Cap-in-Place | Engineered cover system consisting of geosynthetics and soil | 2018 (Expected) | None |
| Duke Energy | Buck Steam Station | Spencer, NC | New Primary Pond | October 2016 | Yes | HDR | Closure by Removal | Not Applicable | 2018 (Expected) | None |
| Duke Energy | Buck Steam Station | Spencer, NC | Primary Pond | October 2016 | Yes | HDR | Closure by Removal | Not Applicable | 2018 (Expected) | None |
| Duke Energy | Buck Steam Station | Spencer, NC | Secondary Pond | October 2016 | Yes | HDR | Closure by Removal | Not Applicable | 2018 (Expected) | None |
| Duke Energy | Dan River | Eden, NC | Primary Pond | October 2016 | Yes | Amec Foster Wheeler | Closure by Removal | Not Applicable | 2017 (Expected) | None |
| Duke Energy | Dan River | Eden, NC | Secondary Pond | October 2016 | Yes | Amec Foster Wheeler | Closure by Removal | Not Applicable | 2017 (Expected) | None |
| Duke Energy | Allen Steam Station | Belmont, NC | Active Ash Pond | October 2016 | Yes | AECOM | Cap-in-Place | Engineered cover system consisting of geosynthetics and soil | 2018 (Expected) | None |
| Duke Energy | Marshall Steam Station | Catawba County, NC | Active Ash Pond | October 2016 | Yes | AECOM | Cap-in-Place | Engineered cover system consisting of geosynthetics and soil | 2018 (Expected) | None |
| Duke Energy | Riverbend Steam Station | Mt. Holly, NC | Primary Pond | According to Duke Energy Website, the CCR rule does not apply to this site. No closure plan is available. | | | | | | |
| Duke Energy | Riverbend Steam Station | Mt. Holly, NC | Secondary Pond | According to Duke Energy Website, the CCR rule does not apply to this site. No closure plan is available. | | | | | | |
| Duke Energy Corp | Cliffside Power Station | Mooresboro, NC | Active Pond | October 2016 | Yes | Amec Foster Wheeler | Cap-in-Place | Engineered cover system consisting of geosynthetics and soil | 2018 (Expected) | None |
| Duke Energy Corp | Cliffside Power Station | Mooresboro, NC | Retired Unit 1-4 Basin | October 2016 | Yes | Amec Foster Wheeler | Closure by Removal | Not Applicable | 2017 (Expected) | None |
| Duke Energy Corp | Cliffside Power Station | Mooresboro, NC | Retired Unit 5 Basin | October 2016 | Yes | Amec Foster Wheeler | Cap-in-Place | Engineered cover system consisting of geosynthetics and soil | 2018 (Expected) | None |
| Progress Energy | Roxboro | Person County, NC | West Ash Pond | October 2016 | Yes | Amec Foster Wheeler | Cap-in-Place | Engineered cover system consisting of geosynthetics and soil | 2018 (Expected) | None |
| Progress Energy | Roxboro | Person County, NC | FGD Flush Pond | October 2016 | Yes | Amec Foster Wheeler | Cap-in-Place | Engineered cover system consisting of geosynthetics and soil | 2018 (Expected) | None |
| Progress Energy | Roxboro | Person County, NC | FGD Settling Pond | October 2016 | Yes | Amec Foster Wheeler | Cap-in-Place | Engineered cover system consisting of geosynthetics and soil | 2018 (Expected) | None |
| Progress Energy | Asheville Electric Plant | Buncombe County, NC | 1964 Pond | October 2016 | Yes | Amec Foster Wheeler | Closure by Removal | Not Applicable | 2018 (Expected) | None |
| Progress Energy | Asheville Electric Plant | Buncombe County, NC | 1982 Pond | October 2016 | Yes | Amec Foster Wheeler | Closure by Removal | Not Applicable | 2015 | None |
| Progress Energy | Cape Fear Plant | Moncure, NC | 1956 Ash Pond | According to Duke Energy Website, the CCR rule does not apply to this site. No closure plan is available. | | | | | | |
| Progress Energy | Cape Fear Plant | Moncure, NC | 1963/1970 Ash Pond | | | | | | | |
| Progress Energy | Cape Fear Plant | Moncure, NC | 1978 Ash Pond | | | | | | | |
| Progress Energy | Cape Fear Plant | Moncure, NC | 1985 Ash Pond | | | | | | | |
| Progress Energy | Mayo Generating Plant | Roxboro, NC | 1982 Pond | October 2016 | Yes | AECOM | Cap-in-Place | Engineered cover system consisting of geosynthetics and soil | 2018 (Expected) | None |
| Progress Energy Carolinas Inc | L. V. Sutton Power Station | Wilmington, NC | 1971 Pond | October 2016 | Yes | Geosyntec | Closure by Removal | Not Applicable | 2015 | None |
| Progress Energy Carolinas Inc | L. V. Sutton Power Station | Wilmington, NC | 1984 Pond | October 2016 | Yes | Geosyntec | Closure by Removal | Not Applicable | 2015 | None |

I/A

**Table 4. North Carolina – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule**

| Company | Facility | Location | Coal Ash Pond | Closure Plan Date | Prepared in Response to CCR Rule | Closure Plan Preparer | Closure Plan Proposed for CCR Rule Compliance | Closure Cover System Proposed for CCR Rule Compliance | Closure Construction Start Date | Indication of Historical Closure Planning (2011 or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|
| Progress Energy Carolinas Inc | H.F. Lee Power Station | Goldsboro, NC | Active Ash Pond | October 2016 | Yes | Geosyntec | Closure by Removal | Not Applicable | 2018 (Expected) | None |
| Progress Energy Carolinas Inc | H.F. Lee Power Station | Goldsboro, NC | Inactive Ash Pond 1 | Closure plan not available | | | | | | |
| Progress Energy Carolinas Inc | H.F. Lee Power Station | Goldsboro, NC | Inactive Ash Pond 2 | | | | | | | |
| Progress Energy Carolinas Inc | H.F. Lee Power Station | Goldsboro, NC | Inactive Ash Pond 3 | | | | | | | |
| Progress Energy Carolinas Inc | W. H. Weatherspoon Power Station | Lumberton, NC | 1979 Pond | October 2016 | Yes | S&ME | Closure by Removal | Not Applicable | 2018 (Expected) | None |
| Notes | 1. Data are based on the information provided in the publicly available Closure Plans.<br>2. Some terminologies used in the spreadsheet are directly from the original Closure Plans. | | | | | | | | | |

I/A
**Table 5. South Carolina – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duke Energy | WS Lee Power Station | Pelzer, SC | Primary Active Ash Pond | 1974 | June 2010 | GEI Consultants | Receives wet sluiced fly ash, bottom ash and other plant waste. | No Liner | Yes. Sometime after 1995 the operator began dredging ash and placing it in a dry disposal landfill. | Ash removal was via dredging. There is no indication that dewatering occurred within the pond. | None | None |
| Duke Energy | WS Lee Power Station | Pelzer, SC | Secondary Ash Pond | 1975 | June 2010 | GEI Consultants | Receives discharge from Primary Ash Pond. | No Liner | No indication | No | None | None |
| Santee Cooper | Grainger Generating Station | Conway, SC | Ash Pond 1 | 1966 | June 2010 | GEI Consultants | Operates as dry CCR storage for CCR taken from Ash Pond 2. | No indication | No. Ash pond is used to store dry ash. | Yes, as part of dry stack operation. Water is discharged to Ash Pond 2 | None | None |
| Santee Cooper | Grainger Generating Station | Conway, SC | Ash Pond 2 | 1977 | June 2010 | GEI Consultants | Received fly ash, bottom ash, and boiler slag. CCR is dewatered and disposed in Ash Pond 1. | No indication | Yes, for disposal in Ash Pond 1. | No | None | None |
| Santee Cooper | Jeffries Generating Station | Moncks Corner, SC | Ash Pond A | ~1970 | June 2010 | Dewberry & Davis | Receives fly ash and bottom ash. CCR is dewatered and excavated for beneficial use. Sluice water discharges to Ash Pond B. | No Liner | Yes, for beneficial use. | No | None | None |
| Santee Cooper | Jeffries Generating Station | Moncks Corner, SC | Ash Pond B | ~1970 | June 2010 | Dewberry & Davis | Receives discharge from Ash Pond A. | No Liner | No | No | None | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | Ash Pond A | 1975 | June 2010 | Dewberry & Davis | Receives fly ash sluice water when beneficial use operation is down. | No Liner | Yes, for beneficial use. | No | None | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | Ash Pond B | 1975 | June 2010 | Dewberry & Davis | Receives discharge water from Ash Pond A. | No Liner | No | No | None | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | Slurry Pond 2 | 1977 | June 2010 | Dewberry & Davis | Inactive | No Liner | No | No | None | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | South Ash Pond | 1980 | June 2010 | Dewberry & Davis | Receives fly ash sluice water when beneficial use operation is down. | No Liner | No | No | None | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | Units 3&4 Slurry Pond | 1980 | June 2010 | Dewberry & Davis | Occasionally receives FGD slurry from plant. | No Liner | No | No | None | None |

I/A

**Table 5. South Carolina – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Santee Cooper | Winyah Generating Station | Georgetown, SC | West Ash Pond | 1980 | June 2010 | Dewberry & Davis | Inactive | No Liner | No | No | None | None |
| Santee Cooper | Cross Generating Station | Pineville, SC | Bottom Ash 1 | 1983 | February 2011 | Dewberry & Davis | Receives sluiced bottom ash, economizer ash, and secondary boiler slag. | 6-inch soil bentonite layer | CCR is occasionally excavated for beneficial use. | CCR excavated for beneficial use is dewatered prior to transport. | None | None |
| Santee Cooper | Cross Generating Station | Pineville, SC | Bottom Ash 2 | 1995 | February 2011 | Dewberry & Davis | Receives sluiced bottom ash, economizer ash, and secondary boiler slag. | Geosynthetic clay | CCR is occasionally excavated for beneficial use. | CCR excavated for beneficial use is dewatered prior to transport. | None | None |
| Santee Cooper | Cross Generating Station | Pineville, SC | Gypsum Pond | 1983 | February 2011 | Dewberry & Davis | Active | 6-inch soil bentonite layer | No | No | None | None |
| SCE&G | Canadys Steam Power Station | Canadys, SC | Active Ash Pond | 1987 | February 2011 | Dewberry & Davis | Receives plant process waste water, coal combustion waste, coal pile stormwater runoff, and other stormwater runoff | No Liner | No | No | None | None |
| SCE&G | Canadys Steam Power Station | Canadys, SC | Inactive Ash Pond | 1974 | February 2011 | Dewberry & Davis | Inactive | No Liner | No | No | None | None |
| SCE&G | Wateree Station | Eastover, SC | Ash Pond 1 | 1970 | June 2010 | Dewberry & Davis | Receives cooling tower blowdown, low volume wastes, ash transport wastewaters, landfill runoff/leachate, coal pile runoff, miscellaneous power plant wastewaters and storm water | No Liner | No | No | None | None |
| SCE&G | Wateree Station | Eastover, SC | Ash Pond 2 | 1970 | June 2010 | Dewberry & Davis | Receives effluent from Ash Pond 1 | No Liner | No | No | None | None |
| SCE&G | Urquhart Generating Station | Beech Island, SC | Ash Pond 1 | 1953 | February 2011 | Dewberry & Davis | Receives minimal amounts of CCR from sluice water overflow and minimal amounts of stormwater | No Liner | Ponds are periodically dredged for ash removal | No | None | None |
| SCE&G | Urquhart Generating Station | Beech Island, SC | Ash Pond 2 | 1953 | February 2011 | Dewberry & Davis | Receives minimal amounts of CCR from sluice water overflow and minimal amounts of stormwater | No Liner | Ponds are periodically dredged for ash removal | No | None | None |

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**Table 5. South Carolina – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Progress Energy | HB Robinson Steam Electric Plant | Hartsville, SC | Ash Pond | 1960 | February 2011 | Dewberry & Davis | Receiving sluiced bottom ash, boiler slag, ash sluice water, stormwater and metal cleaning chemicals | No liner | No | No | None | None |
| Notes | 1. Data are based on the information provided in the publicly available USEPA reports at the time of the report (~ 2009 - 2011).<br>2. Some terminologies used in the spreadsheet are directly from the original USEPA reports.<br>3. Simple placement of a layer of non-engineered fill above the CCR impoundment and/or allowing grass/vegetation to grow on the surface of the impoundment is not recorded in the table as closure planning, but is recorded as a closure activity that is interpreted to be a simple extension of CCR impoundment operations. | | | | | | | | | | | |

I/A

**Table 6. South Carolina – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule**

| Company | Facility | Location | Coal Ash Pond | Closure Plan Date | Prepared in Response to CCR Rule | Closure Plan Preparer | Closure Plan Proposed for CCR Rule Compliance | Closure Cover System Proposed for CCR Rule Compliance | Closure Construction Start Date | Indication of Historical Closure Planning (2011 or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|
| Duke Energy | WS Lee Power Station | Pelzer, SC | Primary Active Ash Pond | October 2016 | Yes | AECOM | Closure by Removal | Not Applicable | End of 2018 (Expected) | None |
| Duke Energy | WS Lee Power Station | Pelzer, SC | Secondary Ash Pond | October 2016 | Yes | AECOM | Closure by Removal | Not Applicable | End of 2018 (Expected) | None |
| Santee Cooper | Grainger Generating Station | Conway, SC | Ash Pond 1 | January 2014 | Yes | Geosyntec Consultants | Closure by Removal | Not Applicable | No start date indicated. Excavation of ash and soil was planned to be complete by December 31, 2020. | None |
| Santee Cooper | Grainger Generating Station | Conway, SC | Ash Pond 2 | January 2014 | Yes | Geosyntec Consultants | Closure by Removal | Not Applicable | No start date indicated. Excavation of ash and soil was planned to be complete by December 31, 2020. | None |
| Santee Cooper | Jeffries Generating Station | Moncks Corner, SC | Ash Pond A | May 2016 | Prepared in response to SCDHEC regulations | Geosyntec Consultants | Closure by Removal | Not Applicable | Excavation for beneficiation; Ongoing since 2014; Closure to continue as part of excavation. | None |
| Santee Cooper | Jeffries Generating Station | Moncks Corner, SC | Ash Pond B | May 2016 | Prepared in response to SCDHEC regulations | Geosyntec Consultants | Closure by Removal | Not Applicable | Excavation for beneficiation; Ongoing since 2014; Closure to continue as part of excavation. | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | Ash Pond A | October 2019 | Yes | Santee Cooper | Closure by Removal | Not Applicable | October 2020 | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | Ash Pond B | October 2019 | Yes | Santee Cooper | Closure by Removal | Not Applicable | October 2020 | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | Slurry Pond 2 | September 2015 | Prepared in response to SCDHEC regulations | Geosyntec Consultants | Closure by Removal | Not Applicable | Completed November 2017 | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | South Ash Pond | October 2016 | Yes | Geosyntec Consultants | Closure by Removal | Not Applicable | May 2018 | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | Units 3&4 Slurry Pond | October 2016 | Yes | Geosyntec Consultants | Closure by Removal | Not Applicable | May 2018 | None |
| Santee Cooper | Winyah Generating Station | Georgetown, SC | West Ash Pond | September 2015 | Prepared in response to SCDHEC regulations | Geosyntec Consultants | Closure by Removal | Not Applicable | Completed November 2017 | None |
| Santee Cooper | Cross Generating Station | Pineville, SC | Bottom Ash 1 | August 2019 | Yes | Santee Cooper | Closure by Removal | Not Applicable | October 2020 | None |
| Santee Cooper | Cross Generating Station | Pineville, SC | Bottom Ash 2 | August 2019 | Yes | Santee Cooper | Closure by Removal | Not Applicable | October 2020 | None |
| Santee Cooper | Cross Generating Station | Pineville, SC | Gypsum Pond | January 2016 | Prepared in response to SCDHEC regulations | Worley Parsons | Closure by Removal | Not Applicable | Completed March 2017 | None |
| SCE&G | Canadys Steam Power Station | Canadys, SC | Active Ash Pond | March 2016 | Prepared in response to SCDHEC regulations | Garrett & Moore | Closure by Removal | Not Applicable | February 2017 | None |
| SCE&G | Canadys Steam Power Station | Canadys, SC | Inactive Ash Pond | Closure plan is not available. According to EPA report, the pond was inactive. Ash was removed and a slurry wall constructed around the pond by 1996. | | | | | | |
| SCE&G | Wateree Station | Eastover, SC | Ash Pond 1 | October 2016 | Yes | Garrett & Moore | Closure by Removal | None | 2/1/2017, closure complete December 2019 | None |
| SCE&G | Wateree Station | Eastover, SC | Ash Pond 2 | October 2016 | Yes | Garrett & Moore | Closure by Removal | None | 2/1/2017, closure complete December 2019 | None |

**Table 6. South Carolina – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule**

| Company | Facility | Location | Coal Ash Pond | Closure Plan Date | Prepared in Response to CCR Rule | Closure Plan Preparer | Closure Plan Proposed for CCR Rule Compliance | Closure Cover System Proposed for CCR Rule Compliance | Closure Construction Start Date | Indication of Historical Closure Planning (2011 or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|
| SCE&G | Wateree Station | Eastover, SC | FGD Pond | September 2016 | Yes | Garrett & Moore | Closure by Removal | None | None indicated; however, closure may assumed to be ongoing or complete. | This pond was not included in EPA Report for Station. |
| SCE&G | Urquhart Generating Station | Beech Island, SC | Ash Pond 1 | Closure plan is not available. No further information was found regarding the closure plan for this pond. | | | | | | |
| SCE&G | Urquhart Generating Station | Beech Island, SC | Ash Pond 2 | Closure plan is not available. No further information was found regarding the closure plan for this pond. | | | | | | |
| Progress Energy | HB Robinson Steam Electric Plant | Hartsville, SC | Ash Pond | October 2016 | Yes | HDR Engineering | Closure by Removal | None | End of 2018 (Expected) | None |
| Notes | 1. Data are based on the information provided in the publicly available Closure Plans.<br>2. Some terminologies used in the spreadsheet are directly from the original Closure Plans. | | | | | | | | | |

I/A

**Table 7. Virginia – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dominion | Possum Point Power Station | Dumfries, VA | Ash Pond D | 1988 | April 2010 | O'Brien & Gere | Not receiving ash; Receiving stormwater and river dredged material | Reportedly designed with a 2-foot thick clay liner on the bottom of the pond. | No | No | None | None |
| Dominion | Possum Point Power Station | Dumfries, VA | Ash Pond E | 1968 | April 2010 | O'Brien & Gere | Not receiving ash; Receiving stormwater and disposed water from generating site processes | No Liner | No | No | None | None |
| Dominion | Chesapeake Energy Center | Chesapeake, VA | Bottom Ash and Sedimentation Pond | 1984 | May 2010 | O'Brien & Gere | Receiving sluiced ash, stormwater runoff and leachate from landfill, etc. | No Liner | Yes. The slurry was continuously dewatered and CCR was then moved to a dry-disposal landfill. | Yes. The slurry was continuously dewatered and CCR was then moved to a dry-disposal landfill. | None | None |
| Dominion | Chesterfield Power Station | Chester, VA | Lower Ash Pond | 1964 | April 2010 | O'Brien & Gere | Receiving sluiced CCR | No Liner | Yes. CCR was stockpiled to drain and then hauled to the Upper Ash Pond. | No. CCR was only stockpiled to drain. | None | None |
| Dominion | Chesterfield Power Station | Chester, VA | Upper Ash Pond | 1983 | April 2010 | O'Brien & Gere | Receiving dried and compacted CCR | No Liner | No | No | Yes | "Upon reaching its volume capacity, wet disposal of CCW in the Upper Ash Pond was discontinued and the impoundment is currently undergoing closure procedures. The closure design includes dry disposal of additional ash above the filled-in surface of the wet disposal impoundment. Closure of the Upper Ash Pond began in 2002 and continues as of the date of this report. Closure will include capping the filled Upper Ash Pond with compacted dry-placed ash excavated from the Lower Ash Pond. Upon commencement of closure operations in 2002, liquid-borne placement of CCW was terminated." |
| Dominion | Bremo Bluff Power Station | Bremo Bluff, VA | North Ash Pond | 1983 | April 2010 | O'Brien & Gere | Receiving dredged CCR from West Ash Pond | No Liner | No | No | None | None |
| Dominion | Bremo Bluff Power Station | Bremo Bluff, VA | West ash pond | 1978-1979 | April 2010 | O'Brien & Gere | Receiving sluiced CCR | No Liner | CCR was dredged and hydraulically transferred to North Ash Pond. | No | None | None |
| American Electric Power | Appalachian Power Co - Glen Lyn Power Station | Glen Lyn, VA | Fly Ash Pond | 1965 | February 2011 | Dewberry & Davis | Inactive; Pond is empty of CCR | No Liner | No | No | None | None |
| American Electric Power | Appalachian Power Co - Glen Lyn Power Station | Glen Lyn, VA | Bottom Ash Pond | 1963 | February 2011 | Dewberry & Davis | Receiving sluiced bottom ash | No Liner | Yes. Bottom ash was hauled offsite for permitted disposal. | Yes | None | None |
| American Electric Power | Appalachian Power Co - Clinch River | Carbo, VA | Bottom Ash Pond 1A/1B | 1955 | February 2011 | Dewberry & Davis | Receiving sluiced CCR | No Liner | No | No | None | None |

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**Table 7. Virginia – Review of Publicly Available USEPA CCR Impoundment Dam Safety Assessment Reports**

| Company | Facility | Location | Coal Ash Pond | Year Built | Date of Inspection | Report Preparer | Operational Status at Time of Inspection | Lined or Unlined Condition | Ash Removed from Basin (Yes/No) | Ash Basin Dewatering (Yes/No) | Indication of Closure Planning in USEPA Report | Available Description of Closure Activities in USEPA Report for 2009 - 2011 Time Frame (or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| American Electric Power | Appalachian Power Co - Clinch River | Carbo, VA | Bottom Ash Pond 2 | 1954 | February 2011 | Dewberry & Davis | Inactive; Not receiving CCR | No Liner | No | Dewatered in 1998 and has been out of service since then. | Yes | A closure plan dated January 15, 2009 was appended to the USEPA report. Closure plan states: "The re-graded ash surface will be covered with a flexible geomembrane covered by a geocomposite drainage layer and 2-feet of soil fill." |
| Notes | 1. Data are based on the information provided in the publicly available USEPA reports at the time of the report (~ 2009 - 2011).<br>2. Some terminologies used in the spreadsheet are directly from the original USEPA reports.<br>3. Simple placement of a layer of non-engineered fill above the CCR impoundment and/or allowing grass/vegetation to grow on the surface of the impoundment is not recorded in the table as closure planning, but is recorded as a closure activity that is interpreted to be a simple extension of CCR impoundment operations. | | | | | | | | | | | |

I/A

**Table 8. Virginia – Review of Publicly Available Utility CCR Impoundment Closure Plans Prepared Pursuant to Federal CCR Rule**

| Company | Facility | Location | Coal Ash Pond | Closure Plan Date | Prepared in Response to CCR Rule | Closure Plan Preparer | Closure Plan Proposed for CCR Rule Compliance | Closure Cover System Proposed for CCR Rule Compliance | Closure Construction Start Date | Indication of Historical Closure Planning (2011 or earlier) |
|---|---|---|---|---|---|---|---|---|---|---|
| Dominion | Possum Point Power Station | Dumfries, VA | Ash Pond D | October 2016 | Yes | GAI | Cap-in-Place | Engineered cover system consisting of geomembrane and soil layers | February 2017 (Expected) | None |
| Dominion | Possum Point Power Station | Dumfries, VA | Ash Pond E | October 2016 | Yes | GAI | Closure by Removal | Not Applicable | June 2015 | None |
| Dominion | Chesapeake Energy Center | Chesapeake, VA | Bottom Ash and Sedimentation Pond | April 2018 | Yes | Golder | Closure by Removal | Engineered liner system consisting of geomembrane and cover soil layers | January 2019 (Expected) | None |
| Dominion | Chesterfield Power Station | Chester, VA | Lower Ash Pond | October 2016 | Yes | Geosyntec | Cap-in-Place | Engineered cover system consisting of geomembrane and soil layers | May 2017 (Expected) | None |
| Dominion | Chesterfield Power Station | Chester, VA | Upper Ash Pond | October 2016 | Yes | GAI | Cap-in-Place | Engineered cover system consisting of geomembrane and soil layers | April 2017 (Expected) | A 2003 Closure Plan (Modified in 2015) was mentioned in the text. The 2003 Closure Plan was incorporated into the Station's VPDES permit. The 2003 Closure Plan was not found. |
| Dominion | Bremo Bluff Power Station | Bremo Bluff, VA | North Ash Pond | October 2016 | Yes | Golder | Cap-in-Place | Engineered cover system consisting of geomembrane and soil layers | May 2017 (Expected) | None |
| Dominion | Bremo Bluff Power Station | Bremo Bluff, VA | West ash pond | May 2018 | Yes | Golder | Closure by Removal | Not Applicable | Already started. "At the time of writing, the majority of CCR in the ponds has been relocated to the North Ash Pond". | None |
| American Electric Power | Appalachian Power Co - Glen Lyn Power Station | Glen Lyn, VA | Fly Ash Pond | Closure plan is not available. According to EPA report, the pond was inactive and empty of coal ash. | | | | | | |
| American Electric Power | Appalachian Power Co - Glen Lyn Power Station | Glen Lyn, VA | Bottom Ash Pond | Closure plan is not available. According to EPA report, the bottom ash was hauled offsite for permitted disposal. | | | | | | |
| American Electric Power | Appalachian Power Co - Clinch River | Carbo, VA | Bottom Ash Pond 1A/1B | July 2017 | Yes | Amec Foster Wheeler | Cap-in-Place | "Impermeable cap with vegetative cover" | June 2017 (Expected) | None |
| American Electric Power | Appalachian Power Co - Clinch River | Carbo, VA | Bottom Ash Pond 2 | January 2009 | No | BBCM | Cap-in-Place | "A flexible geomembrane covered by a geocomposite drainage layer and 2-feet of soil fill" | No Indication | None |
| Notes | 1. Data are based on the information provided in the publicly available Closure Plans.<br>2. Some terminologies used in the spreadsheet are directly from the original Closure Plans. | | | | | | | | | |

STATE OF NORTH CAROLINA

COUNTY OF NEW HANOVER

BEFORE THE
DEPARTMENT OF ENVIRONMENTAL
QUALITY

IN THE MATTER OF:

REQUEST FOR VARIANCE FROM SESSION LAW 2014-122, SECTIONS 3(B)(4) AND 3(C), COAL ASH MANAGEMENT ACT BY

**DUKE ENERGY PROGRESS, LLC**

**DECISION GRANTING IN PART VARIANCE WITH CONDITIONS**

On November 16, 2018, pursuant to NCGS § 130A-309.215, Duke Energy Progress, LLC (Duke Energy) submitted an Application for Grant of Variance to Extend the Deadline to Close Sutton Plant CCR Surface Impoundments ("Application") to the North Carolina Department of Environmental Quality ("Department"). The Department received additional information regarding the Application ("Additional Information") from Duke Energy on December 14, 2018. The Application requests that the Department issue a variance to extend the Coal Ash Management Act ("CAMA") closure deadline for the Sutton Plant Coal Combustion Residuals ("CCR") surface impoundments by six months from August 1, 2019 to February 1, 2020.

Based on the Department's analysis of the information submitted, the Department makes the following:

## FINDINGS OF FACT

1. The L.V. Sutton Energy Complex (Sutton Plant) is located at 801 Sutton Steam Plant Road, near Wilmington, NC in New Hanover County. The facility is located adjacent to the Cape Fear River and Sutton Lake. The Sutton Plant operated as a three-unit, 575-megawatt coal-fired power plant from 1954 until the coal fired units were retired in 2013 and replaced with a 625-megawatt natural gas fired combined-cycle facility.

2. The Sutton facility has two CCR surface impoundments known as the 1971 Basin and the 1984 Basin. These CCR surface impoundments were operated under NPDES Permit No. NC0001422. The 1971 Basin was operated until 1985 and is unlined. The 1984 Basin was operated until 2013 and was constructed with a 24" thick clay liner. In 2013, the coal-fired units at the Sutton Plant were shut down and coal ash was no longer sluiced to the surface impoundments.

3. By October 2014, Duke Energy had developed the initial excavation plan for the CCR surface impoundments at the Sutton Plant. Duke Energy submitted the plan to the Department in November 2014. To meet the August 2019 deadline, the initial excavation

I/A



# YOUNG REBUTTAL EXHIBIT NO. 1

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Regulated electric and gas utilities – US

# Grid hardening, regulatory support key to credit quality as climate hazards worsen

» **Heavy investment in infrastructure hardening to continue apace.** Climate change is likely to increase the frequency and severity of extreme weather events, which could pose potential threats to the financial performance of US investor-owned utilities. Infrastructure investments and regulatory support will be critical to maintain credit quality in the sector in the face of worsening climate hazards. Investments in the sector remain robust and we expect utilities to continue spending at peak levels, at least, over the next two years.

» **Extent and timing of regulatory support is key to managing near-term climate hazards.** The extent of the regulatory response and the speed at which a utility can secure approval for cost recovery subsequent to an extreme weather event will largely determine the degree of financial strain a utility experiences. Regulatory tools such as storm cost recovery provisions, decoupling mechanisms and securitization financing, are used to provide timely recovery and mitigate the financial impact from extreme weather events.

» **Efforts to encourage utilities to prepare for climate hazard contingencies in advance are credit positive.** Preemptive measures by regulators and legislators to shield utilities from the financial impact of future weather events should support credit quality ahead of an event. Regulators in several states, supported in some cases by newly enacted legislation, allow utilities to use storm reserves and have approved grid modernization spending plans to buffer against the financial impact of future weather events.

» **Regulatory support for recovery of infrastructure investments may weaken as rates rise.** While grid hardening and resiliency investments should go a long way in preparing utilities for future climate hazards, the costs will be typically borne by customers and will cause rates to rise. If extreme weather events occur frequently enough such that cost recovery through rate increases becomes onerous on customers, regulators may defer or deny future rate base investment recovery out of concern that rates are rising too much. This, in turn, could hinder a utility's future capital investment plans as well as its ability to add such investments to rate base and earn a return on them. When costs are an issue, securitization, a low cost of capital, can spread these costs over many years, which can mitigate the pressure of higher customer rates.

**Climate hazards that pose growing risks for utilities**

Over the next 10 to 20 years, the risk of heat stress, water stress, extreme rainfall and flooding, and hurricanes is likely to worsen in certain regions of the US, according to data provided by Moody's affiliate Four Twenty Seven. These growing risks were the focus of our Sector In-Depth report, "Regulated electric utilities – US: Intensifying climate hazards to heighten focus on infrastructure investments."

**Heat stress**: Heat stress can impede thermoelectric power generation by reducing a power plant's cooling capacity; stress the grid with a higher number of peak demand days; and increase the risk of power curtailments, rolling brownouts or blackouts. Parts of the Midwest and southern Florida face the highest levels of heat stress.

**Water stress:** For electric utilities, water stress is generally credit negative because of the critical role that water plays in the economy and in cooling power plants. Utilities located in the Rocky Mountain states, the Colorado River region and California face the greatest uncertainty around the security of long-term water supplies.

**Extreme rainfall and flooding:** Extreme rainfall and flooding are expected to become more intense in many regions. Severe weather is the most frequent cause of major power outages in the US. However, the potential credit implications of flooding and extreme rainfall are tempered by supportive regulation and flood insurance.

**Hurricanes:** Along the East Coast and the Gulf of Mexico, critical infrastructure assets, such as large power plants and transmission substations, will be exposed to increasingly powerful hurricanes and severe storm surges.

## Heavy investment in infrastructure hardening to continue apace

Climate change is likely to increase the frequency and severity of extreme weather events, which could pose potential threats to the financial performance of US investor-owned utilities (see "Regulated electric utilities – US: Intensifying climate hazards to heighten focus on infrastructure investments"). Infrastructure investments and regulatory support will be critical to maintain credit quality in the sector in the face of worsening climate hazards.

The utility sector continues to invest heavily in the face of flat to declining load and sales growth. Utilities have made steady investments to grow their rate base, partly to harden their systems against extreme weather events and to improve the resiliency of their operations. Investments in grid hardening and resiliency in advance of a climate hazard event will help mitigate the impact on customers, while also shortening recovery times. Moreover, a utility's preparedness could go a long way towards obtaining recovery of costs and investments deemed prudent by state regulators.

Investments in the sector remain robust and we expect utilities to continue spending at peak levels, at least, over the next two years. Capital spending has typically exceeded depreciation levels by more than twofold. We expect the ratio of capital spending to depreciation, depletion and amortization (DD&A) to be about 2.1x in 2020 and 2021, although lower than the peak of 2.5x in 2016. The majority of utility investments are typically recovered in customer rates upon approval by state regulators through a rate case filing. Because of the length of a rate case proceeding, utilities may experience regulatory lag – the interval between a utility's expenditures on costs and investments and their recovery from customers through an increase in rates – of up to a year or more. Regulatory adjustment mechanisms, such as riders and trackers, can provide for more timely recovery of investments. Investment recovery mechanisms are more supportive of a utility's credit quality if they are available in advance of extreme weather events rather than after.

Exhibit 1

**Utilities investment has remained slightly over two times annual DD&A, driving rate base growth**

**Annual ratio of aggregate capital expenditures to DD&A for 58 North American regulated utility holding companies ($ millions)**


Note: Exhibit from Moody's August 12, 2019 publication *"Regulated electric and gas utilities - North America_Free cash flow and capital allocation:external capital needs to decline in 2019"*
*Source: Moody's Financial Metrics, Moody's estimates, company presentations and SEC filings*

The experiences of San Diego Gas & Electric Company (SDG&E, Baa1 positive) and Florida Power & Light Company (FPL, A1 stable) demonstrate how investments in hardening an electrical system can sharply reduce a utility's vulnerability to the risk of wildfires or major storms.

In October 2007, SDG&E's equipment was found to have ignited the Witch, Guejito and Rice wildfires, which resulted in $2.4 billion in costs and legal fees related to third-party damage claims. SDG&E was able to recover the majority of these claims through its insurance coverage, costs allocated to Federal Energy Regulatory Commission (FERC) jurisdictional rates and settlement payments from third parties. However, the California Public Utilities Commission (CPUC) denied recovery of $379 million of these costs, concluding that the utility did not reasonably manage and operate its facilities prior to the fires.

Since then, SDG&E has invested $1.5 billion in fire risk mitigation efforts. Over that period, SDG&E has been the only one of California's three large investor-owned electric utilities not to experience a major wildfire in its service territory. From 2008 through 2018, SGD&E invested $15.3 billion in new capital, which far exceeded the company's $6.3 billion of plant depreciation, a proxy for maintenance capital investments. The $9 billion in growth capital invested over that time incorporated the $1.5 billion in fire risk mitigation efforts, which includes hardening high-risk wildfire and fire-prone areas, replacing wooden poles with steel poles, upgrading the older overhead electric distribution system, and undergrounding 10,000 miles of electrical lines, or 60% of SDG&E's electrical system. SDG&E's investments are generally recovered through its multi-year general rate cases, which incorporate forward test years, reducing the potential for regulators to disallow recovery on its capital spending.

Similarly, FPL has invested more than $3 billion since 2006 after severe hurricanes struck its service territory in 2004 and 2005. Over the ensuing 14-year period, FPL has invested over $48 billion in new capital, which is about 2.5x the amount of its $18.4 billion in depreciation expense over that time. FPL's investments were aimed at building an energy grid that is more resilient during major storms and shortening the time it would take to restore power after an outage. FPL has fortified transmission lines, replaced poles, and cleared vegetation from more than 150,000 miles of power lines. The utility has also made investments in smart grid technology, including nearly 5 million smart meters and more than 83,000 intelligent devices like automated feeder switches.

The improvement in FPL's storm resiliency is illustrated by the time it took the utility to restore power after two Category 5 hurricanes, one in 2005 and one in 2017. In the aftermath of Hurricane Irma in 2017, it took FPL just a day to restore electricity to half of its customers who had lost power, a sharp improvement from the five days it took to restore power to half of its customers who lost power after Hurricane Wilma in 2005. Furthermore, FPL restored power to all of its customers within 10 days after Irma, versus 18 days following Wilma.

We expect utilities in the Rocky Mountain states, the Colorado River region and California to continue to make investments to mitigate their exposure to the risk of water shortages. Berkshire Hathaway Energy Company (A3 stable) subsidiary PacifiCorp (A3 stable) outlined several steps in its 2019 integrated resource plan to reduce reliance on stressed water supplies including planned thermal plant retirements. Of the 24 coal-fired power units currently serving PacifiCorp customers, the utility plans to retire 16 units with a generating capacity of 2,800 MW by 2030 and 20 units with 4,500 MW of capacity by the end of 2038. PacifiCorp will seek recovery of any stranded costs and planned investments through its general rate case proceedings. The utility also plans to add nearly 11,000 MW of new renewable resources to its generation portfolio over its 20-year planning period through 2038 to supplement any lost generation from thermal plant retirements. Furthermore, the company's power plant designs include closed-cycle recirculating cooling water systems, and the company has developed a diversified water supply portfolio.

Southwestern Public Service Company (SPS, Baa2 stable), a subsidiary of Xcel Energy Inc. (Baa1 stable), is also facing water supply issues at its Tolk coal-fired facility in Texas. In its pending rate cases, SPS is requesting accelerated depreciation of its remaining investment in the plant in order to retire the plant early in 2032. The utility has expressed concerns about the rapid depletion of groundwater that it uses to cool the plant. SPS estimates that if it were to run the plant normally, the utility would run out of its groundwater rights by the mid-2020s. Thus, the company is seeking to limit steam-turbine generation largely to the peak summer months, which would allow SPS to extend the use of its groundwater rights until 2032. At the same time, SPS is heavily investing in renewable energy to maintain reliable service to its customers.

## Extent and timing of regulatory support is key to managing near-term climate hazards

The extent of the regulatory response and the speed at which a utility can secure approval for cost recovery subsequent to an extreme weather event will largely determine the degree of financial strain a utility experiences. Regulatory tools such as securitization, decoupling mechanisms and storm cost recovery provisions, are used to provide timely recovery and mitigate the financial impact from extreme weather events.

### Securitization

Securitization bonds were used after the deregulation of utilities in the late 1990s as a way to finance stranded costs. To date, more than 20 states have used this financing technique to recover not only stranded costs but also costs associated with storm recovery. To a lesser degree, utilities also use securitization for environmental restoration, utility restructuring, deferred fuel costs and renewable energy projects.

In June 2005, then-Florida Governor Jeb Bush signed a bill that gave the Florida Public Service Commission the authority to approve requests from the state's utilities to securitize storm recovery costs. Following Hurricanes Katrina, Rita and Wilma in 2005, Arkansas, Louisiana, Mississippi and Texas joined Florida in passing legislation giving utilities operating in these jurisdictions the option of utilizing securitization for recovery of storm costs.

We typically view the use of securitization as credit positive for utilities because they can issue bonds with lower financing costs that are paid back through a discrete customer charge (see "Regulated electric utilities – US: Utility cost recovery through securitization is credit positive"). A utility benefits from securitization because it receives an immediate source of cash. The ability to use securitization generally means that the utility is allowed to recover all or most of the costs in question in a timely manner. The utility's customers benefit because rates are lower than if the securitization was not utilized and in many cases it averts the need for a substantial rate increase. The ability to use securitization as a tool to recover costs related to large or unforeseen developments allows utilities to avoid potentially credit negative consequences.

Exhibit 2

**More than 20 states allow utilities to request securitization for the recovery of certain costs, which includes storm recovery costs in some states**

US states with enacted or pending securitization legislation

| State | Types of Use |
|---|---|
| Arkansas | Storm Recovery |
| California | Stranded Costs / Regulatory Asset / Wildfires |
| Colorado | Stranded Costs |
| Connecticut | Stranded Costs |
| Delaware | Undergrounding |
| Dist. of Columbia | Undergrounding |
| Florida | Storm Recovery / Nuclear Plant Retirement |
| Hawaii | Environmental / Clean Energy Technologies |
| Illinois | Stranded Costs |
| Louisiana | Storm Recovery / Stranded Costs |
| Massachusetts | Stranded Costs |
| Michigan | Stranded Costs |
| Mississippi | Storm Recovery |
| Montana | Stranded Costs |
| New Hampshire | Stranded Costs |
| New Jersey | Stranded Costs / Deferred Balances |
| New Mexico | Stranded Costs |
| New York | Debt Restructuring |
| North Carolina | Storm Recovery |
| Ohio | Deferred Balances |
| Pennsylvania | Stranded Costs |
| Rhode Island | Stranded Costs |
| Texas | Storm Recovery / Stranded Costs |
| West Virginia | Environmental / Deferred Balances |
| Wisconsin | Environmental |

*Source: Moody's Investors Service and company filings*

But even in states where utilities can ask to securitize recovery costs, regulators may not always allow it or do so in a timely manner. California Senate Bill 901, which was enacted in September 2018, allowed utilities affected by wildfires in 2017 to securitize fire-related recovery costs. Still, Pacific Gas & Electric Company (PG&E) did not expect the CPUC to permit the company to securitize costs relating to the 2017 Northern California wildfires on an expedited or emergency basis. Additionally, SB 901 did not authorize securitization with respect to costs related to 2018 wildfires, including the destructive Camp Fire. As such, the timing and uncertainty of wildfire cost recovery was one of the key factors that contributed to PG&E's bankruptcy filing. Coincidently, the CPUC has been requested to consider allowing PG&E to utilize securitization bonds as part of the company's plan of reorganization as PG&E attempts to emerge from bankruptcy by 30 June 2020.

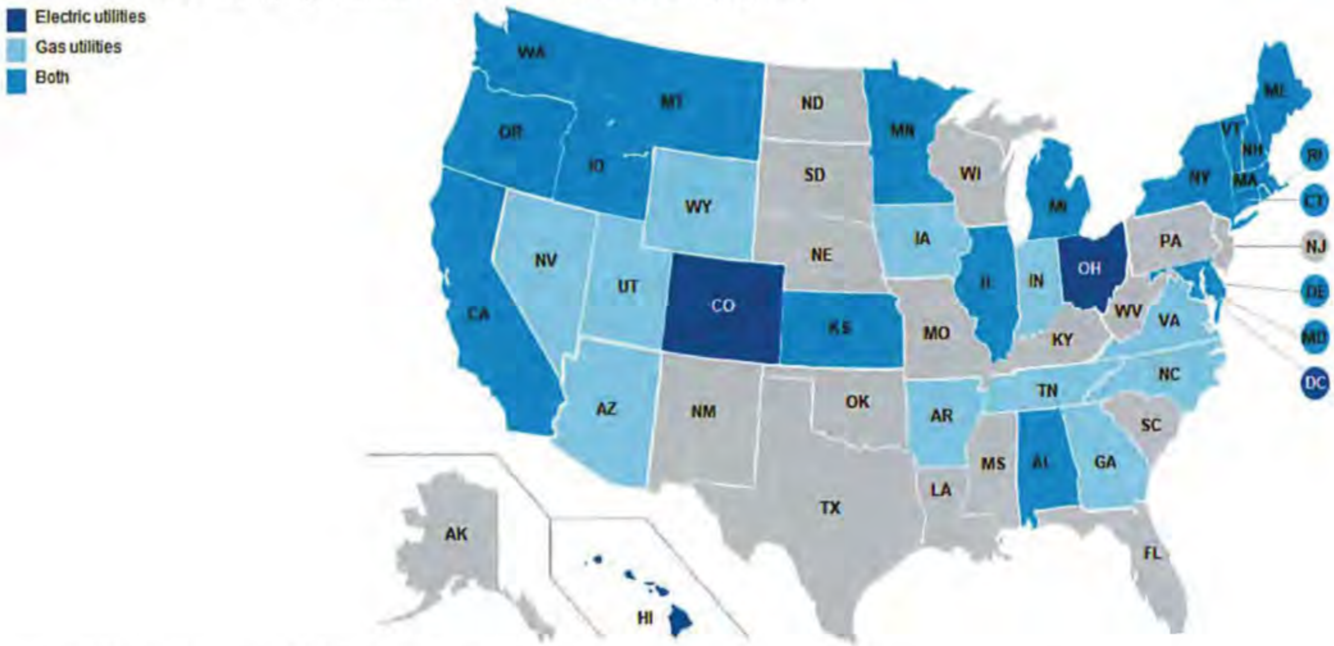
## Decoupling and other storm cost recovery mechanisms

Revenue decoupling is a ratemaking mechanism that is generally designed to eliminate or reduce the volatility of a utility's revenues on system throughput (i.e., electricity load or natural gas volumes). Decoupling mechanisms help insulate the credit quality of utilities to safeguard against the financial impact from a decline in electricity and natural gas consumption due to factors beyond the utility's control, such as energy efficiency, fluctuations in commodity fuel prices and weather. Decoupling is a widely used regulatory mechanism by natural gas local distribution companies (LDCs) throughout the country, but is becoming more prevalent for vertically integrated electric utilities and transmission and distribution companies. In 2012, after Superstorm Sandy caused the worst storm-related power outage in the history of Consolidated Edison Inc. (ConEd, Baa1 negative), the company's ample liquidity and supportive regulatory mechanisms, including revenue decoupling, mitigated the financial impact and insulated the utility's credit quality.

Exhibit 3

**Decoupling, widely used by LDCs, is becoming more prevalent among electric utilities**

**States with partial or full decoupling revenue recovery mechanisms for electric and gas utilities**




*Source: Moody's Investors Service, S&P Global Market Intelligence, Company filings*

Regulators in other jurisdictions affected by storms also allow their utilities to use storm cost recovery provisions to recoup storm related damages. The New York Public Service Commission allows Avangrid Inc.'s (Baa1 stable) New York utility subsidiaries, New York State Electric & Gas Corporation (A3 stable) and Rochester Gas and Electric Company (A3 stable), to utilize rate adjustment mechanisms to collect from customers, subject to a cap, eligible deferrals and costs related to major storms, property taxes, leak prone pipe and certain other costs. However, Avangrid has expressed concerns about the timely recovery of storm restoration costs for its New York utilities, which has been a drag on the company's cash flows. Over the past two years, the company's financial performance weakened, partly due to the costs associated with storm preparation and recovery, including staging activities ahead of potential storms, costs to restore power and overtime paid to utility workers. This, along with debt-funded capital spending has reduced Avangrid's ratio of cash flow from operations pre-working capital to debt to 16.7% for the 12 months ended 30 September 2019 from about 22% in full-year 2018.

Exhibit 4

**Select list of regulatory mechanisms that support utilities credit quality ahead of and after extreme weather events are common**

| Utilities | State | Mechanism | Primary Weather Mitigation | Brief Description |
|---|---|---|---|---|
| Alabama Power Company | AL | Rate NDR (Natural Disaster Reserve) | Storms | Comprised of two components: recovery of previously deferred storm costs; and establish a reserve for future storms. Allows for reserve of operations and maintenance expenses to cover the cost of damages from major storms to transmission and distribution facilities |
| San Diego Gas & Electric Company, Southern California Edison Company, Pacific Gas & Electric Company | CA | Wildfire Fund | Wildfires | Established a $21 billion wildfire insurance fund intended to improve the financial stability of utilities against growing liabilities associated with wildfires |
| Connecticut Light and Power Company | CT | Capital Tracker | Storms | Timely recovery of capital additions for system resiliency and grid modernization |
| Potomac Electric Power Company | DC | Undergrounding rider | Storms | Timely recovery of costs related to undergrounding certain electric power lines |
| Florida Power & Light Company, Duke Energy Florida, LLC, Tampa Electric Company, Gulf Power Company | FL | Storm Reserve | Storms | Reserve fund collected from customers up to a certain amount that can be used for timely cost recovery of damages related to tropical storms and hurricanes |
| Florida Power & Light Company, Duke Energy Florida, Tampa Electric Company, Gulf Power Company | FL | Storm Cost Recovery Rider | Storms | Electric utilities are provided a storm cost recovery mechanism, allowing them to petition the FPSC to recover costs incurred from storms that exceed and/or deplete their storm reserve and to replenish the reserve |
| Indianapolis Power and Light Company, Indiana Michigan Power Company, Duke Energy Indiana Company, LLC, Northern Indiana Public Service Company, and Southern Indiana Gas and Electric Company | IN | Rider | Storms | Timely recovery of costs associated with certain electric and gas infrastructure expansion projects, including grid modernization and reliability |
| Entergy New Orleans, LLC | LA | Storm Reserve | Storms | Reserve fund collected from customers up to a certain amount that can be used for timely cost recovery of damages related to tropical storms and hurricanes |
| Central Maine Power Company | ME | Storm Rider | Storms | Timely recovery of storm related costs |
| NSTAR Electric Company, Massachusetts Electric Company, Fitchburg Gas & Electric Light Company | MA | Rider | Storms | Timely recovery of grid modernization investments |
| Entergy Mississippi, LLC | MS | Storm Reserve | Storms | Reserve fund collected from customers up to a certain amount that can be used for timely cost recovery of damages related to tropical storms and hurricanes |
| Public Service Electric and Gas Company, Atlantic City Electric Company, Rockland Electric Company, New Jersey Natural Gas Company, Elizabethtown Gas Company, South Jersey Gas Company | NJ | Rider | Storms / Flooding | Timely recovery of investments related to storm hardening and reliability investment programs |
| New York State Electric and Gas Corporation, Rochester Gas & Electric Corporation, Central Hudson Gas & Electric Corporation | NY | Rate Adjustment Mechanisms/Storm Reserve | Storms | Adjusts customer rates and reserve fund used for timely recovery of costs related to several items including major storms |
| Ohio Power Company | OH | Rider | Storms | Timely recovery of investments made for enhanced service reliability and storm damage recovery |
| Oklahoma Gas & Electric Company | OK | Rider | Storms | Timely recovery of storm related costs |
| Entergy Texas, Inc. | TX | Storm Rider | Storms | Timely recovery of storm related costs |
| Virginia Electric and Power Company | VA | Undergrounding rider | Storms | Timely recovery of costs related to undergrounding certain electric power lines |

*Source: Moody's Investors Service, Company filings, S&P Global Market Intelligence*

## Ad hoc regulatory relief

Regulators also have the flexibility to provide utilities with relief from unexpected costs related to extreme weather events.

As we noted in our previous report, changes in precipitation patterns and other weather events, such as droughts and flooding, are likely to worsen over the next 10 to 20 years. Extreme rainfall and flooding, not limited to hurricanes, are expected to become more intense in many regions such as parts of the Midwest, Southeast and Pacific Northwest.

However, the potential credit implications of flooding and extreme rainfall are tempered by supportive regulation and flood insurance. In a possible preview of what's to come, FERC approved in October 2019 an increase in rates that Spire Inc. (Baa2 stable) subsidiary Spire STL could charge customers to cover increased construction costs related to heavy rain and flooding. Spire STL completed construction of an underground natural gas pipeline through Illinois and Missouri after a delay of several months because of flooding in the summer of 2019. As a result, construction costs for the project increased from an estimated $220 million to about $287 million.

## Efforts to encourage utilities to prepare for climate hazard contingencies in advance are credit positive

Preemptive measures by regulators and legislators to shield utilities from the financial impact of future weather events should support credit quality ahead of an event. Regulators in several states, supported in some cases by newly enacted legislation, allow utilities to use storm reserves and have approved grid modernization spending plans to buffer against the financial impact of future weather events.

In Florida, one of the more credit-supportive regulatory jurisdictions, the state's electric utilities are able to utilize several regulatory mechanisms to protect themselves from the financial impact of hurricanes and tropical storms. Utilities are allowed to accrue a reserve that can be drawn on to recover future storm costs. FPL's storm reserve accrual is up to $117 million, Duke Energy Florida LLC (A3 stable) received approval to replenish its storm reserve to $132 million, Tampa Electric Company's (A3 positive) storm reserve is $47 million and Gulf Power Company (A2 stable) has a $41 million reserve accrual. If a utility depletes its storm reserve or if its storm restoration costs exceed the reserved funds, it can request the Florida Public Service Commission to approve a surcharge on customer bills to recover storm costs and replenish the storm reserve for future use. When storm-related costs have been significant, Florida utilities have utilized securitization bonds to recover related costs, while also lessening the impact on customer rates.

Last year, Florida Governor Ron DeSantis signed into law Senate Bill 796, which requires utilities in the state to submit 10-year transmission and distribution storm protection plans on an annual basis. The plans are to detail the utility's efforts to further harden the grid and make it even more resilient during extreme weather events, like tropical storms and hurricanes. The legislation noted that "protecting and strengthening transmission and distribution electric utility infrastructure from extreme weather conditions can effectively reduce restoration costs and outage times to customers and improve overall service reliability for customers." The law requires the Florida Public Service Commission to conduct an annual proceeding to review the plans and allow the utility to recover certain costs and investments that are deemed prudent. Costs would be recovered through a separate charge on customer bills rather than through base rates. This proactive law is credit positive for the state's utilities, including FPL, Duke Energy Florida, Tampa Electric Company and Gulf Power because it allows them to grow rate base through increased investments and obtain timely recovery of these costs, all in an effort to ensure customer reliability and mitigate the risk of storm related outages (see "Regulated electric utilities – US: New Florida law requiring storm-hardening measures is credit positive for utilities").

In July 2019, California Governor Gavin Newsom signed into law Assembly Bill 1054, which included several wildfire mitigation measures to support the financial stability of the state's utilities, including Southern California Edison Company (SCE, Baa2 stable), SDG&E, and potentially PG&E, depending on the timing of its emergence from bankruptcy. The law included the establishment of a wildfire insurance fund to provide utilities with an immediate source of liquidity to cover potential liabilities caused by a wildfire ignited by their equipment when the damages exceed the utility's insurance coverage. Assuming that PG&E is able to participate and contribute, the fund will be capitalized to a total of $21 billion or fall to about $9.6 billion without PG&E's participation (see "Regulated electric and gas utilities – US: California's wildfire fund is sufficiently capitalized to pay out claims").

A number of factors contribute to the growing size and destructive power of California wildfires, including climate change and population growth in fire-prone areas. California's utilities are particularly vulnerable to the financial impact of utility-related wildfires because the state's application of the legal doctrine of inverse condemnation law holds utilities liable for wildfire damages if their equipment is found to be the source of ignition or has somehow caused the fire, regardless of fault or the reasonableness of their conduct. AB 1054 establishes a strong framework to manage wildfire risk and the ensuing financial threats to the state's utilities but there is more work to be done. Effective implementation of the utilities' wildfire mitigation plans required under the law will be critically important to reduce wildfire-related risks.

In an effort to reduce the risk of future natural disasters, including wildfires, Nevada Governor Steve Sisolak signed into law Senate Bill 329 in May 2019. The new bill requires the state, its regulators and investor-owned and public utilities to devise natural disaster plans to reduce the frequency and intensity of wildfires by taking such preventative measures as adopting new forest management practices, increased vegetation trimming, and hardening of electric utility infrastructure. NV Energy Inc. (Baa2 stable) is seeking the approval of the Nevada Public Utilities Commission for its plan to recover costs related to the development and implementation of its natural disaster plan through a separate rate rider on customer bills.

Exhibit 5

**Select list of proactive regulatory and legislative measures mitigate credit risk**

| State | Utilities | Mechanism/Law | Climate Hazard | Brief Description |
|---|---|---|---|---|
| California | San Diego Gas & Electric Company, Southern California Edison Company, Pacific Gas & Electric Company | AB 1054 | Wildfires | Establishes a wildfire fund to provide the state's investor-owned utilities with an immediate source of liquidity to cover wildfire-related damages caused by a wildfire ignited by the utility's equipment when the damages exceed the utility's insurance coverage; liabilities not recovered from customers are capped at 20% of the equity portion of the utility's transmission and distribution rate base over any three-year period; and more favorable prudency standard for utilities to recover wildfire-related costs from customers |
| District of Columbia | Potomac Electric Power Company | Infrastructure Improvement Financing Act ("ECIIFA") of 2014 | Storms | Allows for timely recovery of costs related to undergrounding certain electric power lines through a separate charge on customer bills |
| Florida | Florida Power & Light Company, Duke Energy Florida, LLC, Tampa Electric Company, Gulf Power Company | SB796 | Hurricanes, storms | Requires utilities to submit, on an annual basis, an infrastructure storm protection plan that covers the following 10 years. Regulators will review the plan and authorize recovery of prudent costs through a separate charge on customer bills. |
| Nevada | NV Energy Inc. | SB329 | Natural disasters, including wildfires | Requires utility submission of natural disaster protection plan to the commission and authorizes recovery through a separate rate rider. |
| New Jersey | Public Service Electric and Gas Company | Energy Strong Adjustment Mechanism (ESAM) | Storms | Regulators authorized utility investment program that was intended for grid hardening and system resilience against storms and allow timely recovery of costs. |

*Source: Moody's Investors Service and company filings*

In 2013, in the aftermath of Superstorm Sandy, the New Jersey Board of Public Utilities (BPU) initiated a storm mitigation proceeding in an effort to find ways to protect utility infrastructure during major storms. In May 2014, Public Service Electric and Gas Company (PSE&G, A2 stable) received approval of its $1.2 billion "Energy Strong" program, which it had submitted in response to the proceeding. Under the program, PSE&G protected, raised, or relocated 26 switching stations and substations; replaced and modernized 240 miles of gas mains in or near flood areas; created redundancy in the electric system; protected five natural gas metering stations and a liquefied natural gas station located in flood zones; and deployed smart grid technologies to better monitor electric system operations.

The BPU approved base rate adjustments to enable PSE&G to recover $1 billion in investments that the utility had made under its Energy Strong program, with the remainder recovered in the utility's 2018 rate case proceeding. The rate adjustments allowed PSE&G to recover major capital investments with respect to asset hardening and system resilience in a timely manner, as customer rates were adjusted at predetermined intervals to reflect expenditures incurred on the Energy Strong program from 2015 - 2019. In September 2019, the BPU approved an $842 million Energy Strong II program, albeit scaled back from PSE&G's $2.5 billion original proposal, which is intended to further harden the utility's system through investments made during 2019-2023.

In 2017, the District of Columbia enacted legislation to authorize the District of Columbia Power Line Undergrounding (DC PLUG) initiative, a projected six-year, $500 million project allowing Potomac Electric Power Company (Pepco, Baa1 stable) to move some of the district's most outage-prone power lines underground, with the costs funded by Pepco through a charge on customer bills as well as the District Department of Transportation. Pepco began construction in 2019 as new customer rates for the DC Plug initiative went into effect in February 2018.

## Regulatory support for recovery of infrastructure investments may weaken as rates rise

While grid hardening and resiliency investments should go a long way in preparing utilities for future climate hazards, the costs will be typically borne by customers and will cause rates to rise. If extreme weather events occur frequently enough such that cost recovery through rate increases becomes onerous on customers, regulators may defer or deny future rate base investment recovery out of concern that rates are rising too much. This, in turn, could hinder a utility's future capital investment plans, as well as its ability to add any such investments to rate base and earn a return on them. When costs are an issue, securitization can spread these costs over many years, which can mitigate the pressure on customer rates.

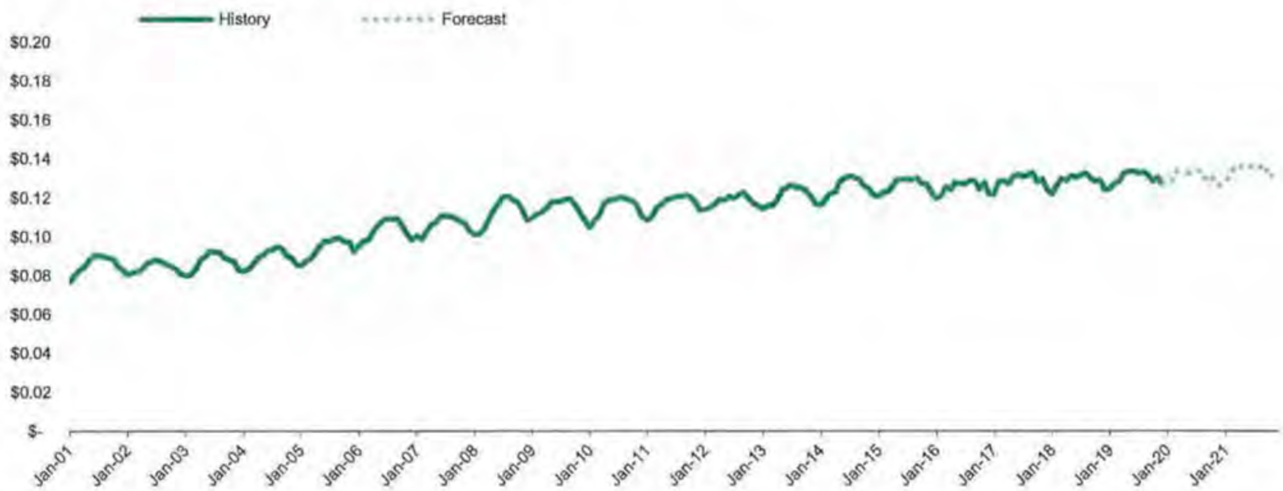
Over the next two years, we expect customer rates to remain relatively steady despite continued elevated spending. Lower tax expenses recovered from customers through the implementation of the 2017 Tax Cuts & Jobs Act, as well as continued low natural gas prices, has created revenue "headroom" in customer bills that utilities use to recover other costs and investments (see "Regulated electric and gas utilities – US: 2020 outlook moves to stable on supportive regulation, weaker but steady credit metrics").

Similarly, the US Energy Information Administration (EIA) forecasts that the US residential retail electricity price will average 13 cents/ kilowatt hour in 2020, which is 1.2% higher than the average retail price in 2019. EIA also projects residential prices to increase by an additional 1.2% in 2021.

Exhibit 6

**Residential electricity are projected to be only modestly higher in the near term**

**US residential retail electricity prices (cents per kilowatt/hour)**




*Source: US Energy Information Administration*

## Moody's related publications

### Sector In-Depth

» Regulated electric utilities – US: Intensifying climate hazards to heighten focus on infrastructure investments, January 2020

» Electric utilities and power producers – US: Power companies on pace to reduce CO2 emissions, September 2019

» Utilities and power companies – North America: Corporate governance assessments show generally credit-friendly characteristics, September 2019

» Regulated electric and gas utilities – US: Recent regulatory, legislative developments have been largely credit positive, September 2019

» Regulated electric and gas utilities - North America: Free cash flow and capital allocation: external capital needs to decline in 2019, August 2019

» Regulated electric utilities – US: FAQ on the credit implications of California's new wildfire law, August 2019

» Power generation – US: Nuclear zero emission credits reduce carbon transition risk but change market dynamics, June 2019

» Power generation – US: FAQ on the economics of renewable energy, battery storage and fossil-fuel power plants, June 2019

» Electric and Gas Utilities - US: California utilities struggle with inverse condemnation exposure, April 2019

» Regulated Electric & Gas Utilities - US: Capital expenditures will remain high, thanks to regulatory recovery mechanisms that provide timely recovery, December 2018

» Regulated Electric and Gas Utilities - US: Climate-related disclosures by four major utilities vary in both depth and scope, December 2018

» Regulated Electric & Gas Utilities - US: LDC Utilities Exposed to Operational Hazards, But Sector Still Viewed as Low Risk, November 2018

» Regulated Electric and Gas Utilities - US: Renewable generation transition unlikely to create significant stranded asset risk, November 2018

» Regulated electric and gas utilities - US: Cyber risk is on the rise, but the likelihood of government relief is high, September 2018

» Power generation - US: Coal, nuclear plant closures continue CO2 decline but power market impact muted, June 2018

### Sector Comments

» Regulated electric utilities – California: Customer bill credits after power shutoffs signal weakening political support, October 2019

» ESG - California: Public safety power shutoffs highlight links between environmental and social risks, October 2019

» Regulated electric utilities – US: Proposed California wildfire risk legislation is credit positive but questions remain, July 2019

» Regulated electric utilities – US: New Florida law requiring storm-hardening measures is credit positive for utilities, July 2019

### Industry Outlook

» Regulated electric and gas utilities – US: 2020 outlook moves to stable on supportive regulation, weaker but steady credit metrics, November 2019

REPORT NUMBER 1211706

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# YOUNG REBUTTAL EXHIBIT NO. 2

## Exhibits to Steve Young Testimony

1. **P/E Ratios as of Feb 21st:**

| Ticker | | Market Cap ($M) | Closing Price | 2021 EPS est. | 2021 P/E |
|---|---|---|---|---|---|
| **DUK** | **Duke Energy Corporation** | **75,081** | **$102.43** | **$5.43** | **18.9x** |
| **Large-cap Regulated Peers** | | | | | |
| AEP | American Electric Power Company, Inc. | 50,262 | $101.71 | $4.68 | 21.7x |
| ED | Consolidated Edison, Inc. | 30,030 | $90.18 | $4.66 | 19.3x |
| D | Dominion Energy Inc | 74,900 | $89.38 | $4.64 | 19.3x |
| ES | Eversource Energy | 31,655 | $95.96 | $3.88 | 24.7x |
| SO | Southern Company | 75,820 | $68.99 | $3.31 | 20.9x |
| WEC | WEC Energy Group Inc | 32,332 | $102.50 | $3.99 | 25.7x |
| XEL | Xcel Energy Inc. | 37,148 | $70.82 | $2.95 | 24.0x |
| **Avg Large-cap Regulated Peers** | | | | | **22.2x** |

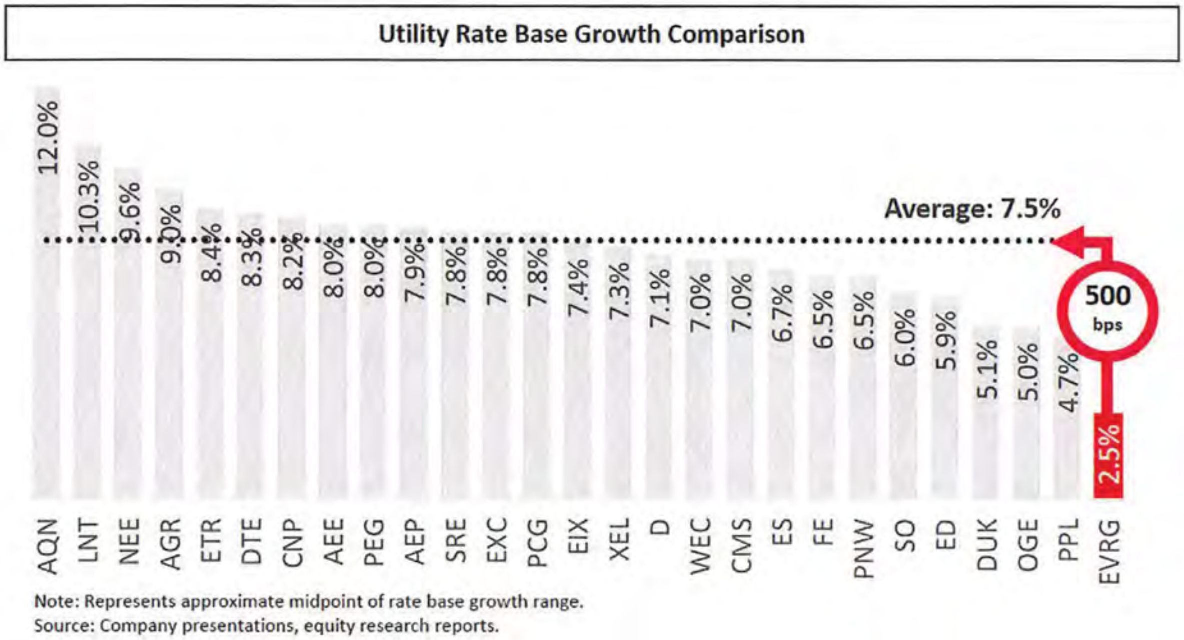
*Source: Factset*

2. **Stated long-term EPS growth rates:**

| Ticker | | LT EPS Growth Rate |
|---|---|---|
| **DUK** | **Duke Energy Corporation** | **4 -6%** |
| **Large-cap Regulated Peers** | | |
| AEP | American Electric Power Company, Inc. | 5% to 7% |
| ED | Consolidated Edison, Inc. | 3% to 5% |
| D | Dominion Energy Inc | 5%+ |
| ES | Eversource Energy | 5% to 7% |
| SO | Southern Company | 4% to 6% |
| WEC | WEC Energy Group Inc | 5% to 7% |
| XEL | Xcel Energy Inc. | 5% to 7% |

*Source: company filings*

**3. Utility Rate base growth comparison**




Note: Represents approximate midpoint of rate base growth range.
Source: Company presentations, equity research reports.

source, Elliott letter to Evergy Management

# YOUNG REBUTTAL EXHIBIT NO. 3

INFRASTRUCTURE AND PROJECT FINANCE

MOODY'S
INVESTORS SERVICE

## CREDIT OPINION
13 October 2019

Update

Rate this Research

### RATINGS

**Duke Energy Corporation**

| | |
|---|---|
| Domicile | Charlotte, North Carolina, United States |
| Long Term Rating | Baa1 |
| Type | LT Issuer Rating - Dom Curr |
| Outlook | Stable |

*Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.*

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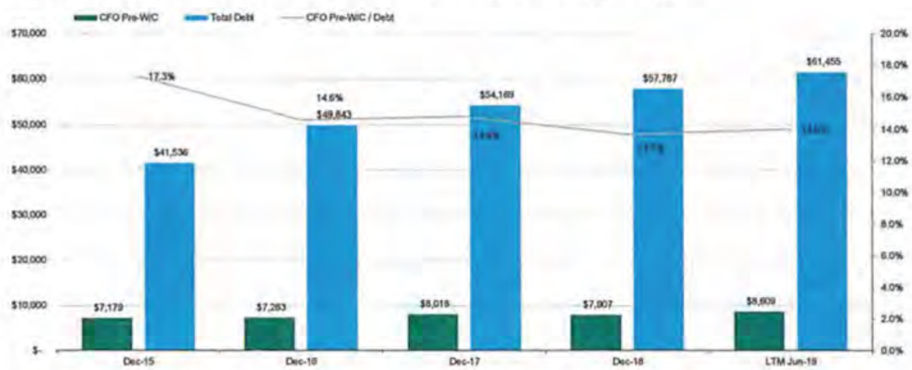
# Duke Energy Corporation

## Update to credit analysis

## Summary

Duke Energy Corporation (Duke) is one of the largest utility holding companies in the US. Its credit profile reflects the company's diverse, low business risk operations in which about 97% of earnings and cash flow are derived from rate regulated businesses in growing economies with supportive regulators. These credit supportive factors are balanced against weak financial metrics that we expect will improve somewhat in 2019, but dip again in 2020 before rebounding in 2021.

Exhibit 1
**Historical CFO Pre-WC, Total Debt and CFO Pre-WC to Debt ($MM) [1]**




[1] CFO Pre-WC is defined as cash flow from operations excluding changes in working capital
*Source: Moody's Financial Metrics*

## Credit strengths

» Diverse group of utilities operating in seven states in three geographic regions

» Credit supportive regulatory relationships

» Businesses are essentially all regulated or contracted

» Approved recovery of the majority of coal ash related expenditures

## Credit challenges

» Weak consolidated credit metrics

» Significant, primarily debt financed, capital program

» Lag in the recovery of storm related costs and coal ash remediation spending

» Increasing regulatory uncertainty surrounding coal ash cost recovery

» Delays and cost increases at Atlantic Coast Pipeline (ACP) project

» Relatively high parent company debt levels

## Rating outlook

The stable outlook reflects our expectation that Duke will maintain supportive regulatory relationships in all of its jurisdictions. The outlook also assumes management will manage its operating, capital and financing plans in a manner that supports credit quality and enables the maintenance of credit metrics that are consistent with our expectations. For example, we anticipate the company's ratio of cash flow from operations excluding working capital (CFO pre-WC) to debt will improve to the 15% range.

## Factors that could lead to an upgrade

» Ratings could be upgraded if regulatory environments were to become more supportive, leading to increased cash flow and reduced leverage, and if the ratio of CFO pre-WC to debt can be maintained above 18%.

## Factors that could lead to a downgrade

» A deterioration in the credit supportiveness or emergence of a more contentious regulatory relationship which negatively impacts cash flows or the timeliness of cost recovery, particularly with regards to coal ash remediation recovery in North Carolina

» A ratio of CFO pre-WC that we expect to remain below 15% beyond 2020, or an increase in parent company debt levels above 35% of total consolidated debt

## Key indicators

Exhibit 2
**Duke Energy Corporation [1]**

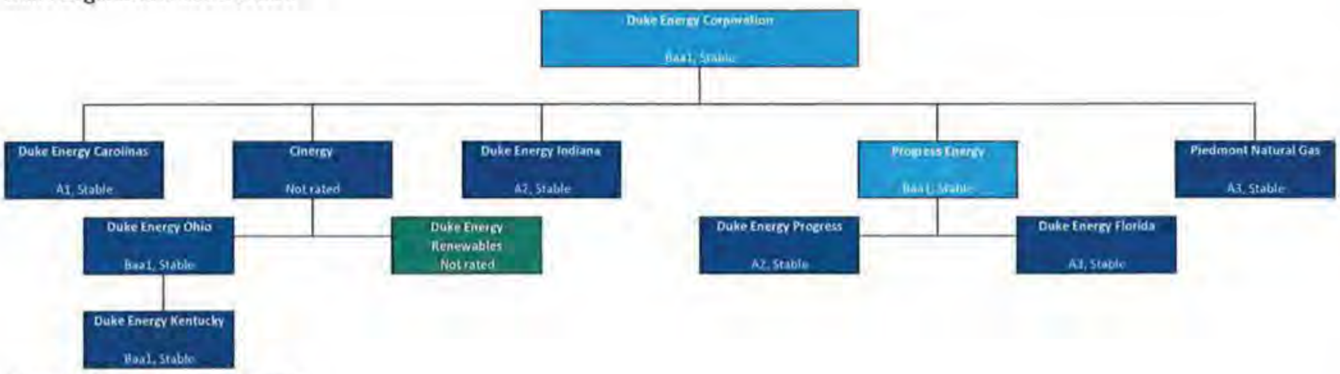
| | Dec-15 | Dec-16 | Dec-17 | Dec-18 | LTM Jun-19 |
|---|---|---|---|---|---|
| CFO Pre-W/C + Interest / Interest | 5.3x | 4.7x | 4.7x | 4.4x | 4.6x |
| CFO Pre-W/C / Debt | 17.3% | 14.6% | 14.8% | 13.7% | 14.0% |
| CFO Pre-W/C – Dividends / Debt | 11.8% | 9.9% | 10.3% | 9.4% | 9.8% |
| Debt / Capitalization | 44.2% | 47.5% | 53.0% | 52.9% | 53.6% |

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
*Source: Moody's Financial Metrics*

## Profile

Duke is a large (2018 revenues of $24.5 billion), diversified energy company with mostly regulated utility operations headquartered in Charlotte, North Carolina. Its main business consists of its electric utilities and infrastructure business segment, which serves approximately 7.7 million retail electric customers in six US states and made up about 90% of Duke's 2018 earnings base. The company's gas utilities and infrastructure businesses provide natural gas to over 1.6 million customers located in five states. Duke has also formed a joint venture to build and own a 47% share of the estimated $7.0-$7.8 billion Atlantic Coast Pipeline, a 600-mile interstate natural gas pipeline from West Virginia to the Carolinas which has been experiencing permitting delays and increased costs. The company's relatively small (about 3% of 2018 adjusted earnings) commercial renewables business segment builds, develops and operates wind and solar generation projects throughout the continental US.

Exhibit 3
**Duke Organizational Structure**




*Source: Moody's Investors Service, Company*

## Detailed credit considerations

### Diverse group of utilities operating in credit supportive regulatory environments

Duke's overall credit profile is driven by seven regulated utilities operating in seven US states, which provide a high degree of regulatory and geographic diversity. We consider these regulatory jurisdictions to be supportive with rate settlements in place at most of its utilities. In addition, the company has achieved reasonably credit supportive outcomes in its major jurisdictions on issues related to the majority of its coal ash remediation spending and federal tax reform.

In Duke's largest electric jurisdiction, North Carolina, the North Carolina Utilities Commission (NCUC) issued orders in 2018 for both Duke Energy Carolinas and Duke Energy Progress (combined approximately 56% of Duke's 2018 regulated earnings base) that established revenues based on a 9.9% return on equity, and a 52% equity base. The orders followed settlement agreements on traditional rate making parameters. We view the ability to regularly settle on more traditional issues as a credit positive.

The North Carolina orders also resolved issues relating to the recovery of costs for coal ash remediation. Spending for coal ash remediation has been deemed reasonable and prudent and, with the exception of a specific manageable penalty assessed in each case, the companies have been authorized to recover their prior expenditures over five years with a full debt and equity return. Ongoing expenditures will continue to be deferred for future recovery. We view the ability to earn a full return on these expenditures, and to recover them over reasonable time frames, as credit positive. As a result of this rate base like treatment, we currently view the spending for coal ash remediation to be akin to a capital expenditure.

In 2018, the NCUC also addressed the impact of federal tax reform. During the year, both Duke Energy Carolinas and Duke Energy Progress' revenue requirements were reduced by the full amount of the change in tax rate to 21% from 35%. However, the utilities were allowed to retain all excess deferred taxes for three years, or until its next rate case, whichever is sooner. At that time, the NCUC will evaluate how to best return this value to customers. We believe the form of return could include accelerated recovery of certain expenses, or the avoidance of rate increases. We would view such outcomes as credit positive.

The NCUC did however deny Duke's requests for rider recovery for grid modernization investments and ongoing coal ash remediation, both credit negatives. As a result, there will continue to be regulatory lag associated with these expenditures and we expect the utilities will need to file frequent rate cases to minimize this exposure. Duke has been working with lawmakers in an attempt to pass legislation that would allow securitization of storm costs as well as the consideration of alternative rate adjustment mechanisms such as rider recovery, multiyear plans, incentive mechanisms or ROE bands. Last week, a North Carolina conference committee produced a compromise bill that would authorize securitization of storm costs immediately, but would delay the implementation of alternative rate plans until 2021. The bill was immediately approved by the Senate and must now be approved by the House before heading to the Governor. A vote in the House is expected in October. Our stable outlook assumes a continuation of regulatory outcomes that will allow the companies to maintain cash flow based credit metrics at levels that are supportive of their current credit quality.

In South Carolina, in May 2019, the Public Service Commission of South Carolina (PSCSC) issued an order for rate increases at Duke Energy Carolinas and Duke Energy Progress for $107 million and $41 million respectively based on a 9.5% ROE and a 53% equity ratio. New rates were effective June 1, 2019. In a credit negative development, the PSCSC denied the recovery of certain coal ash costs deemed to be related to the North Carolina Coal Ash Management Act and incremental to the federal Coal Combustion Residuals rule in the amount of $115 million and $65 million at Duke Energy Carolinas and Duke Energy Progress respectively. In May 2019, both Duke subsidiaries filed a petition for rehearing or reconsideration of the PSCSC's order contending substantial rights of Duke Energy Carolinas and Duke Energy Progress were prejudiced by unlawful, arbitrary and capricious rulings by the commission on certain issues, including its ability to fully recover its coal ash remediation spending. In June 2019, the PSCSC issued a directive denying the company's request for rehearing. Duke Energy Carolinas and Duke Energy Progress are currently awaiting the written order detailing the PSCSC's decision and are prepared to appeal portions of the case to the South Carolina Supreme Court. Depending on the outcome of the appeal, we may modify our treatment of the portion of expenditures that are not recoverable.

In Florida (approximately 18% of 2018 regulated earnings base), as part of a 2017 second revised and restated settlement agreement (which amended a 2013 settlement agreement), Duke Energy Florida will increase base rates by an incremental $67 million (subsequently adjusted to $55 million to reflect the effects of federal tax reform) each year from 2019 through 2021, subject to an ROE range of 9.5% to 11.5%. The order also included provisions that addressed the expected passage of federal tax reform and included the ability to use a portion of future benefits resulting from lower tax rates to accelerate the depreciation of existing coal plants rather than decreasing revenue. In January 2018, the Florida Public Service Commission authorized Duke Energy Florida to utilize the remainder of the benefits of lower tax rates to avoid a rate increase for power restoration costs associated with the company's 2017 response to Hurricane Irma. In June 2019, the FPSC approved the company's request to recover approximately $221 million of incremental operating costs incurred as a result of Hurricane Michael. We view the ability to utilize tax reform savings to offset storm costs as a credit positive. Approved storm costs are currently expected to be fully recovered around year-end 2022.

Duke Energy Florida also continues to benefit from a credit positive Generation Base Rate Adjustment (GBRA) mechanism for new generation built or purchased during 2016-2018 that allows recovery of prudently incurred costs through a base rate adjustment when the generation is placed in service. Duke Florida's 1,640 MW $1.5 billion Citrus County combined cycle plant was placed into service in 2018. The 2017 settlement included a similar mechanism for up to 700MW of new solar generation to be acquired or constructed between 2018 and 2022.

In Indiana (about 11% of 2018 regulated earnings base), in June 2016, the Indiana Utility Regulatory Commission (IURC) approved a settlement agreement between Duke Energy Indiana and key consumer groups on a seven year $1.4 billion grid modernization plan. As a result, in accordance with previously approved state legislation, 80% of the plan's costs will be recovered through a rate rider, with the remaining 20% recoverable through future base rate proceedings. In May 2017, Duke Energy Indiana received approval to recover 60% of the capital and 80% of the operating costs of complying with the US Environmental Protection Agency's Coal Combustion Residuals rules via an environmental mandate tracker, and to defer the remaining difference for recovery in the utility's next rate case. In June 2018, Duke Energy Indiana reached a settlement with key intervenors on tax reform. The settlement calls for a flow through of the reduction in tax rate to 21% from 35% beginning in September. However, the protected portion of excess deferred taxes will be retained until January 2020, after which it will be returned over approximately 26 years. The unprotected portion will be returned over 10 years, but to mitigate the impact on cash flow based credit metrics, the amount is lower in the first five years.

In July 2019, Duke Energy Indiana filed a request for a $395 million (approximately 15%) base rate increase premised on a 10.4% return on equity and a 53% equity component. This is Duke Energy Indiana's first base rate case filing in 16 years and is being driven by capital investments in generation, improvements in the grid to ensure reliability and a growing customer base. The request includes $138 million relating to a change in depreciation, primarily to accelerate the retirement of certain coal-fired units. The company is also requesting the use of a forward test year, which was authorized by law in 2013. Duke expects hearings to begin in early 2020 with new rates effective by mid 2020.

On the natural gas side, Duke's local gas distribution subsidiary Piedmont Natural Gas (Piedmont), has historically received supportive treatment from its regulators in North Carolina (73% of rate base), South Carolina (14%) and Tennessee (13%). In addition, all three states provide cost recovery mechanisms and frameworks that lead to reduced regulatory lag.

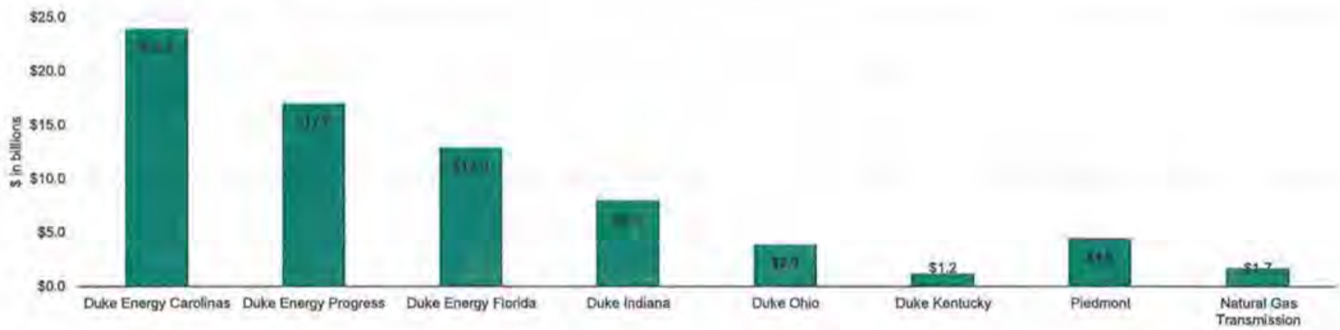
In August 2019 Piedmont reached a settlement agreement with the NCUC public staff for a base rate increase of approximately $109 million, after the expiration of various rider credits to flow back federal and state income tax credits. The agreed increase was based on a 9.7% ROE and a 52% equity layer. Piedmont initially requested an increase of $83 million (net of $37 million of reductions due to lower tax rates), based on a 10.6% ROE and a 52% equity layer. The settlement allows continuation of an integrity management rider for federally mandated safety and capital investments and establishes a new distribution integrity management program recovery mechanism. The settlement is subject to the review and approval of the NCUC.

### Operations are essentially all regulated

In 2015, Duke successfully exited the merchant generating business with the sale of Duke Energy Ohio's competitive generating assets. In 2016, Duke sold its more volatile Latin American businesses and acquired Piedmont Natural Gas Company (Piedmont), expanding its relatively low risk local natural gas distribution operations in the historically credit supportive states of North Carolina, South Carolina and Tennessee. As a result, essentially all of its operations are now either state or federally regulated. Duke's commercial renewables segment provides services under long term contracts, and contributed under 5% of the company's 2018 earnings. The shift to lower business risk operations has helped to mitigate the decline in credit metrics that followed the Piedmont acquisition.

Exhibit 4

**2018 Regulated Utilities Earnings Base**




*Source: Company*

### Consolidated financial credit metrics are weak

Duke's revenues and cash flow are being negatively impacted by the 2017 Tax Cuts and Jobs Act (TCJA), continued lag in recovery of coal ash remediation costs, severe storm activity, and lag in recovery of grid modernization investments. As a result, cash flow based credit metrics, which declined in 2016 following Duke's acquisition of Piedmont, have remained below our financial metric downgrade triggers. For example, for the last twelve months ended June 30, 2019, we calculate Duke's ratio of cash flow from operations excluding changes in working capital (CFO pre-WC) to debt to be about 14%, which is at the lower end of the "Baa" scoring range for this metric in our rating methodology for regulated electric and gas utilities and below our financial metric downgrade trigger of 15%. Absent the impact of the 2018 storms, we estimate the company's twelve month trailing ratio of CFO pre-WC to debt would be about 15%.

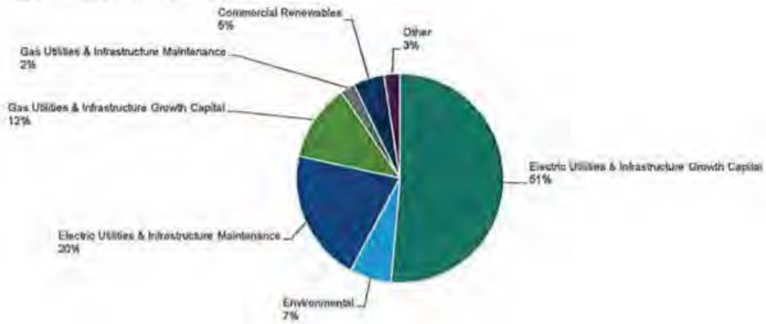
While we anticipate Duke's ratio of CFO pre-WC to debt will be around 15% for full year 2019, we believe it could fall toward 14% in 2020 before rebounding in 2021 as a result of rate case activity, operational enhancements, and lower dividend growth. In addition to planning regular rate cases in the Carolinas, Duke is also actively working with lawmakers on legislation that would allow the securitization of storm costs as well as alternative rate mechanisms that could reduce the lag in recovery, and would be credit positive. Our stable outlook assumes management will remain focused on achieving and maintaining a ratio of CFO pre-WC to debt in the 15-16% range, and that the metric will move into this range by 2021.

### High capital spending for utility infrastructure and growth initiatives

Capital expenditures at Duke, inclusive of spending for coal ash remediation, have steadily increased year over year, nearly doubling from about $5.5 billion in 2014 to about $10.1 billion in 2018. As shown in the exhibit below, the largest portion of the plan represents what Duke terms "growth" capital driven by grid modernization in the Carolinas and natural gas infrastructure. In 2018, maintenance spending increased to $3.2 billion due in part to restoration efforts related to storm damages; going forward maintenance spending is expected to range between $2 and $2.5 billion per year.

Exhibit 5

**2019-2023 Capital Expenditures Forecast ($50 Billion)**




*Source: Company*

In addition to its core utility investment, Duke is growing its natural gas pipeline businesses and plans to continue to selectively invest in renewables. Included in the company's capital plan for 2019-2023 is about $2.9 billion for midstream pipelines, primarily the Atlantic Coast Pipeline (ACP), and about $2.5 billion for utility scale contracted renewables. Although we view the commercial renewables business as higher risk than its regulated utility business segment, these assets for the most part sell power to investor owned, cooperative, or municipal utilities under risk mitigating long-term contracts. Duke recently sold a minority share in its commercial renewables portfolio, generating pre-tax proceeds of approximately $415 million, which will likely also reduce the future capital needs of this segment.

### Delays and cost increases at Atlantic Coast Pipeline (ACP) project

ACP is a 600-mile interstate natural gas pipeline being built by Dominion Energy, Inc. (Baa2 stable) from West Virginia to eastern North Carolina. Duke holds a 47% share in the project. The pipeline will supply natural gas from the Utica and Marcellus shale basins to natural gas generation at Duke Energy Carolinas and Duke Energy Progress, as well as to Piedmont and other utilities in the area.

Construction of ACP has been halted due to adverse court rulings on environmental issues, including a biological opinion and a permit to cross under the Appalachian Trail. As a result, the estimated cost to complete the project increased by about $1 billion, and its estimated completion schedule was extended by over a year. The pipeline is currently expected to cost between $7 and $7.8 billion ($3.3-$3.7 for Duke) and could be completed in two phases. Construction of the first phase, which does not cross the Appalachian Trail, could be restarted by year-end if there is a successful re-issuance of its biological opinion.

Construction of the second phase requires resolution of a Fourth Circuit Court of Appeals decision to vacate the permit issued by the U.S. Forest Service allowing ACP to cross under the Appalachian Trail. ACP has appealed the decision to the U.S. Supreme Court and just recently learned the Court has accepted the case. A decision is required by June 2020, which if favorable, would allow construction to begin next summer and the pipeline to be completed by the end of 2021. The increased costs, and delay of cash flow from this project, are maintaining downward pressure on Duke's credit metrics.

### Lag in the recovery of storm related costs will pressure metrics in the near term

In the fall and winter of 2018, Duke's operations were impacted by a succession of severe storms. Hurricane Florence arrived in mid-September and affected the company's operations in North and South Carolina. One month later, Hurricane Michael came ashore in the gulf region and caused damage all the way from Florida through North and South Carolina. In December 2018, Winter Storm Diego was the third major storm to impact Duke Energy Progress and Duke Energy Carolinas service territories.

Total costs for the three storms was in excess of $1 billion, primarily in Duke Energy Progress' North Carolina and Duke Energy Florida's service territories. Utilities in these territories have a good history of storm recovery, albeit with some regulatory lag. Duke has been working with lawmakers to enact securitization legislation, which would assure recovery of costs at lower cost to customers; however recovery would likely not begin until 2020 and will be spread out over a number of years. In the meantime, Duke's consolidated debt balances are about $1 billion higher than previously forecast, which continues to add negative pressure to credit metrics.

### Recovery of coal ash expenditures primarily resolved, but lag persists and uncertainty is increasing

In 2014, North Carolina lawmakers overwhelmingly passed the Coal Ash Management Act which regulates and requires the closure of coal ash basins at all coal plant sites throughout the state. The legislation, which was amended in 2016, required Duke to take costly, immediate action to excavate and close coal ash basins at three of its highest risk sites by the end of 2019. These basins were all successfully closed ahead of schedule by July 2019. A fourth basin is required to be closed by August 2022. The 2016 amendment required the remaining sites to be closed by either 2024 or 2029, depending on their priority designation.

In April 2019, the North Carolina Department of Environmental Quality (NCDEQ) ordered Duke Energy to excavate coal ash at all of its low-risk sites in North Carolina where specific closure plans had not been determined. The decision is credit negative as it will cost substantially more than the alternative closure options proposed by Duke for these six sites, and in some cases it may take decades, stretching well beyond current state and federal deadlines. The company is required to submit closure plans by December 31, 2019. Duke has appealed the order to the North Carolina Office of Administrative Hearings. In August 2019 the court issued an order dismissing several of Duke's claims relating to procedure, but allowing the substantive claims to move forward. The company expects the process will take 9-12 months.

In 2014, Duke recognized a $3.5 billion Asset Retirement Obligation (ARO) for its estimated obligations to close its North Carolina coal ash basins. In the second quarter of 2015, after publication of the EPA's final Coal Combustion Rules, Duke incrementally increased the ARO by $1 billion as it created additional obligations for the company in South Carolina, Indiana, and Kentucky, putting its total ARO at $4.5 billion. Duke continues to refine its estimated obligations as work continues on the sites and there is additional information around closure requirements. As of June 30, 2019, Duke had spent approximately $2.1 billion and its total ARO had increased to approximately $6.5 billion ($2 billion more than reported as of December 2018).

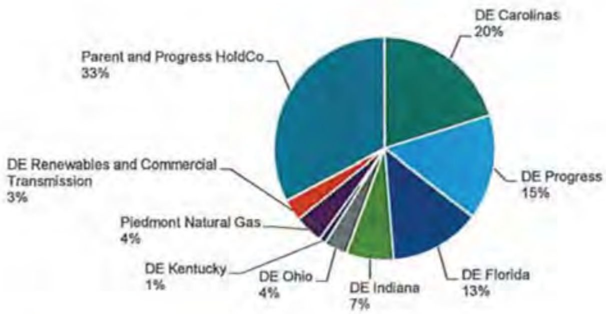
In Duke's largest jurisdictions in North and South Carolina, coal ash basin closure and remediation spending is not recovered via trackers or other automatic cost recovery provisions and must be recovered via base rate case filings. As a result, there will likely continue to be regulatory lag in the recovery of these costs. To date, the majority of coal ash expenditures incurred have been recovered with rate base like treatment. Therefore we currently view the spending for coal ash remediation to be akin to a capital expenditure. However in their most recent South Carolina rate cases Duke Energy Progress and Duke Energy Carolinas were denied recovery of certain coal ash costs. The company plans to appeal this decision and we note that it represents a relatively modest portion of total incurred costs. Depending on the outcome of the appeal, we may modify our treatment of the portion of expenditures that are not recoverable.

### Equity issuance has contained parent leverage - but it will still be relatively high

Duke's $2 billion 2018 equity issuance, and its plans for ongoing issuance of $500 million per year, have helped control the company's need for parent level debt financing. Prior to the announced 2018 equity issuance, we expected the level of parent debt to spike in 2018 and 2019 due in part to investments in ACP. Currently, we expect the proportion of Duke parent debt as a percentage of total consolidated debt will remain under 35%. This is still relatively high when compared to some other regulated utility holding company peers, and a factor in the wide differential between Duke and most of its subsidiaries' credit quality.

Exhibit 6

**2018 Reported Debt by Entity**



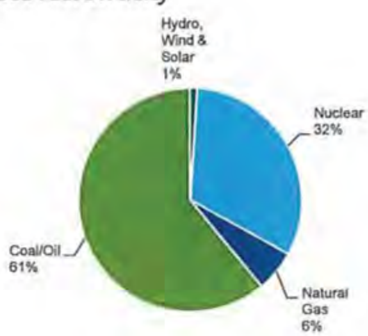

*Source: Moody's Investors Service, Company*

## Environmental, social and governance considerations

Duke has moderate carbon transition risk within the regulated utility sector as the majority of its energy is generated by fossil fuels. Since 2005, Duke has reduced carbon dioxide emissions by 31% and currently plans a 50% (increased from 40% in 2017) reduction by 2030. Furthermore Duke just announced a goal to achieve net-zero carbon emissions by 2050. As of 2018, the company's consolidated net output included about 31% from coal / oil fired resources, versus about 61% in 2005. By 2030 Duke estimates that 15% of its total company generation will be fired by coal.

Exhibit 7

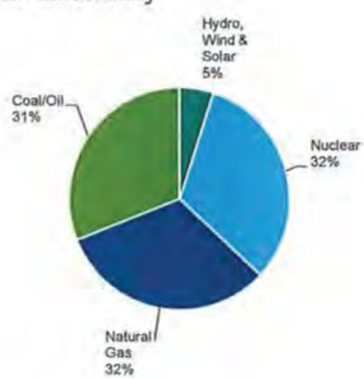
**2005 Fuel Diversity**




*Source: Company*

Exhibit 8

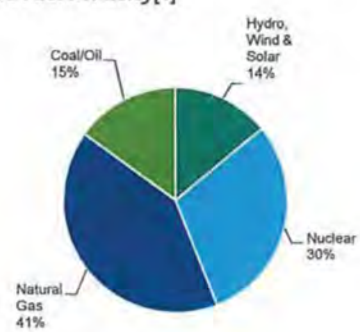
**2018 Fuel Diversity**




*Source: Company*

Exhibit 9

**2030 Fuel Diversity[1]**




[1] Company Estimate

*Source: Company*

## Liquidity analysis

Given its large capital programs, Duke is reliant on external sources of liquidity. For the twelve months ending June 2019, Duke's consolidated cash flow from operations was approximately $7 billion while cash used for investing activities was about $10.5 billion and the company paid around $2.6 billion in dividends resulting in negative free cash flow of approximately $6 billion. The shortfall was funded via a combination of sources including subsidiary and parent level debt as well as preferred and common equity (about $2 billion).

As of June 2019, the Duke had $336 million of cash and short-term investments on hand, $3.9 billion available under its $8 billion master credit facility, and $500 million available under its $1 billion parent level revolving credit facility (May 2022 expiration). The master credit facility matures in March 2024 and includes sub-limits for each of its utility subsidiaries. As of June 30, 2019, Duke's parent company borrowing sub-limit under the master credit facility was $2.65 billion, and the subsidiary sub-limits were: $1.25 billion for Duke Energy Progress, $800 million for Duke Energy Florida, $1.75 billion for Duke Energy Carolinas, $600 million for Duke Energy Indiana, $450 million for Duke Energy Ohio, and $500 million for Piedmont Natural Gas.

The master credit facility supports a $4.85 billion commercial paper program. The facility does not contain a material adverse change clause for new borrowings and has a single financial covenant requiring that Duke and its utility subsidiaries each maintain a consolidated debt to capitalization ratio of no more than 65%, except for Piedmont. The debt to capital covenant for Piedmont is a maximum of 70%. As of June 30, 2019, we estimate Duke's consolidated ratio to be about 57%.

As of June 30, 2019, Duke had about $3.4 billion of commercial paper outstanding, including about $1 billion allocated to the parent company under its $2.65 billion credit facility sub-limit. Of the total $8 billion master credit facility, Duke and its utilities had about $3.9 billion of availability with $3.4 billion of commercial paper, $500 million of coal ash set-aside, $81 million of tax-exempt bonds, and $53 million of letters of credit outstanding. Duke also maintains a money pool arrangement among its utility subsidiaries allowing it to more efficiently utilize available cash balances throughout the organization.

As an additional source of liquidity Duke also has the ability to raise short-term debt through a variable rate demand note program called PremierNotes. The company's filings with the SEC indicate that no more than $1.5 billion of such notes will be outstanding. The notes have no stated maturity date and can be redeemed in whole or in part by Duke or at the investor's option at any time. As of June 30, 2019, Duke had about $991 million of PremierNotes outstanding. Although not explicitly backed by Duke's bank credit facility, the facility could be used to fund the maturities of such notes. These notes are classified as part of the $3.8 billion total notes payable and commercial paper outstanding as of June 30, 2019.

Duke's scheduled long-term debt maturities over the twelve months beginning June 30, 2019 total approximately $2.35 billion, including approximately $830 million at the parent level Duke Corp., $350 million at Progress Energy, $450 million at Duke Carolinas, $600 million at Duke Florida, $100 million at Duke Kentucky. We expect most of this debt will be refinanced.

## Rating methodology and scorecard factors

Exhibit 10
Rating Factors
Duke Energy Corporation

| Regulated Electric and Gas Utilities Industry Scorecard [1][2] | Current LTM 6/30/2019 | | Moody's 12-18 Month Forward View As of Date Published [3] | |
|---|---|---|---|---|
| **Factor 1 : Regulatory Framework (25%)** | **Measure** | **Score** | **Measure** | **Score** |
| a) Legislative and Judicial Underpinnings of the Regulatory Framework | A | A | A | A |
| b) Consistency and Predictability of Regulation | Aa | Aa | Aa | Aa |
| **Factor 2 : Ability to Recover Costs and Earn Returns (25%)** | | | | |
| a) Timeliness of Recovery of Operating and Capital Costs | A | A | A | A |
| b) Sufficiency of Rates and Returns | Baa | Baa | Baa | Baa |
| **Factor 3 : Diversification (10%)** | | | | |
| a) Market Position | Aa | Aa | Aa | Aa |
| b) Generation and Fuel Diversity | A | A | A | A |
| **Factor 4 : Financial Strength (40%) [4]** | | | | |
| a) CFO pre-WC + Interest / Interest (3 Year Avg) | 4.6x | A | 4.6x - 5x | A |
| b) CFO pre-WC / Debt (3 Year Avg) | 14.3% | Baa | 14% - 16% | Baa |
| c) CFO pre-WC – Dividends / Debt (3 Year Avg) | 10.0% | Baa | 10% - 12% | Baa |
| d) Debt / Capitalization (3 Year Avg) | 51.8% | Baa | 50% - 54% | Baa |
| **Rating:** | | | | |
| Scorecard-Indicated Outcome Before Notching Adjustment | | A3 | | A3 |
| HoldCo Structural Subordination Notching | -1 | -1 | -1 | -1 |
| a) Scorecard-Indicated Outcome | | Baa1 | | Baa1 |
| b) Actual Rating Assigned | | Baa1 | | Baa1 |

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
[2] As of 6/30/2019(L)
[3] This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures.
[4] Standard risk grid for financial strength
*Source: Moody's Financial Metrics*

## Appendix

Exhibit 11

### Cash Flow and Credit Metrics [1]

| CF Metrics | Dec-15 | Dec-16 | Dec-17 | Dec-18 | LTM Jun-19 |
|---|---|---|---|---|---|
| As Adjusted | | | | | |
| **FFO** | 7,638 | 7,586 | 8,514 | 8,954 | 9,540 |
| +/- Other | (459) | (323) | (496) | (1,047) | (931) |
| **CFO Pre-WC** | 7,179 | 7,263 | 8,018 | 7,907 | 8,609 |
| +/- ΔWC | 181 | 394 | (752) | (138) | (993) |
| **CFO** | 7,360 | 7,657 | 7,266 | 7,769 | 7,616 |
| - Div | 2,269 | 2,338 | 2,457 | 2,484 | 2,587 |
| - Capex | 7,278 | 8,697 | 8,687 | 9,959 | 11,209 |
| **FCF** | (2,187) | (3,378) | (3,878) | (4,674) | (6,179) |
| | | | | | |
| (CFO Pre-W/C) / Debt | 17.3% | 14.6% | 14.8% | 13.7% | 14.0% |
| (CFO Pre-W/C - Dividends) / Debt | 11.8% | 9.9% | 10.3% | 9.4% | 9.8% |
| FFO / Debt | 18.4% | 15.2% | 15.7% | 15.5% | 15.5% |
| RCF / Debt | 12.9% | 10.5% | 11.2% | 11.2% | 11.3% |
| Debt / EBITDA | 4.4x | 5.1x | 5.0x | 5.5x | 5.6x |
| | | | | | |
| Revenue | 22,371 | 22,743 | 23,565 | 24,521 | 24,779 |
| Cost of Good Sold | 7,338 | 6,789 | 6,863 | 7,396 | 7,390 |
| EBITDA | 9,417 | 9,728 | 10,737 | 10,480 | 10,927 |
| Interest Expense | 1,681 | 1,977 | 2,171 | 2,330 | 2,388 |
| Net Income | 2,530 | 2,119 | 3,106 | 2,281 | 2,627 |
| Total Assets | 119,812 | 131,655 | 136,911 | 144,659 | 151,314 |
| Total Liabilities | 80,026 | 90,739 | 95,410 | 101,027 | 106,786 |
| Total Equity | 39,785 | 40,916 | 41,501 | 43,633 | 44,529 |

[1] All figures and ratios are calculated using Moody's estimates and standard adjustments. Periods are Financial Year-End unless indicated. LTM = Last Twelve Months
*Source: Moody's Financial Metrics*

Exhibit 12

### Peer Comparison Table [1]

| | Duke Energy Corporation | | | American Electric Power Company, Inc. | | | Southern Company (The) | | | Xcel Energy Inc. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baa1 Stable | | | Baa1 Stable | | | Baa2 Stable | | | Baa1 Stable | | |
| | FYE | FYE | LTM | FYE | FYE | LTM | FYE | FYE | LTM | FYE | FYE | LTM |
| (in US millions) | Dec-17 | Dec-18 | Jun-19 | Dec-17 | Dec-18 | Jun-19 | Dec-17 | Dec-18 | Jun-19 | Dec-17 | Dec-18 | Jun-19 |
| Revenue | 23,565 | 24,521 | 24,779 | 15,425 | 16,196 | 15,765 | 23,031 | 23,495 | 22,006 | 11,404 | 11,537 | 11,646 |
| CFO Pre-W/C | 8,018 | 7,907 | 8,609 | 4,580 | 4,831 | 4,572 | 7,242 | 7,107 | 6,245 | 3,314 | 3,116 | 3,083 |
| Total Debt | 54,169 | 57,787 | 61,455 | 24,138 | 26,588 | 28,552 | 51,414 | 47,808 | 46,185 | 16,917 | 18,376 | 19,243 |
| CFO Pre-W/C / Debt | 14.8% | 13.7% | 14.0% | 19.0% | 18.2% | 16.0% | 14.1% | 14.9% | 13.5% | 19.6% | 17.0% | 16.0% |
| CFO Pre-W/C – Dividends / Debt | 10.3% | 9.4% | 9.8% | 14.0% | 13.4% | 11.4% | 9.4% | 9.7% | 5.3% | 15.3% | 13.0% | 12.1% |
| Debt / Capitalization | 53.0% | 52.9% | 53.6% | 49.2% | 50.6% | 51.6% | 60.2% | 56.2% | 53.3% | 52.8% | 53.2% | 53.9% |

[1] All figures & ratios calculated using Moody's estimates & standard adjustments. FYE = Financial Year-End. LTM = Last Twelve Months. RUR* = Ratings under Review, where UPG = for upgrade and DNG = for downgrade
*Source: Moody's Financial Metrics*

## Ratings

Exhibit 13

| Category | Moody's Rating |
|---|---|
| **DUKE ENERGY CORPORATION** | |
| Outlook | Stable |
| Issuer Rating | Baa1 |
| Sr Unsec Bank Credit Facility | Baa1 |
| Senior Unsecured | Baa1 |
| Jr Subordinate | Baa2 |
| Pref. Stock | Baa3 |
| Commercial Paper | P-2 |
| **DUKE ENERGY CAROLINAS, LLC** | |
| Outlook | Stable |
| Issuer Rating | A1 |
| First Mortgage Bonds | Aa2 |
| Bkd Senior Secured | Aa2 |
| Senior Unsecured | A1 |
| **DUKE ENERGY PROGRESS, LLC** | |
| Outlook | Stable |
| Issuer Rating | A2 |
| First Mortgage Bonds | Aa3 |
| Senior Secured | Aa3 |
| **DUKE ENERGY INDIANA, LLC.** | |
| Outlook | Stable |
| Issuer Rating | A2 |
| First Mortgage Bonds | Aa3 |
| Senior Secured | Aa3 |
| Senior Unsecured | A2 |
| **PROGRESS ENERGY, INC.** | |
| Outlook | Stable |
| Senior Unsecured | Baa1 |
| **PIEDMONT NATURAL GAS COMPANY, INC.** | |
| Outlook | Stable |
| Senior Unsecured | A3 |
| Commercial Paper | P-2 |
| **DUKE ENERGY OHIO, INC.** | |
| Outlook | Stable |
| Issuer Rating | Baa1 |
| First Mortgage Bonds | A2 |
| Senior Unsecured | Baa1 |
| **DUKE ENERGY KENTUCKY, INC.** | |
| Outlook | Stable |
| Senior Unsecured | Baa1 |

*Source: Moody's Investors Service*

REPORT NUMBER 1196333

MOODY'S
INVESTORS SERVICE

# YOUNG REBUTTAL EXHIBIT NO. 4

INFRASTRUCTURE AND PROJECT FINANCE

MOODY'S
INVESTORS SERVICE

## CREDIT OPINION

31 October 2019

Update

Rate this Research

RATINGS

**Duke Energy Carolinas, LLC**

| | |
|---|---|
| Domicile | Charlotte, North Carolina, United States |
| Long Term Rating | A1 |
| Type | LT Issuer Rating |
| Outlook | Stable |

*Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.*

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# Duke Energy Carolinas, LLC

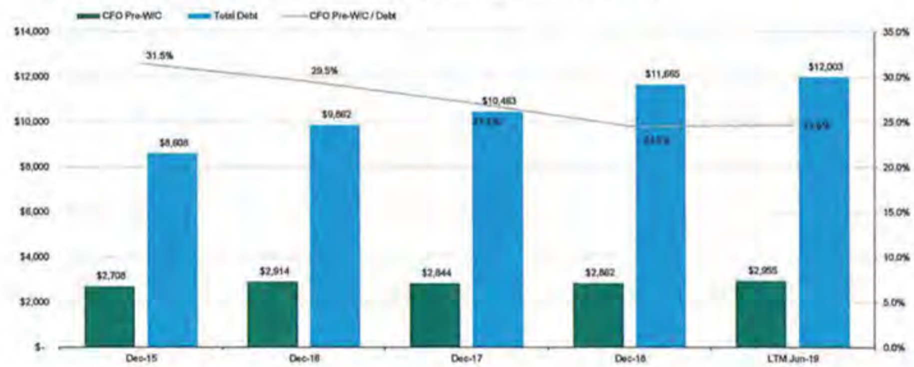
## Update to credit analysis

## Summary

Our view of Duke Energy Carolinas' (Duke Carolinas) credit reflects its low business and operating risk profile and historically supportive regulatory environments in both North and South Carolina. Our view is tempered by the utility's weaker financial credit metrics, but also considers the company's position as the largest subsidiary within the Duke Energy Corporation family, making up about a third of its rate base. Our view recognizes the benefits of scale and the potential for operational efficiencies that are enabled by joint management with affiliate Duke Energy Progress.

Exhibit 1

**Historical CFO Pre-WC, Total Debt and CFO Pre-WC to Debt ($ MM)**




*Source: Moody's Financial Metrics*

## Credit Strengths

» Credit supportive regulatory environments

» Approved recovery for the majority of coal ash related expenditures

» Growing service territories

» Position as part of Duke Energy utility system

## Credit Challenges

» High capital expenditures

» Increasing regulatory uncertainty surrounding coal ash remediation spending

» Financial metrics are under pressure

## Rating Outlook

The stable rating outlook considers the utility's relatively low business risk profile and primarily credit supportive regulatory frameworks in both North and South Carolina. The outlook reflects our expectation that management will manage and finance Duke Carolinas relatively large capital expenditure program in a manner that allows the utility to demonstrate financial credit metrics that are consistent with its credit profile. The stable outlook also reflects our expectation that the company will continue to be able to fully recover the majority of its coal ash closure and remediation costs in rates.

## Factors that Could Lead to an Upgrade

» Credit positive changes in the utility's regulatory framework, including more riders and trackers to reduce regulatory lag for ongoing capital investment, and real time recovery of coal ash remediation costs

» A sustained improvement in cash flow credit metrics, for example if the ratio of cash from operations excluding changes in working capital (CFO pre-W/C) to debt were to move above 30% on a sustained basis

## Factors that Could Lead to a Downgrade

» A decline in the credit supportiveness of Duke Carolina's regulatory relationships in North or South Carolina, particularly with regards to coal ash remediation recovery in North Carolina

» Additional capital expenditures or other capital needs that result in a material increase in debt levels or are not recoverable

» A ratio of CFO pre-W/C to debt remaining below 25% on a sustained basis

## Key Indicators

Duke Energy Carolinas, LLC [1]

| | Dec-15 | Dec-16 | Dec-17 | Dec-18 | LTM Jun-19 |
|---|---|---|---|---|---|
| CFO Pre-W/C + Interest / Interest | 6.9x | 7.2x | 7.0x | 6.9x | 7.0x |
| CFO Pre-W/C / Debt | 31.5% | 29.5% | 27.2% | 24.5% | 24.6% |
| CFO Pre-W/C – Dividends / Debt | 26.8% | 9.3% | 21.2% | 18.1% | 22.5% |
| Debt / Capitalization | 32.8% | 36.4% | 41.6% | 43.3% | 43.0% |

[1]All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
*Source: Moody's Financial Metrics*

## Corporate Profile

Duke Carolinas is a vertically integrated electric utility serving approximately 2.6 million customers in North Carolina (about 2 million) and South Carolina. The utility is the largest subsidiary of Duke Energy Corporation (Duke Energy, Baa1 stable) and is regulated by the North Carolina Utilities Commission (NCUC) and the Public Service Commission of South Carolina (PSCSC).

## Detailed Credit Considerations

### Historically credit supportive regulatory environments, but uncertainty is increasing

The regulatory environments in both North and South Carolina have historically been credit supportive. While the PSCSC's May 2019 order in Duke Carolina's recent rate case denied recovery of around 25% of Duke Carolinas' spending on coal ash remediation, the balance of the order (which included recovery of development costs associated with a canceled nuclear project and an approved 53% equity ratio) was generally credit supportive. Duke Energy is planning to appeal the coal ash disallowance. On a positive note, the South Carolina order did continue authorization of the utility's ability to earn a full weighted average cost of capital return on

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

its approved coal ash remediation spending. The order also shortened the recovery period to five years, versus a previously approved fifteen years.

In North Carolina (71% of retail rate base), the utility's July 2018 rate order authorized a partial settlement agreement with respect to certain traditional rate making parameters, such as return on equity (9.9%) and equity ratio (52%). The order also deemed spending for coal ash remediation to be reasonable and prudent and, with the exception of a specific, manageable penalty, authorized the company to recover its prior expenditures over five years with a full debt and equity return. Ongoing expenditures will continue to be deferred for future recovery, and thus remain subject to regulatory lag.

We view Duke Carolinas ability to earn a full return on its coal ash remediation expenditures, and to recover them over reasonable time frames, as credit positive. As a result of this rate base like treatment, we currently view the spending for coal ash remediation to be akin to a capital expenditure. We note however that there is increasing regulatory uncertainty as a portion of these expenditures have been disallowed in South Carolina, while the North Carolina decision authorizing recovery has been appealed by the state Attorney General and the Public Staff. Depending on the outcome of these appeals, we may modify our treatment of the portion of expenditures that are not recoverable.

In both of Duke Carolinas' jurisdictions, the utility has historically been able to recover its prudently incurred costs, and it has been authorized equity returns and approved equity layers in the capital structure that have been among the most credit supportive in the U.S. However, Duke Carolinas' requests for rider recovery for grid modernization investments and ongoing coal ash remediation have been denied, a credit negative as it maintains the utility's exposure to regulatory lag.

In North Carolina, Duke has been working with lawmakers in an attempt to pass legislation that would allow securitization of storm costs as well as the consideration of alternative rate adjustment mechanisms such as rider recovery, multiyear plans, incentive mechanisms or ROE bands. On October 30th, the North Carolina House and Senate both approved a bill that, if signed by the Governor, will authorize securitization of storm costs; however, the more controversial proposal that would have allowed the implementation of alternative rate plans was dropped. Our stable outlook assumes that, in the absence of alternative rate mechanisms the company will continue to file frequent, likely annual, rate cases. The outlook also assumes and that regulatory outcomes will provide an opportunity for Duke Carolinas to maintain cash flow based credit metrics at levels that are supportive of its current credit quality.

In September 2019, Duke Carolinas filed a base rate case in North Carolina requesting an approximate 6% increase in revenue premised on a 53% equity ratio and a 10.3% return on equity. The filing also seeks recovery of $480 million of coal ash remediation costs deferred from January 2018-January 2020 over five years. The utility requested rates become effective no later than August 2020. Our stable outlook assumes Duke Carolinas will continue to be allowed to recover the majority of its coal ash remediation spending, and that it will be able to earn a return on the deferred balance.

### Capital expenditures expected to remain elevated

Capital expenditures (inclusive of coal ash remediation spending) at Duke Carolinas have been on the rise, growing steadily from about $1.7 billion in 2013 to around $3 billion for the twelve months ending June 2019. We expect spending to remain near these levels for at least the next year or so as spending for new generation, environmental compliance and grid modernization investments in transmission and distribution continue.

Duke Carolina's current profile incorporates our expectation that the utility will continue to recover its capital expenditures as part of its rate proceedings. Although there will likely be some regulatory lag, particularly with regard to coal ash as discussed below, we expect the utility to seek to mitigate the lag through frequent rate case filings.

### Coal ash remediation is well underway, but costs are rising and uncertainty is increasing

In 2014, North Carolina lawmakers overwhelmingly passed the Coal Ash Management Act which regulates and requires the closure of coal ash basins at all coal plant sites throughout the state. The legislation, which was amended in 2016, required Duke to take costly, immediate action to excavate and close coal ash basins at three of its highest risk sites by the end of 2019. These basins were all successfully closed ahead of schedule by July 2019. A fourth basin is required to be closed by August 2022. The 2016 amendment required the remaining sites to be closed by either 2024 or 2029, depending on their priority designation.

In April 2019, the North Carolina Department of Environmental Quality (NCDEQ) ordered Duke Energy to excavate coal ash at all of its low-risk sites in North Carolina where specific closure plans had not been determined. The decision is credit negative as it will cost substantially more than alternative closure options proposed by Duke for these six sites - Duke estimated full excavation would cost $4-$5 billion more than its previously projected aggregate cost of $5.6 billion to close all basins in the Carolinas. The company also believes in some cases excavation may take decades, stretching well beyond current state and federal deadlines. The company is required to submit closure plans by December 31, 2019. Duke has appealed the order to the North Carolina Office of Administrative Hearings. In August and October 2019 the court issued orders dismissing several of Duke's claims relating to procedure, but allowing the substantive claims to move forward. The company expects the process will take 9-12 months.

Through June 2019, Duke Carolinas had spent approximately $1 billion on coal ash remediation. Management continues to refine the estimated cost of its coal ash remediation obligations as work continues on the sites and there is additional information around closure requirements. As of June 2019, Duke Energy's total asset retirement obligation relating to coal ash was reported at $6.5 billion (versus $4.8 billion in June 2018) and included $5.7 billion for the Carolinas. Duke Carolinas asset retirement obligation was reported as $2.9 billion versus $1.8 billion in June 2018.

As noted above, in its most recent South Carolina rate case, recovery of certain coal ash costs were denied. We expect the company to appeal this decision and note that it represents a relatively modest portion of total incurred costs. Depending on the outcome of the appeal, we may modify our treatment of the portion of expenditures that are not recoverable.

### Historically strong financial coverage metrics are being impacted by storm activity, coal ash remediation spend and delayed rate relief

Duke Carolinas' historically strong financial coverage metrics have been under pressure in recent years as the company has been spending for coal ash remediation, new generation, and grid modernization, while rates have essentially remained at levels established in 2013. Duke Carolina's 2018 rate order established a new base-line, and determined the utility's spending on coal ash remediation should be recovered over five years with a full return, a credit positive. However, the authorized increase in rates was entirely offset by a reduction in revenue due to the lower corporate tax rate.

In addition, in the second half of 2018, a succession of unusually severe storms resulted in over $1 billion of unplanned costs across Duke's territories in the Carolinas and Florida. The impact of the storms put downward pressure on financial metrics for all of the impacted utilities. For the twelve months ending June 2019, Duke Carolinas' ratio of CFO pre-WC to debt was around 25%. Absent the unusual storm activity, we estimate this ratio would have been around 26%.

Going forward, lag in the recovery of ongoing coal ash remediation spending and grid modernization will maintain negative pressure on financial credit metrics. As a result, Duke Carolinas will need to file regular, possibly annual, rate cases to help sustain credit metrics. In its current rate case filed in October, Duke Carolinas is requesting an approximate $290 million (6% rate increase) with rates to become effective no later than August 2020. Our stable outlook assumes that management will manage and finance Duke Carolinas relatively large capital expenditure program with a balanced mix of debt and equity, including the retention of utility cash flow, in a manner enables the utility to demonstrate financial credit metrics that are consistent with its credit profile. For example, a ratio of CFO pre-WC to debt above 25%, which is in the middle of the "A" scoring range for this factor in our rating methodology for regulated electric and gas utilities.

### Environmental, social and governance considerations

Duke Carolinas has a moderate carbon transition risk within the regulated utility sector because, as an integrated utility, its generation ownership places it at a higher risk profile than transmission and distribution companies. As of December 31, 2018, approximately 33% of Duke Carolinas' 20,209 MW generation portfolio is coal fired. In 2018, Duke Carolina's generated energy was produced approximately 52% from nuclear fuel, which lowers the company's carbon footprint, 26% from coal, and 19% from natural gas. When considering all sources of energy, purchased power (which includes renewables), made up 11% of the energy supply, with nuclear contributing 46%, coal 23%, natural gas 17% and owned renewables 3%.

Natural gas is playing an important role in the company's plans to transition to a cleaner generation mix, and we expect the proportion of energy supplied by natural gas to increase as coal declines. In 2019, gas co-firing capability was added at the 1,388 MW Rodgers plant, and the 560 MW Ashville combined cycle plant is scheduled to come on line. By 2024, Duke Carolinas plans to retire three coal fired units at its Allen Station (totaling 604 MW) and to add 468 MW of gas-fired capacity at its Lincoln Station. By 2021, gas-firing optionality is planned at Duke Carolinas 2,220 MW Belews Creek and its 2,060 MW Marshall plants. The remaining two coal-fired Allen units (totaling 526 MW) are expected to be retired by 2028.

## Liquidity Analysis

Given its large capital expenditure program, continuing dividends, and current borrowing capacity under Duke Energy's bank credit facility, Duke Carolinas is reliant on market access to maintain adequate liquidity. For the twelve months ended June 30, 2019, Duke Carolinas generated approximately $2.6 billion of cash from operations (CFO), invested approximately $2.8 billion in capital expenditures and up streamed approximately $250 million in dividend payments to parent Duke Energy, resulting in negative free cash flow (FCF) of $424 million. In 2018, Duke Carolinas generated approximately $2.5 billion of CFO, invested about $2.7 billion in capital expenditures and up streamed $750 million in dividend payments, resulting in negative FCF of $926 million. Going forward, we expect Duke Carolinas will remain cash flow negative.

Duke Carolinas' alternate liquidity sources include access to funding from the parent company's commercial paper program through the Duke Energy system money pool, and direct borrowings from the money pool. As of June 2019, the utility had $1.75 billion of borrowing capacity under Duke Energy's $8 billion master credit facility. As of June 2019, the utility had $1.1 billion of commercial paper outstanding, $4 million of letters of credit outstanding, and $250 million set aside to meet its obligations related to a May 2015 Plea Agreement with the US Department of Justice related to coal ash, reducing available capacity to $397 million from the parent master credit facility.

Duke Energy's $8 billion master credit facility terminates in March 2024. The facility does not contain a material adverse change clause for new borrowings and has a single financial covenant requiring that Duke Energy and its utility subsidiaries each maintain a consolidated debt to capitalization ratio of no more than 65%, except for Piedmont. The debt to capitalization covenant for Piedmont is a maximum of 70%. As of June 2019, we estimate Duke Carolinas' ratio to be about 49%. Duke Carolinas' nearest long-term debt maturity is $450 million of first mortgage bonds due in June 2020.

## Rating Methodology and Scorecard Factors

Exhibit 3
**Rating Factors**
Duke Energy Carolinas, LLC

| Regulated Electric and Gas Utilities Industry Scorecard [1][2] | Current LTM 6/30/2019 | | Moody's 12-18 Month Forward View As of Date Published [3] | |
|---|---|---|---|---|
| **Factor 1 : Regulatory Framework (25%)** | **Measure** | **Score** | **Measure** | **Score** |
| a) Legislative and Judicial Underpinnings of the Regulatory Framework | A | A | A | A |
| b) Consistency and Predictability of Regulation | Aa | Aa | Aa | Aa |
| **Factor 2 : Ability to Recover Costs and Earn Returns (25%)** | | | | |
| a) Timeliness of Recovery of Operating and Capital Costs | A | A | A | A |
| b) Sufficiency of Rates and Returns | A | A | A | A |
| **Factor 3 : Diversification (10%)** | | | | |
| a) Market Position | A | A | A | A |
| b) Generation and Fuel Diversity | A | A | A | A |
| **Factor 4 : Financial Strength (40%)** | | | | |
| a) CFO pre-WC + Interest / Interest (3 Year Avg) | 7.1x | Aa | 6.5x - 7x | Aa |
| b) CFO pre-WC / Debt (3 Year Avg) | 26.2% | A | 24% - 26% | A |
| c) CFO pre-WC – Dividends / Debt (3 Year Avg) | 19.7% | A | 16% - 19% | A |
| d) Debt / Capitalization (3 Year Avg) | 41.2% | A | 40% - 43% | A |
| **Rating:** | | | | |
| Grid-Indicated Outcome Before Notching Adjustment | | A1 | | A1 |
| HoldCo Structural Subordination Notching | 0 | 0 | 0 | 0 |
| a) Scorecard-Indicated Outcome | | A1 | | A1 |
| b) Actual Rating Assigned | | A1 | | A1 |

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
[2] As of 6/30/2019(L)
[3]This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures.
*Source: Moody's Financial Metrics*

# Appendix

Exhibit 4

## Cash Flow and Credit Metrics [1]

| CF Metrics | Dec-15 | Dec-16 | Dec-17 | Dec-18 | LTM Jun-19 |
|---|---|---|---|---|---|
| As Adjusted | | | | | |
| **FFO** | 2,694 | 2,883 | 2,915 | 3,129 | 3,130 |
| +/- Other | 14 | 31 | (71) | (267) | (175) |
| **CFO Pre-WC** | 2,708 | 2,914 | 2,844 | 2,862 | 2,955 |
| +/- ΔWC | (128) | 349 | 54 | (96) | (83) |
| **CFO** | 2,580 | 3,263 | 2,898 | 2,766 | 2,872 |
| - Div | 401 | 2,000 | 625 | 750 | 250 |
| - Capex | 2,097 | 2,507 | 2,788 | 2,942 | 3,048 |
| **FCF** | 82 | (1,244) | (515) | (926) | (426) |
| | | | | | |
| (CFO Pre-W/C) / Debt | 31.5% | 29.5% | 27.2% | 24.5% | 24.6% |
| (CFO Pre-W/C - Dividends) / Debt | 26.8% | 9.3% | 21.2% | 18.1% | 22.5% |
| FFO / Debt | 31.3% | 29.2% | 27.9% | 26.8% | 26.1% |
| RCF / Debt | 26.6% | 9.0% | 21.9% | 20.4% | 24.0% |
| | | | | | |
| Revenue | 7,229 | 7,322 | 7,302 | 7,300 | 7,322 |
| Cost of Good Sold | 1,872 | 1,789 | 1,803 | 1,800 | 1,787 |
| Interest Expense | 456 | 469 | 474 | 482 | 491 |
| Net Income | 985 | 1,127 | 1,160 | 1,025 | 1,033 |
| Total Assets | 35,553 | 36,657 | 37,851 | 40,121 | 42,442 |
| Total Liabilities | 24,027 | 25,975 | 26,585 | 28,542 | 30,270 |
| Total Equity | 11,526 | 10,682 | 11,266 | 11,579 | 12,172 |

[1] All figures and ratios are calculated using Moody's estimates and standard adjustments. Periods are Financial Year-End unless indicated. LTM=Last Twelve Months
*Source: Moody's Financial Metrics*

Exhibit 5

## Peer Comparison Table [1]

| | Duke Energy Carolinas, LLC A1 Stable | | | Duke Energy Progress, LLC A2 Stable | | | Alabama Power Company A1 Stable | | | Virginia Electric and Power Company A2 Stable | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FYE | FYE | LTM | FYE | FYE | LTM | FYE | FYE | LTM | FYE | FYE | LTM |
| (in US millions) | Dec-17 | Dec-18 | Jun-19 | Dec-17 | Dec-18 | Jun-19 | Dec-17 | Dec-18 | Jun-19 | Dec-17 | Dec-18 | Jun-19 |
| Revenue | 7,302 | 7,300 | 7,322 | 5,129 | 5,699 | 5,819 | 6,039 | 6,032 | 5,977 | 7,556 | 7,619 | 7,945 |
| CFO Pre-W/C | 2,844 | 2,862 | 2,955 | 1,947 | 1,763 | 1,752 | 2,016 | 1,879 | 2,167 | 2,931 | 3,198 | 2,606 |
| Total Debt | 10,463 | 11,665 | 12,003 | 8,215 | 8,975 | 9,639 | 7,933 | 8,500 | 8,396 | 13,275 | 13,697 | 14,006 |
| CFO Pre-W/C / Debt | 27.2% | 24.5% | 24.6% | 23.7% | 19.6% | 18.2% | 25.4% | 22.1% | 25.8% | 22.1% | 23.3% | 18.6% |
| CFO Pre-W/C – Dividends / Debt | 21.2% | 18.1% | 22.5% | 22.2% | 17.7% | 16.4% | 16.5% | 12.7% | 16.1% | 13.1% | 20.0% | 15.8% |
| Debt / Capitalization | 41.6% | 43.3% | 43.0% | 45.7% | 46.1% | 46.8% | 44.6% | 44.3% | 40.8% | 47.2% | 46.2% | 46.8% |

[1] All figures & ratios calculated using Moody's estimates & standard adjustments. FYE=Financial Year-End. LTM=Last Twelve Months. RUR*=Ratings Under Review, where UPG=for upgrade and DNG=for downgrade
*Source: Moody's Financial Metrics*

## Ratings

Exhibit 6

| Category | Moody's Rating |
|---|---|
| **DUKE ENERGY CAROLINAS, LLC** | |
| Outlook | Stable |
| Issuer Rating | A1 |
| First Mortgage Bonds | Aa2 |
| Bkd Senior Secured | Aa2 |
| Senior Unsecured | A1 |
| **PARENT: DUKE ENERGY CORPORATION** | |
| Outlook | Stable |
| Issuer Rating | Baa1 |
| Sr Unsec Bank Credit Facility | Baa1 |
| Senior Unsecured | Baa1 |
| Jr Subordinate | Baa2 |
| Pref. Stock | Baa3 |
| Commercial Paper | P-2 |

*Source: Moody's Investors Service*

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# Duke Energy

# Rolling into 2020 with a potential positive guide while lingering LT risks remain clear

**Reiterate Rating: UNDERPERFORM | PO: 96.00 USD | Price: 90.44 USD**

## '20 guide could be positive yet still risks in NC/renewables

With DUK trading at a substantial discount (-15%) and appearing optically cheap compared to peers, we remain cautious on the overall outlook. While 2020 guidance could prove to be somewhat better than initially expected (we now move our est. to $5.18 and provide our EPS walk further below) with incremental capital expected to added to the long-term outlook, we continue to see ongoing risks to the most critical piece to the story in NC with three untested commissioners and uncertainty related to coal ash recovery. While nominally addressed in the last case and pending still before the Supreme Court, ability to navigate a successful outcome and maintain a return on/of capital (WACC) rather than a more punitive approach or write-down of assets remains uncertain (we provide our assumptions for total EPS at risk below as well). More near-term risks include the renewable earnings outlook and associated spending levels where a sizeable increase would be perceived cautiously unless mgmt. can clearly articulate it is incremental rather than filling a regulated earnings gap. Further, while we believe the company will receive support for its Edwardsport plant to be placed in rates, we see a settlement as unlikely and could see a drop in authorized returns. Bottom line, we continue to see revision risk into 4Q results & thru '20; we reiterate our Underperform despite the latest drop in shares.

## Reiterate Underperform as risk/reward not yet balanced

We modestly increase our EPS assumptions through the outlook period but we remain at the low-end of mgmt. 4-6% guided growth trajectory. We provide our earnings walk for both 4Q19 ($0.90) and 2020 EPS with an expect range of $5.10-5.30, which would be *positive* compared to street assumptions for current year. Still we remain cautious on the longer-term outlook with several hurdles ahead in NC, not to mention expected minimal updates on ACP until Feb 24 for the Supreme Court case and 1H20 for the Biological Opinion. We move our PO to $96 (from $95) on our latest estimates and mark-to-market of peer utility multiples of 18.8x for electric (from 18.7x) and 18.8x for gas (from 18.3x). Resolution in NC, remains the most critical piece with risk/reward prospects still not balanced despite upside in our SOTP analysis.

**Estimates (Dec)**

| (US$) | 2017A | 2018A | 2019E | 2020E | 2021E |
|---|---|---|---|---|---|
| EPS | 4.57 | 4.72 | 5.05 | 5.18 | 5.42 |
| GAAP EPS | 4.37 | 4.69 | 5.11 | 5.26 | 5.49 |
| EPS Change (YoY) | -2.6% | 3.3% | 7.0% | 2.6% | 4.6% |
| Consensus EPS (Bloomberg) | | | 5.01 | 5.14 | 5.38 |
| DPS | 3.49 | 3.64 | 3.78 | 3.84 | 3.84 |

**Valuation (Dec)**

| | 2017A | 2018A | 2019E | 2020E | 2021E |
|---|---|---|---|---|---|
| P/E | 19.8x | 19.2x | 17.9x | 17.5x | 16.7x |
| GAAP P/E | 20.7x | 19.3x | 17.7x | 17.2x | 16.5x |
| Dividend Yield | 3.9% | 4.0% | 4.2% | 4.2% | 4.2% |
| EV / EBITDA* | 16.5x | 17.3x | 14.8x | 13.9x | 13.0x |
| Free Cash Flow Yield* | -2.2% | -3.3% | -3.5% | -2.2% | -0.3% |

* For full definitions of *iQmethod*SM measures, see page 12.

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**Refer to important disclosures on page 13 to 15. Analyst Certification on page 10. Price Objective Basis/Risk on page 10.** 12082561

Timestamp: 13 January 2020 07:09AM EST

13 January 2020

Equity

**Key Changes**

| (US$) | Previous | Current |
|---|---|---|
| Price Obj. | 95.00 | 96.00 |
| 2019E Rev (m) | 25,926.5 | 25,937.9 |
| 2020E Rev (m) | 26,799.2 | 26,844.8 |
| 2021E Rev (m) | 27,786.0 | 27,862.3 |
| 2019E EPS | 5.00 | 5.05 |
| 2020E EPS | 5.13 | 5.18 |
| 2021E EPS | 5.36 | 5.42 |

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**Stock Data**

| | |
|---|---|
| Price | 90.44 USD |
| Price Objective | 96.00 USD |
| Date Established | 13-Jan-2020 |
| Investment Opinion | A-3-7 |
| 52-Week Range | 82.46 USD - 97.37 USD |
| Mrkt Val (mn) / Shares Out (mn) | 65,934 USD / 729.0 |
| Average Daily Value (mn) | 318.80 USD |
| BofA Ticker / Exchange | DUK / NYS |
| Bloomberg / Reuters | DUK US / DUK.N |
| ROE (2019E) | 8.1% |
| Net Dbt to Eqty (Dec-2016A) | 130.8% |

ACP – Atlantic Coast Pipeline

# iQprofile℠ Duke Energy

**iQmethod℠ – Bus Performance***

| (US$ Millions) | 2017A | 2018A | 2019E | 2020E | 2021E |
|---|---|---|---|---|---|
| Return on Capital Employed | 3.5% | 3.3% | 4.0% | 4.0% | 4.1% |
| Return on Equity | 7.4% | 6.2% | 8.1% | 7.8% | 7.9% |
| Operating Margin | 24.5% | 19.1% | 22.4% | 22.9% | 23.6% |
| Free Cash Flow | (1,418) | (2,203) | (2,279) | (1,465) | (202) |

**iQmethod℠ – Quality of Earnings***

| (US$ Millions) | 2017A | 2018A | 2019E | 2020E | 2021E |
|---|---|---|---|---|---|
| Cash Realization Ratio | 2.2x | 2.7x | 2.5x | 2.5x | 2.3x |
| Asset Replacement Ratio | 2.0x | 2.0x | 2.5x | 2.3x | 1.9x |
| Tax Rate | 28.0% | 14.6% | 13.0% | 13.0% | 13.0% |
| Net Debt-to-Equity Ratio | 129.6% | 130.8% | 130.8% | 119.9% | 119.4% |
| Interest Cover | 3.1x | 2.5x | 3.0x | 3.0x | 3.1x |

**Income Statement Data (Dec)**

| (US$ Millions) | 2017A | 2018A | 2019E | 2020E | 2021E |
|---|---|---|---|---|---|
| Sales | 23,565 | 24,521 | 25,938 | 26,845 | 27,862 |
| % Change | 3.6% | 4.1% | 5.8% | 3.5% | 3.8% |
| Gross Profit | 10,823 | 10,441 | 11,617 | 12,309 | 13,079 |
| % Change | 10.5% | -3.5% | 11.3% | 6.0% | 6.3% |
| EBITDA | 9,280 | 8,848 | 10,330 | 11,005 | 11,759 |
| % Change | 7.8% | -4.7% | 16.8% | 6.5% | 6.8% |
| Net Interest & Other Income | (1,986) | (2,094) | (2,116) | (2,237) | (2,283) |
| **Net Income (Adjusted)** | **3,059** | **2,666** | **3,674** | **3,834** | **4,156** |
| **% Change** | **42.1%** | **-12.8%** | **37.8%** | **4.4%** | **8.4%** |

**Free Cash Flow Data (Dec)**

| (US$ Millions) | 2017A | 2018A | 2019E | 2020E | 2021E |
|---|---|---|---|---|---|
| Net Income from Cont Operations (GAAP) | 3,065 | 2,647 | 3,716 | 3,894 | 4,216 |
| Depreciation & Amortization | 4,046 | 4,696 | 4,526 | 4,864 | 5,171 |
| Change in Working Capital | 0 | 0 | (111) | (76) | (84) |
| Deferred Taxation Charge | 1,433 | 1,079 | 1,260 | 1,100 | 1,000 |
| Other Adjustments, Net | (1,910) | (1,236) | (206) | (301) | (614) |
| Capital Expenditure | (8,052) | (9,389) | (11,463) | (10,946) | (9,890) |
| **Free Cash Flow** | **-1,418** | **-2,203** | **-2,279** | **-1,465** | **-202** |
| **% Change** | **-28.6%** | **-55.4%** | **-3.4%** | **35.7%** | **86.2%** |

**Balance Sheet Data (Dec)**

| (US$ Millions) | 2017A | 2018A | 2019E | 2020E | 2021E |
|---|---|---|---|---|---|
| Cash & Equivalents | 358 | 591 | 590 | 675 | 760 |
| Trade Receivables | 2,774 | 3,134 | 3,260 | 3,340 | 3,430 |
| Other Current Assets | 5,321 | 5,989 | 6,099 | 6,134 | 6,184 |
| Property, Plant & Equipment | 86,391 | 91,694 | 98,303 | 104,386 | 109,105 |
| Other Non-Current Assets | 43,070 | 43,984 | 43,984 | 43,984 | 43,984 |
| **Total Assets** | **137,914** | **145,392** | **152,236** | **158,519** | **163,463** |
| Short-Term Debt | 5,407 | 6,816 | 7,206 | 7,356 | 7,696 |
| Other Current Liabilities | 7,075 | 8,225 | 8,350 | 8,389 | 8,445 |
| Long-Term Debt | 49,035 | 51,123 | 54,071 | 55,195 | 57,746 |
| Other Non-Current Liabilities | 34,660 | 35,394 | 35,230 | 34,988 | 34,434 |
| **Total Liabilities** | **96,177** | **101,558** | **104,857** | **105,929** | **108,321** |
| **Total Equity** | **41,737** | **43,834** | **46,406** | **51,616** | **54,168** |
| **Total Equity & Liabilities** | **137,914** | **145,392** | **151,262** | **157,545** | **162,489** |

* For full definitions of iQmethod℠ measures, see page 12.

## Company Sector

Electric Utilities

## Company Description

Duke Energy Corporation operates as a regulated utility company in the US based in Charlotte, NC. The company operates regulated electric utilities in the Midwest, Florida and the Carolinas and supplies electric service to approximately 7.5 million residential, commercial, and industrial customers. Duke owns 50,000MW of capacity. The regulated gas utilities serve more than 1.6 million customers in the Carolinas and Ohio. A commercial arm owns contract renewables and pipelines across the US.

## Investment Rationale

We see current binary risk tied to ACP as a key item that will likely weigh on shares, longer-term growth initiatives could be impeded with further delays. While DUK has the potential for a grid modernization rider in N.C., we see the potential for a change in the commission as concerning. Meanwhile, SC data points are particularly cautious with below average ROEs and disallowance of capital. Further, execution headwinds related to coal ash recovery remain a key concern to monitor.

## Stock Data

| | |
|---|---|
| Average Daily Volume | 3,525,019 |

## Quarterly Earnings Estimates

| | 2018 | 2019 |
|---|---|---|
| Q1 | 1.66A | 1.24A |
| Q2 | 0.92A | 1.12A |
| Q3 | 1.65A | 1.79A |
| Q4 | 0.84A | 0.90E |

## DUK 2020 EPS walk: what to watch for?

We forecast 2020 EPS of $5.18 compared to consensus estimates of $5.14 with a range of $5.10-5.30. While the company should benefit from the implementation of rates, it still has large rate case risks in front of it in both IN (expected to be fully litigated) and in its largest jurisdiction in NC (where there are three untested commissioners).

- **Key drivers**: Positive YoY drivers include the implementation of rates and riders at the electric utilities (+$0.70), load growth (+$0.02), the reversal of storm costs (+$0.04), new rates at the Gas LDCs (+$0.10), AFUDC on Atlantic Coast Pipeline (+$0.07). Partially offsetting results are higher D&A (-$0.30), higher utility interest expense (-$0.15), incremental parent interest expense drag (-$0.02), the full-year impact of the preferred (-$0.02), and share dilution (-$0.09).
- **Unknowns**: A key question is whether the company will decided to increase its commercial renewable target, which would likely be perceived as cautious given the upfront recognition of tax credits to fill earnings divots elsewhere. For now we assume flat contribution YoY. An increase in renewable targets could also appear to coincide with an extension in the amortizable period for the ITC: hence increase in capex while keeping the earnings targets still in the same ~$200 mn/yr range.

**Table 2: DUK 2020 EPS Walk**

| DUK 2020 earnings walk | Range | EPS |
|---|---|---|
| **2019 Guidance (assume midpoint of original guide)** | | 5.00 |
| *Weather* | | |
| Weather Changes | | ($0.16) |
| *Electric Utilities & Infrastructure* | | |
| O&M flat + reversal of storm expense | | $0.04 |
| Rate cases | | $0.70 |
| *Gas Utilities & Infrastructure* | | |
| Rate cases | | $0.10 |
| ACP AFUDC | | $0.07 |
| LDC growth | | $0.02 |
| *Other Utility Drag* | | |
| D&A | | ($0.30) |
| Utility interest expense | | ($0.15) |
| *Commercial Renewables* | | |
| New projects (assume flat - could we see step-up?) | | $0.00 |
| *Parent & Other* | | |
| Holding Company Debt | | ($0.02) |
| Preferred | | ($0.02) |
| Dilution | | ($0.09) |
| **DUK 2020 BofAe Adjusted EPS** | | **$5.18** |
| DUK 2020 BofAe EPS Guidance Range | | 5.10-5.30 |
| 2020 Consensus | | $5.14 |
| y/y growth | | 3.7% |
| **Share count** | | |
| 2019 Share count | | 729 |
| 2020 Share count | | 742 |

Source: BofA Global Research estimates, company report, Bloomberg

## Coal ash and NC rate case risk

DUK recently reached a resolution with the Department of Environmental Quality (DEQ) on coal ash excavation with costs reduced by $1.5bn to $2.5-3.5bn for remaining basins and 400-500mn of spend associated with coal ash expected to be included over the roll forward period (2020-2024) beyond ~$2bn in plan (coal ash only from environmental slide) for '19-'23 (quite palatable increase vs. DUK overall). The key question remains recovery of any associated capital spending & return on capital. While addressed in the last case and again pending still today before the Supreme Court, we anticipate any resolution in the current NC rate cases (and/or concurrent resolution of litigation) will prove critical (particularly relevant given total quantum of spend still contemplated).

**Examining the EPS at risk and delta between return parameters**

Dialogue with the company and parties remains ongoing and ability to navigate a successful outcome in the rate case process where past precedent was for a return on/of capital (WACC) remains an uncertainty. Below, we highlight the total capital expenditures for coal ash spending as well as our assumptions for coal ash rate base. Recall, Duke Energy Progress (DEP) and Duke Energy Carolina (DEC) had ~$242mn and $546mn placed into rates with spending through 2017. For the allocation, we assume 60% for NC at DEP with 30% for wholesale that is recovered from wholesale customers as the money is spent and 10% for SC. Similarly, the allocation for DEC is ~66% NC, 10% wholesale, and 24% for SC. For 2019, we assume coal ash specific spend as a proportion of total environmental spending with the remaining $2.1bn (including the $400-500mn of additional spend) spread ratably through the 2020-2024 outlook. Current allowed return is for a WACC, although capital earns a debt-like return until placed in rates, explaining the step-up from 4% to ~7% in 2018 (we continue to assume the 7% WACC rate throughout for simplicity) In total, we see $0.26 of cumulative EPS at risk using a WACC of ~7% (see table below).

While we see it less likely that total spending would be shareholder expensed, the key question is whether an outcome in the rate case would result in a write-down or more punitive return parameters (such as a debt-like return). Below, we also highlight the delta between different return parameters, comparing ROE vs WACC (given coal ash crowds out other spending initiatives) and WACC vs debt-like return (a potential outcome in the case).

**Relationship w/ DEQ critical for clean energy agenda**

Following DEQ settlement, we see a constructive relationship between the two parties as critical to the Governor's clean energy plan. *The DEQ will now be the lead agency in implementing the Clean Energy plan with potential for further delineation of coal retirements, renewable targets, grid modernization investments, and alternative regulation, among other items.* However, the plan is not likely to be implemented until 2021 as a report is not expected to be due until the end of 2020; this process with the DEQ should provide clues as to magnitude of incremental opportunity but is not required to achieve its 4-6% EPS outlook. Moreover, we wouldn't expect any legislation this year to tackle these issues given the short session. The Clean Energy plan could potentially result in upside to spending but it remains too early to predict what priorities will come out of the plan and how much incremental investment DUK can capture. Mgmt. stresses that this is not necessarily needed to maintain the 4-6% EPS growth guidance, although having a more constructive relationship with the DEQ where the issues in the court are now to the wayside could result in a more constructive dialogue going forward.

**Untested commissioners in NC also present risk to the outlook**

With three untested commissioners at the North Carolina Utility Commission (NCUC) risks remain to both a constructive outcome in the rate case as well as coal ash recovery. While the Piedmont was able to receive a 9.7% ROE, the new commissioners were not on the case. Given this uncertainty, NC remains the most critical piece to the story in 2H20.

**Table 1: DUK Coal Ash rate base assumptions and total EPS at risk through forecast period**

| DUK Coal Ash Recovery | | 2015A | 2016A | 2017A | 2018A | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Coal Ash Capital Expenditures | Allocation | | | | | | | | | | |
| NC | 60% | 81 | 81 | 81 | 117 | 230 | 155 | 155 | 155 | 155 | 155 |
| Wholesale | 30% | 40 | 40 | 40 | 59 | 115 | 78 | 78 | 78 | 78 | 78 |
| SC | 10% | 13 | 13 | 13 | 20 | 38 | 26 | 26 | 26 | 26 | 26 |
| DEP | | 134 | 134 | 134 | 195 | 383 | 259 | 259 | 259 | 259 | 259 |
| NC | 66% | 182 | 182 | 182 | 152 | 208 | 107 | 107 | 107 | 107 | 107 |
| Wholesale | 10% | 28 | 28 | 28 | 23 | 31 | 16 | 16 | 16 | 16 | 16 |
| SC | 24% | 44 | 44 | 44 | 36 | 50 | 26 | 26 | 26 | 26 | 26 |
| DEC | | 276 | 276 | 276 | 230 | 315 | 162 | 162 | 162 | 162 | 162 |
| North Carolina Coal Ash Rate Base Assumptions | | | | | | | | | | | |
| Beginning Coal Ash Rate Base | | | 263 | 473 | 641 | 782 | 1,063 | 1,113 | 1,153 | 1,185 | 1,210 |
| Total NC Capital | | | 263 | 263 | 269 | 437 | 263 | 263 | 263 | 263 | 263 |
| Amortization | | | (53) | (95) | (128) | (156) | (213) | (223) | (231) | (237) | (242) |
| Ending Coal Ash Rate Base | | | 473 | 641 | 782 | 1,063 | 1,113 | 1,153 | 1,185 | 1,210 | 1,231 |
| Average Rate Base | | | 368 | 557 | 711 | 922 | 1,088 | 1,133 | 1,169 | 1,197 | 1,220 |
| Equity Cap | | 53% | 53% | 53% | 52% | 52% | 52% | 52% | 52% | 52% | 52% |
| EPS Assumptions for coal ash recovery | | | 2016A | 2017A | 2018A | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E |
| Allowed Return (Debt then WACC once in rates) | | | $0.01 | $0.02 | $0.03 | $0.04 | $0.05 | $0.05 | $0.05 | $0.05 | $0.05 |
| S/O | | | 692 | 700 | 708 | 729 | 742 | 769 | 774 | 780 | 786 |
| Cumulative EPS at Risk 2020-2024 | | | | | | | | | | | $0.26 |
| EPS Scenarios under different return parameters | | | | | | | | | | | |
| Return Parameters | | | | | | | | | | | |
| Debt-like Return | | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Allowed Return (Debt then WACC once in rates) | | 4% | 4% | 4% | 7% | 7% | 7% | 7% | 7% | 7% | 7% |
| ROE | | 9.9% | 9.9% | 9.9% | 9.9% | 9.9% | 9.9% | 9.9% | 9.9% | 9.9% | 9.9% |
| EPS | | | | | | | | | | | |
| Debt-like Return | | | $0.01 | $0.01 | $0.02 | $0.02 | $0.03 | $0.03 | $0.03 | $0.03 | $0.03 |
| ROE | | | $0.03 | $0.04 | $0.05 | $0.07 | $0.08 | $0.08 | $0.08 | $0.08 | $0.08 |
| Delta | | | | | | | | | | | |
| Debt return vs ROE | | | ($0.02) | ($0.03) | ($0.03) | ($0.04) | ($0.05) | ($0.05) | ($0.05) | ($0.05) | ($0.05) |
| Shareholder expensed vs WACC | | | ($0.01) | ($0.02) | ($0.03) | ($0.04) | ($0.05) | ($0.05) | ($0.05) | ($0.05) | ($0.05) |
| WACC vs ROE | | | ($0.02) | ($0.02) | ($0.02) | ($0.02) | ($0.02) | ($0.02) | ($0.03) | ($0.03) | ($0.03) |
| Debt return vs WACC *(could NC rate result in this scenario?)* | | | ($0.00) | ($0.00) | ($0.02) | ($0.02) | ($0.02) | ($0.02) | ($0.02) | ($0.03) | ($0.03) |

Source: BofA Global Research estimates, company report.

## IN: Settlement not likely but support for Edwardsport?

In Indiana, we see a settlement as less likely given hearings are slated to start on Jan 22 with the window for settlement to be filed closing quickly. DUK's Edwardsport plant has maintained full support from the state, including the governor, statehouse, and commissioners, despite efforts opposing it. We see DUK's effort to roll the plant into full rates as proceeding with state support. Stakeholders we spoke to in IN generally see limited risk in terms of the likelihood of the inclusion of the asset in rates, although it could be further litigated outside of the rate case. We expect full recovery in the rate case regardless of recent scrutiny, helping to de-risk this case somewhat. Nonetheless, with other critical issues to tackle including coal retirements, coal ash, and grid modernization, we could see a drop in authorized ROE akin to latest NI case to 9.75% (from 9.95%).

## Renewables: will mgmt. increase the outlook?

The renewable earnings outlook and spending levels are likely the most near-term risk to the story. The company has increased confidence in its renewable development program given line of sight to majority of needs through the forecast period and with numerous projects exceeding hurdle rates. The question is whether mgmt. will yet further increase the earnings outlook. We are cautious on the blended earnings quality of these assets given the immediate step-up in earnings recognition from Investment Tax Credits (ITCs), which will eventually result in a cliff as tax credits are due to expire. Half of this business is from legacy wind assets which have a more extended timeline. ITCs are expected to be taken on a very short duration basis with all of the earnings power of assets effectively accelerated into the initial years of the structure. With questions over the potential degradation of earnings in the core utility business, we believe a step-up in earnings for commercial renewables would be perceived poorly unless mgmt. can clearly articulate it is incremental rather than filling a gap. Critical to whether mgmt increases its renewable net income contributions will be how this is characterized; is this *incremental* to the outlook or *does this simply affirm the 4-6% EPS growth outlook and implicitly replace existing earnings assumptions on core utilities?*

## FL and OH: could prove constructive to 4Q update

In FL, recently passed undergrounding legislation appears to be a tailwind to the $1.6bn on average annualized spending of in the state. We see this as consistent with efforts by EMA with their 4Q results to stress upside in FL as well on grid hardening alongside solar too. Mgmt. is in a multi-year rate plan that runs through 2021. We would expect the company to file sometime in 2020 in order to reset the plan with additional investments to come in '22 and beyond. Unclear of the exact magnitude given the company spends $400-500mn in FL on undergrounding currently, although we view it as positive on the margin. Meanwhile, HB247 in OH could allow for behind the meter generation investment opportunities, although clarity on this too could linger into 2020.

## DUK 4Q19 EPS walk

We forecast 4Q19 EPS of $0.90 compared to 4Q18 results of $0.84 and consensus estimates of $0.87. While the quarter will help take results toward the mid-point for 2019, it's aided in part by incremental commercial renewable contribution as well as reversal of storm expenses.

- **Key drivers**: Positive YoY drivers include the implementation of rates and riders at the electric utilities (+$0.10), load growth (+$0.03), the reversal of storm costs (+$0.05), new rates at Piedmont (+$0.02), AFUDC on Atlantic Coast Pipeline (+$0.02), and the contribution from the Lapetus and Palmer commercial renewable projects (+$0.05). Partially offsetting results are regulatory lag (-$0.04), the timing of O&M (-$0.05), lower AFUDC equity (-$0.01), higher utility interest expense (-$0.01), higher parent interest expense (-$0.01), and share dilution (-$0.01).

- **Unknowns**: Weather is expected to be unfavorable driver in the quarter with HDDs below the norm and the exact magnitude is unclear. Further, we would expect the company to pull ahead O&M costs forward given the favorable benefits of weather to date (+$0.17), although its difficult to predict just how much the company will spend on these initiatives.

**Table 3: DUK 4Q19 EPS Walk**

| DUK 4Q19 Earnings Walk | EPS |
|---|---|
| DUK 4Q18 EPS | 0.84 |
| Weather - normalize from 4Q18 | -$0.06 |
| Weather- 4Q19 | -$0.01 |
| **Electric** | **$0.02** |
| Rate implementation: | |
| DEC SC rates (full quarter) | $0.01 |
| DEP SC rates (full quarter) | $0.01 |
| Ohio | $0.01 |
| Florida - multi-year plan | $0.01 |
| Citrus County | $0.02 |
| SOBRA - FL | $0.01 |
| Other Riders - IN, OH | $0.02 |
| Regulatory lag | -$0.04 |
| Load Growth - 0.5% | $0.02 |
| O&M timing | -$0.05 |
| Storm O&M | $0.02 |
| AFUDC equity | -$0.01 |
| Interest Exp | -0.01 |
| **Gas** | **$0.05** |
| LDC Growth | $0.01 |
| New Rates | $0.02 |
| AFUDC for ACP | $0.02 |
| **Renewables** | **$0.05** |
| Lapetus & Palmer (160MW) | $0.05 |
| **Other** | **$0.01** |
| Parent Interest expense | -$0.01 |
| Other | $0.00 |
| Storm O&M | $0.03 |
| Dilution | -$0.01 |
| **DUK 4Q BofAe Adjusted EPS** | **$0.90** |
| Consensus | $0.87 |
| **BofAe 2019 EPS** | **5.05** |
| **Guidance** | **4.95-5.15** |
| 2019 Consensus | 4.95 |
| DUK 4Q19 Shares Outstanding | 729 |
| DUK 4Q18 Shares Outstanding | 716 |
| Tax Rate | 14% |

Source: BofA Global Research estimates, company report, Bloomberg

## EPS Estimates

We provide our latest EPS assumptions below where we slightly increase our assumptions based on expectations for 2020 and beyond, although still remain at the low-end of the company's 4-6% EPS growth trajectory. This includes substantial tax credits in earnings, which remain of lower quality given ITCs eventually roll-off. Project risk for ACP is also a material concern as the 14% AFUDC rate will step down material if in-service or result in a more draconian outcome if canceled. Bottom line, the deterioration of earnings quality remains among the single biggest factor for shares; we perceive the outcome of the 4Q reporting as critical to shifting sentiment on shares after its latest under-performance. Given multiple (larger) rate cases this year, we see composition of '20 as key given last year's surprise implicit guide down on core earnings power (ex-renewable 1x benefits).

**Table 4: DUK EPS Estimates**

| EPS Estimates | 2018A | 2019E | 2020E | 2021E | 2022E | 2023E |
|---|---|---|---|---|---|---|
| **Electric** | | | | | | |
| Carolinas | 1.65 | 1.75 | 1.73 | 1.74 | 1.79 | 1.85 |
| Indiana | 0.57 | 0.61 | 0.62 | 0.63 | 0.66 | 0.68 |
| Ohio - Electric | 0.26 | 0.28 | 0.31 | 0.34 | 0.37 | 0.43 |
| Progress- Carolinas | 1.02 | 1.11 | 1.13 | 1.15 | 1.18 | 1.22 |
| Progress- Florida | 0.81 | 0.95 | 0.98 | 1.01 | 1.07 | 1.12 |
| Commercial Transmission | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eliminations | 0.39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Consolidated Earnings** | **4.70** | **4.71** | **4.77** | **4.87** | **5.07** | **5.31** |
| Guidance | | 4.77 | | | | |
| **Gas** | | | | | | |
| Ohio - Gas | 0.13 | 0.12 | 0.14 | 0.14 | 0.15 | 0.16 |
| Piedmont (PNY) | 0.23 | 0.29 | 0.30 | 0.32 | 0.35 | 0.39 |
| Midstream Pipelines | 0.02 | 0.21 | 0.23 | 0.30 | 0.30 | 0.27 |
| Eliminations | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Consolidated Earnings** | **0.45** | **0.62** | **0.67** | **0.77** | **0.81** | **0.82** |
| Guidance | | 0.51 | | | | |
| **Commercial Renewables** | **0.14** | **0.31** | **0.29** | **0.28** | **0.27** | **0.28** |
| Guidance | | 0.32 | | | | |
| **Parent/Other** | **-0.57** | **-0.59** | **-0.55** | **-0.51** | **-0.50** | **-0.50** |
| Guidance | | -0.60 | | | | |
| **Adjustments** | | | | | | |
| **BofAe EPS** | **4.72** | **5.05** | **5.18** | **5.41** | **5.65** | **5.91** |
| *Previous Estimates* | | *5.00* | *5.13* | *5.36* | *5.62* | *5.89* |
| Guidance | **4.65-4.85** | ***4.95-5.15*** | | | | |
| Consensus | 4.76 | 5.01 | 5.14 | 5.38 | 5.69 | 6.00 |
| **Mgmt EPS CAGR: 4-6% from 2019-2023E** | | **5.00** | **5.25** | **5.51** | **5.79** | **6.08** |
| *Low End* | | 4.80 | 5.20 | 5.41 | 5.62 | 5.85 |
| *High End* | | 5.20 | 5.30 | 5.62 | 5.96 | 6.31 |
| **BofAe CAGR '19-'23e** | | | | | | **4.3%** |

Source: BofA Global Research estimates, company report, Bloomberg

## Valuation: PO to $96

We move our PO to $96 (from $95) on our latest estimates and mark-to-market of peer utility multiples of 18.8x for electric (from 18.7x) and 18.8x for gas (from 18.3x). While we see some upside in shares based on our SOTP analysis, we see limited catalyst over the near-term that would warrant a multiple re-rating. ACP could have a lower weighting applied than the 50% we give credit for given continued uncertainty, and still see lingering concerns with twin NC rate case and coal ash risks as well as a an expected fully litigated case in IN. We continue to see core earnings as remaining riskier.

**Table 5: DUK EPS Estimates**

**Duke Energy Sum of the Parts Valuation**
2022E
All figures in $Mn except per share

| | Metric | P/E Multiple | | | | | | Equity Value | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2022 EPS | Low | Peer | Prem/ Discount | Base | High | | Low | Base | High |
| **Group Peer Multiple - Electric** | - | - | 18.8x | - | - | - | - | - | - | - |
| **Group EPS '18-'22 CAGR - Electric** | - | - | 5.00% | - | - | - | - | - | - | - |
| **Electric Utilities** | - | - | 19.7x | - | - | - | - | - | - | - |
| Duke Energy Carolinas | $1.79 | 18.7x | | 0.0x | 19.7x | 20.7x | | $33.52 | $35.30 | $37.09 |
| Duke Energy Progress/Carolinas | $1.18 | 18.7x | | 0.0x | 19.7x | 20.7x | | $22.03 | $23.20 | $24.38 |
| Duke Energy Florida | $1.07 | 19.7x | | 1.0x | 20.7x | 21.7x | | $21.13 | $22.20 | $23.27 |
| Duke Energy Indiana | $0.66 | 18.7x | | 0.5x | 19.7x | 20.7x | | $12.66 | $13.32 | $13.98 |
| Duke Energy Ohio/Kentucky | $0.37 | 18.7x | | 0.0x | 19.7x | 20.7x | | $6.99 | $7.36 | $7.73 |
| **Total Electric Utility Value** | **$5.06** | | | | | | | $96.32 | $101.38 | $106.45 |
| **Group Peer Multiple - Gas** | | | 18.9x | | | | | | | |
| **Group EPS '18-'22 CAGR - Gas** | | | 5.10% | | | | | | | |
| **Gas Utilities** | 2022 EPS | | 19.9x | | | | | | | |
| Duke Energy Piedmont | $0.35 | 18.9x | | 0.0x | 19.9x | 20.9x | | $6.68 | $7.04 | $7.39 |
| Duke Energy Ohio/Kentucky Gas | $0.15 | 18.9x | | 0.0x | 19.9x | 20.9x | | $2.90 | $3.05 | $3.21 |
| **Total Gas Utility Value** | **$0.51** | | | | | | | $9.58 | $10.09 | $10.60 |
| **Commercial Segment** | 2022 EBITDA | | | | | | | | | |
| Midstream Infrastructure: | | | | | | | Weight | | | |
| ACP | $472 | 10.0x | 11.0x | 0.0x | 11.0x | 12.0x | 50% | 2,359 | 2,595 | 2,831 |
| Add back ACP debt | | | | | | | 50% | 808 | 808 | 808 |
| All Other | $61 | 10.0x | 11.0x | 0.0x | 11.0x | 12.0x | | 614 | 676 | 737 |
| Transmission Segment | $6 | 10.0x | 11.0x | 0.0x | 11.0x | 12.0x | | 64 | 71 | 77 |
| Segment Net Debt | -$4,851 | | | | | | | -4,851 | -4,851 | -4,851 |
| Add back Renewable Debt | $1,088 | | | | | | | 1,088 | 1,088 | 1,088 |
| Renewables Segment NPV @ 8% Discount | $1,291 | | | | | | | 1,291 | 1,291 | 1,291 |
| New Renewables NPV | $369 | | | | | | | 369 | 369 | 369 |
| **Net Infrastructure Equity** | | | | | | | | 1,743 | 2,047 | 2,351 |
| **Net Infrastructure Equity Per Share** | | | | | | | | $2.39 | $2.64 | $3.23 |
| **Parent** | 2022 EPS | | | | | | | | | |
| NMC (Saudi Chemical JV) | $0.05 | 12.7x | | -6.0x | 13.7x | 14.7x | | $0.64 | $0.69 | $0.74 |
| Parent Interest attributed to utility - 50% | -$0.50 | 20.9x | | 0.0x | 19.9x | 18.9x | | -$5.25 | -$5.00 | -$4.75 |
| Parent Debt- 50% | -$21,175 | | | | | | | -$13.67 | -$13.67 | -$13.67 |
| **Total Equity Value** | | | | | | | | -$18.28 | -$17.98 | -$17.68 |
| Shares Outstanding | | | | | | | | | 774 | |
| Total Equity Value | | | | | | | | **$90.00** | **$96.00** | **$103.00** |
| Current Share Price | | | | | | | | $90.93 | $90.93 | $90.93 |
| NTM Dividend Yield | | | | | | | | | 4.21% | |
| Total Return | | | | | | | | | **9.78%** | |

Source: BofA Global Research estimates, company report, Bloomberg

# Price objective basis & risk

**Duke Energy (DUK)**

Our $96 PO is derived from a sum-of-the-parts valuation. We value the Electric and Gas utilities using peer 2022E P/E multiples. We apply a 1.0x multiple premium to Duke's operations in Florida to reflect more favorable regulatory environments. We apply an in-line multiple to the Carolinas given risk ahead. We value the other regulated electric utilities and the gas utilities at peer group multiples of 18.8x and 18.9x 2022E P/E, respectively. Both electric and gas peer P/E multiples are grossed up by 5% for the groups CAGR to reflect capital appreciation across the sector. The commercial midstream, and transmission are valued on a 2022E EV/EBITDA basis. We use a 11.0x multiple for midstream and transmission segment, although we assume a 50% weighting for ACP given risks to completion. We add the net present value of renewable segment using an 8% discount rate. We subtract out the impact of commercial debt, and add back for the renewable debt.

Upside risks: constructive rate case results, higher capital expenditure additions vs our assumptions, ACP ahead of schedule, lower interest rates. Downside risks: poor rate case results, operating errors, and negative changes in the regulatory environment, ACP delays. Macro risks: Increases in interest rates and decreases in equity market valuations.

# Analyst Certification

I, Julien Dumoulin-Smith, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

**North American Utilities, Alternative Energy & LNG Coverage Cluster**

| Investment rating | Company | BofA Ticker | Bloomberg symbol | Analyst |
|---|---|---|---|---|
| BUY | | | | |
| | Alliant Energy Corporation | LNT | LNT US | Julien Dumoulin-Smith |
| | AltaGas | YALA | ALA CN | Julien Dumoulin-Smith |
| | Ameren Corporation | AEE | AEE US | Julien Dumoulin-Smith |
| | American Electric Power | AEP | AEP US | Julien Dumoulin-Smith |
| | Aqua America | WTR | WTR US | Julien Dumoulin-Smith |
| | Atlantica Yield | AY | AY US | Julien Dumoulin-Smith |
| | Atmos Energy Corporation | ATO | ATO US | Richard Ciciarelli, CFA |
| | Black Hills Corporation | BKH | BKH US | Julien Dumoulin-Smith |
| | Cheniere Energy Inc | LNG | LNG US | Julien Dumoulin-Smith |
| | Clearway Energy | CWENA | CWEN/A US | Julien Dumoulin-Smith |
| | Clearway Energy | CWEN | CWEN US | Julien Dumoulin-Smith |
| | CMS Energy | CMS | CMS US | Julien Dumoulin-Smith |
| | Emera Inc | YEMA | EMA CN | Julien Dumoulin-Smith |
| | Entergy | ETR | ETR US | Julien Dumoulin-Smith |
| | Exelon | EXC | EXC US | Julien Dumoulin-Smith |
| | First Solar, Inc. | FSLR | FSLR US | Julien Dumoulin-Smith |
| | NextEra Energy | NEE | NEE US | Julien Dumoulin-Smith |
| | NiSource Inc | NI | NI US | Julien Dumoulin-Smith |
| | NRG Energy | NRG | NRG US | Julien Dumoulin-Smith |
| | OGE Energy Corp | OGE | OGE US | Julien Dumoulin-Smith |
| | PNM Resources Inc. | PNM | PNM US | Julien Dumoulin-Smith |
| | Portland General Electric Company | POR | POR US | Julien Dumoulin-Smith |
| | Spire | SR | SR US | Richard Ciciarelli, CFA |
| | Sunnova Energy | NOVA | NOVA US | Julien Dumoulin-Smith |
| | SunRun | RUN | RUN US | Julien Dumoulin-Smith |
| | Vistra Energy | VST | VST US | Julien Dumoulin-Smith |
| | Vivint Solar | VSLR | VSLR US | Julien Dumoulin-Smith |
| NEUTRAL | | | | |
| | AES | AES | AES US | Julien Dumoulin-Smith |
| | Algonquin Power & Utilities Corp | AQN | AQN US | Julien Dumoulin-Smith |
| | Algonquin Power & Utilities Corp | YAQN | AQN CN | Julien Dumoulin-Smith |
| | CenterPoint Energy | CNP | CNP US | Julien Dumoulin-Smith |
| | Consolidated Edison | ED | ED US | Julien Dumoulin-Smith |
| | Dominion Energy | D | D US | Julien Dumoulin-Smith |
| | DTE Energy | DTE | DTE US | Julien Dumoulin-Smith |
| | Edison International | EIX | EIX US | Julien Dumoulin-Smith |
| | FirstEnergy | FE | FE US | Julien Dumoulin-Smith |
| | Fortis | YFTS | FTS CN | Julien Dumoulin-Smith |
| | Fortis Inc | FTS | FTS US | Julien Dumoulin-Smith |
| | Hannon Armstrong | HASI | HASI US | Julien Dumoulin-Smith |
| | Idacorp | IDA | IDA US | Julien Dumoulin-Smith |
| | NextDecade | NEXT | NEXT US | Julien Dumoulin-Smith |
| | NextEra Energy Partners | NEP | NEP US | Julien Dumoulin-Smith |
| | Pinnacle West | PNW | PNW US | Julien Dumoulin-Smith |
| | PPL Corporation | PPL | PPL US | Julien Dumoulin-Smith |
| | Public Service Enterprise Group | PEG | PEG US | Julien Dumoulin-Smith |
| | Sempra Energy | SRE | SRE US | Julien Dumoulin-Smith |
| | Southern Company | SO | SO US | Julien Dumoulin-Smith |
| | Tellurian Inc | TELL | TELL US | Julien Dumoulin-Smith |
| UNDERPERFORM | | | | |
| | American Water Works | AWK | AWK US | Julien Dumoulin-Smith |
| | Avangrid | AGR | AGR US | Julien Dumoulin-Smith |
| | Avista | AVA | AVA US | Richard Ciciarelli, CFA |
| | Bloom Energy | BE | BE US | Julien Dumoulin-Smith |
| | Duke Energy | DUK | DUK US | Julien Dumoulin-Smith |
| | Evergy, Inc | EVRG | EVRG US | Julien Dumoulin-Smith |
| | Eversource Energy | ES | ES US | Julien Dumoulin-Smith |
| | Hawaiian Electric Industries | HE | HE US | Julien Dumoulin-Smith |
| | NorthWestern Corporation | NWE | NWE US | Julien Dumoulin-Smith |
| | SunPower Corp. | SPWR | SPWR US | Julien Dumoulin-Smith |
| | Terraform Power | TERP | TERP US | Julien Dumoulin-Smith |
| | Unitil Corporation | UTL | UTL US | Julien Dumoulin-Smith |
| | WEC Energy Group Inc | WEC | WEC US | Julien Dumoulin-Smith |
| | Xcel Energy Inc | XEL | XEL US | Julien Dumoulin-Smith |

**North American Utilities, Alternative Energy & LNG Coverage Cluster**

| Investment rating | Company | BofA Ticker | Bloomberg symbol | Analyst |
|---|---|---|---|---|
| RSTR | | | | |
| | El Paso Electric Company | EE | EE US | Julien Dumoulin-Smith |
| | Pattern Energy Group | PEGI | PEGI US | Julien Dumoulin-Smith |

***IQ**method*℠ **Measures Definitions**

| Business Performance | Numerator | Denominator |
|---|---|---|
| Return On Capital Employed | NOPAT = (EBIT + Interest Income) * (1 - Tax Rate) + Goodwill Amortization | Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization |
| Return On Equity | Net Income | Shareholders' Equity |
| Operating Margin | Operating Profit | Sales |
| Earnings Growth | Expected 5-Year CAGR From Latest Actual | N/A |
| Free Cash Flow | Cash Flow From Operations – Total Capex | N/A |
| **Quality of Earnings** | | |
| Cash Realization Ratio | Cash Flow From Operations | Net Income |
| Asset Replacement Ratio | Capex | Depreciation |
| Tax Rate | Tax Charge | Pre-Tax Income |
| Net Debt-To-Equity Ratio | Net Debt = Total Debt, Less Cash & Equivalents | Total Equity |
| Interest Cover | EBIT | Interest Expense |
| **Valuation Toolkit** | | |
| Price / Earnings Ratio | Current Share Price | Diluted Earnings Per Share (Basis As Specified) |
| Price / Book Value | Current Share Price | Shareholders' Equity / Current Basic Shares |
| Dividend Yield | Annualised Declared Cash Dividend | Current Share Price |
| Free Cash Flow Yield | Cash Flow From Operations – Total Capex | Market Cap. = Current Share Price * Current Basic Shares |
| Enterprise Value / Sales | EV = Current Share Price * Current Shares + Minority Equity + Net Debt + Other LT Liabilities | Sales |
| EV / EBITDA | Enterprise Value | Basic EBIT + Depreciation + Amortization |

*IQmethod*℠ is the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and validations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

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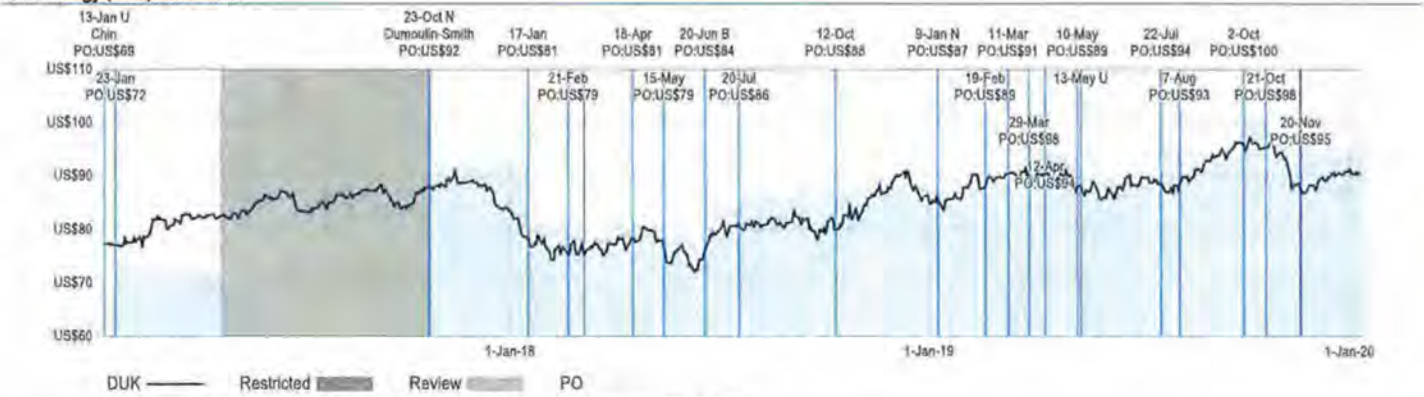
**Duke Energy (DUK) Price Chart**




B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading 'Fundamental Equity Opinion Key'. Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

**Equity Investment Rating Distribution: Utilities Group (as of 31 Dec 2019)**

| Coverage Universe | Count | Percent | Inv. Banking Relationships* | Count | Percent |
|---|---|---|---|---|---|
| Buy | 63 | 44.06% | Buy | 44 | 69.84% |
| Hold | 43 | 30.07% | Hold | 31 | 72.09% |
| Sell | 37 | 25.87% | Sell | 27 | 72.97% |

**Equity Investment Rating Distribution: Global Group (as of 31 Dec 2019)**

| Coverage Universe | Count | Percent | Inv. Banking Relationships* | Count | Percent |
|---|---|---|---|---|---|
| Buy | 1560 | 50.49% | Buy | 991 | 63.53% |
| Hold | 717 | 23.20% | Hold | 461 | 64.30% |
| Sell | 813 | 26.31% | Sell | 415 | 51.05% |

* Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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| Investment rating | Total return expectation (within 12-month period of date of initial rating) | Ratings dispersion guidelines for coverage cluster* |
|---|---|---|
| Buy | ≥ 10% | ≤ 70% |
| Neutral | ≥ 0% | ≤ 30% |
| Underperform | N/A | ≥ 20% |

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# YOUNG REBUTTAL EXHIBIT NO. 6

WOLFE RESEARCH

**UTILITIES & POWER**

***Regulateds – Market Underweight***
***Integrateds – Market Overweight***
***IPPs – Market Overweight***
***Gas/Power Infrastructure – Market Overweight***

February 13, 2020

# DUKE ENERGY

(DUK US Equity – $100.11 – Peer Perform)

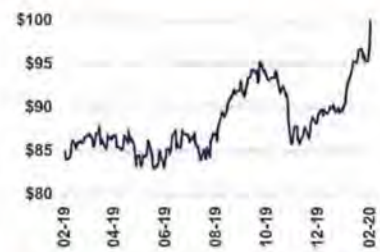
## *Trying to reDuke the critics*

- **Confident tone on outlook; stock bounces off lows.** On 2/13, DUK reported 2019 EPS of $5.06, beating consensus by $0.04, and gave FY20 guidance of $5.05-5.45, better than prior-consensus of $5.16 and our $5.18e. DUK extended its 4-6% EPS growth target through 2024 (off $5.00 in 2019), as its 5-yr capital plan rose to $56B from $50B. DUK stock beat the UTY by 210bp and lifted it off relative lows, as mgmt. struck a confident tone on its outlook, suggesting the growth is durable under a wide range of scenarios. Still, DUK trades at nearly a 3.5x discount to peers. While steep, we see it in a 2-3x discount range due to rate case and ACP overhangs in 1H20. Peer Perform.
- **More capex to support utility growth.** The incremental $6B is focused in the Carolinas, FL and gas LDCs. The latter two have multiyear plans or riders.
- **Rate cases key; next data point on 2/18.** NC (DUK's largest state) generally has traditional frameworks, which are susceptible to lag. Given low interest rates and high utility valuations, there could also be some pressure on ROEs in DUK's pending rate cases, including DEC and DEP in NC. Notably, DUK's NC gas utility and Dominion's NC electric utility recently received 9.7-9.75% ROEs, providing good data points for DEC/DEP (currently allowed 9.9%). Coal ash cost recovery will again be disputed, as intervenors opposed the NCUC's 2017-18 decisions allowing deferrals (with a full return) and a 5-yr recovery period. In D's recent rate case, the NCUC appeared to not allow a return to be booked over a 10-yr recovery period, which would be unfavorable if applied to DUK. Intervenor testimony in the DEC rate case is due 2/18.
- **ACP certainty by midyear.** To proceed with ACP, DUK needs permits from the FWS (expected mid-2020) and a SCOTUS ruling on crossing the Appalachian Trail (Jun 2020). If successful, ACP should resume construction in 2H20, with in-service in 2022. ACP is roughly $0.20 for DUK.
- **Raise estimates on capex; lift PT by $2 on higher group P/E.** We raised our 2020-22E by $0.01-0.06 on the new capex. Our $102 PT is based on a 2.5x discount to our group P/E of 20.5x 2022E (previously used 21.0x 2021E).

| Estimates / Valuation | | | | |
|---|---|---|---|---|
| (US$) | 2020E | 2021E | 2022E | 2023E |
| EPS | $5.19 | $5.46 | $5.69 | $5.99 |
| Consensus | $5.17 | $5.41 | $5.71 | $5.98 |
| P/E | 19.3x | 18.3x | 17.6x | 16.7x |
| Dividend Yield | 3.9% | 3.9% | 4.0% | 4.1% |

| Trading and Fundamental Data | |
|---|---|
| Target Price | $ 102 |
| Current Price | 100.11 |
| 52 Week Range | $ 84 - $ 100 |
| Market Cap. ($MM) | $ 73,381 |
| Share Out. (MM) | 733.0 |
| Dividend Yield | 3.8% |
| Dividend Payout Ratio | 79% |
| ROE | 8.4% |
| Debt to Cap | 56.7% |
| Avg Daily Vol (ooo) | 2,876 |

| Price Performance | YTD | LTM |
|---|---|---|
| DUK US Equity | 10% | 12% |
| Utility Index | 8% | 26% |
| S&P 500 | 4% | 23% |




Source: FactSet/Wolfe Research

| Key Changes | | |
|---|---|---|
| (US$) | Current | Previous |
| Price target | $102 | $100 |
| 2020E EPS | $5.19 | $5.18 |
| 2021E EPS | $5.46 | $5.40 |
| 2022E EPS | $5.69 | $5.64 |
| 2023E EPS | $5.99 | NA |

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WOLFE RESEARCH

**Duke Energy**

**February 13, 2020**

# Duke Energy Snapshot

**Exhibit 1. Financial Summary**

| Financial Summary | 2020E | 2021E | 2022E | 2023E |
|---|---|---|---|---|
| EPS | $5.19 | $5.46 | $5.69 | $5.99 |
| Diluted Shares Outstanding | 750 | 769 | 774 | 776 |
| Indicated Dividend Per Share | $3.86 | $3.93 | $4.01 | $4.09 |
| Dividend Yield | 3.9% | 3.9% | 4.0% | 4.1% |
| Payout Ratio | 74% | 72% | 70% | 68% |
| Equity ratio (excl ST debt) | 44% | 44% | 43% | 43% |
| FFO/Net Debt | 14% | 14% | 14% | 14% |
| **Valuation Metrics** | | | | |
| P/E | 19.3x | 18.3x | 17.6x | 16.7x |
| EV/EBITDA | 12.4x | 12.1x | 11.9x | 11.6x |
| P/B | 1.5x | 1.5x | 1.5x | 1.4x |
| FCF/Yield | (3.1)% | (1.8)% | (1.0)% | (0.9)% |
| **Segment EPS** | | | | |
| Electric | $4.85 | $5.07 | $5.28 | $5.55 |
| Gas | 0.70 | 0.75 | 0.81 | 0.84 |
| Commercial | 0.31 | 0.32 | 0.30 | 0.31 |
| Parent/Other | (0.68) | (0.67) | (0.70) | (0.71) |
| **Total EPS** | **$5.19** | **$5.46** | **$5.69** | **$5.99** |

Source: Wolfe Utilities & Power Research

**Exhibit 2. Modeling Assumptions**

| | 2020E | 2021E | 2022E | 2023E |
|---|---|---|---|---|
| **Capital Spending ($M)** | | | | |
| Electric | $8,675 | $8,450 | $9,225 | $9,775 |
| Gas | 2,275 | 1,950 | 1,150 | 1,025 |
| Commercial | 550 | 600 | 400 | 300 |
| Parent/Other | 275 | 225 | 225 | 250 |
| **Total Capital Spending** | $11,775 | $11,225 | $11,000 | $11,350 |
| **Financings ($M)** | | | | |
| Total Equity Issued/(Repurchased) | $2,985 | $500 | $500 | $0 |
| Total Debt Issued/(Repurchased) | 2,679 | 3,960 | 3,325 | 3,875 |

Source: Wolfe Utilities & Power Research

## Company description

Duke Energy is headquartered in Charlotte, North Carolina and is the largest utility in the country. The company serves 7.4M electric customers in the Carolinas, FL, IN, OH and KY. DUK's Electric Infrastructure segment, which includes its electric utility subs, makes up most of earnings. DUK also has small gas LDCs in NC and the Midwest and a nonutility midstream business, which form the Gas Infrastructure segment. It serves 1.5M gas customers. DUK also has nonutility renewables investments in its Commercial business, which is expected to remain around 5% of the company.

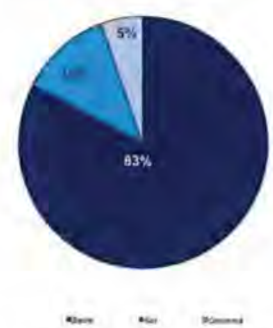
## Investment Thesis

DUK is the largest US regulated utility. Its regulatory environments are generally reasonable. EPS growth is contingent on fair regulatory treatment and execution on ACP, which awaits legal certainty midyear. NC is a key state for coal ash recovery and grid mod/resiliency spend; but DUK has two pending NC rate cases, adding regulatory uncertainty over the story near-term. DUK's dividend yield is near the top of the group, but growth is below average at about 2%/yr.

## Valuation

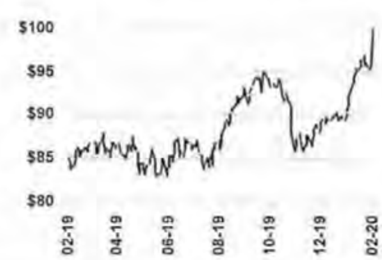
Our PT is based on a 2.5x discount to our average utility group P/E multiple of 20.5x 2022 EPS. The discount is largely due to below average earnings/dividend growth, rate case and ACP overhangs. Upside risks are incremental capex and an improving economy. Downside risks are unfavorable regulatory treatment, additional ACP delays and less capex than planned.

**Exhibit 3. 2020E EPS by Segment**




Source: Wolfe Utilities & Power Research

**Exhibit 4. Performance Chart**




Source: Bloomberg

## Investment thesis

DUK stock is facing rate case uncertainty in NC and IN and legal uncertainty over ACP, which are expected to last through the first half of this year. The two rate cases in its largest state (NC) are particularly important for coal ash recovery and minimizing regulatory lag, as grid mod and resiliency spend ramps up. History is on DUK's side, as NC regulators issued a reasonable order on coal ash in the last round of DUK rate cases, after parties had already reached a settlement on ROE and equity ratio. DUK's $56B of utility capex through 2024 should support 4-6% EPS growth with reasonable outcomes in its rate cases. We project some modest lag, with earned ROEs in the high 9s, and include ACP in our estimates. DUK stock bounced off its 52-week relative low but still has a lot of ground to make up (see Exhibit 5). The stock currently trades at nearly a 3.5x discount to utility peers (Exhibit 6). We see it trading at a 2-3x discount until the aforesaid overhangs begin to lift possibly by midyear. DUK's 3.8% dividend yield is the second highest among peers (behind PPL), limiting downside from current valuations.

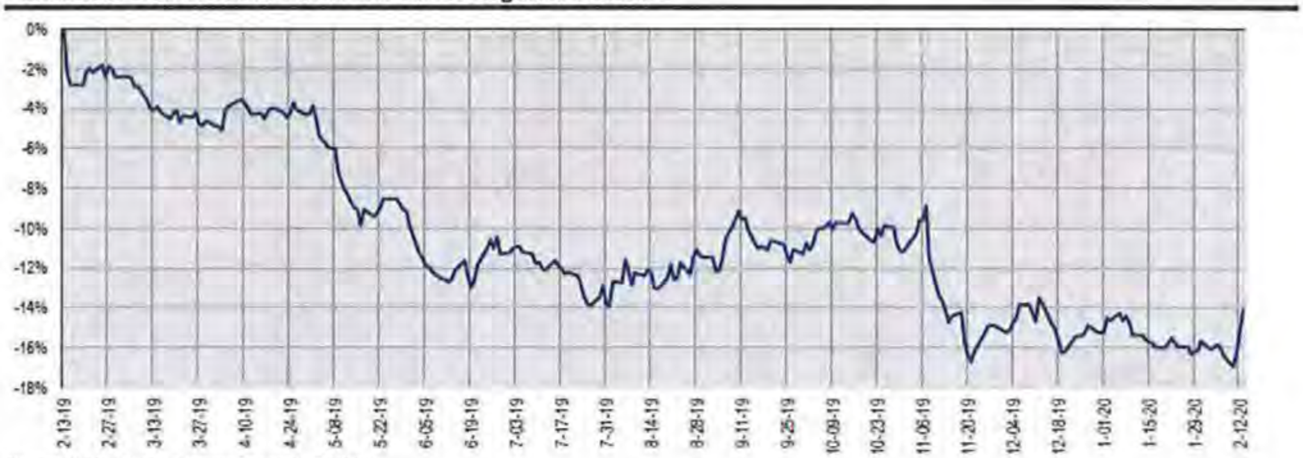
## Earnings estimate vs company

Our 2020-23E of $5.19/5.46/5.69/5.99 imply a 4.6% CAGR, below the midpoint of DUK's 4-6% EPS growth. Our 2020E estimate is below DUK's range, as we project some lag from pending rate cases and dilution from last year's roughly $2.5B forward equity deal, from which DUK will draw this year. But we estimate the incremental capex and rate relief will lift earnings in 2021. We again expect modest lag in 2022-23, but rate base growth continues to push EPS growth in the 4-5% range. Our estimates assume ACP is in-service in 2022; ACP is about $0.20 of earnings. And we project Commercial Renewables to be flattish through 2024, in line with DUK's guidance.

## ESG

DUK plans to hold an ESG investor day on 5/20/20 in Charlotte. In our investor polls, DUK tends to be voted the worst utility on ESG; we suspect much of the sentiment is tied to the 2014 Dan River coal ash incident. But on the 4Q19 earnings call, DUK made its case briefly, noting among other things that it announced 1,500 MW of new wind/solar projects in 2019 and had the third best Bloomberg ESG score among US utilities. We expect much more in May. Meanwhile, DUK's coal rate base, when excluding dual coal/gas units and IGCCs, is about 9% of total rate base, which is in line with the utility average (for more, see our recent ESG-related coal exposure report).

**Exhibit 5: DUK Relative Performance vs. Regulated Utilities**




Source: Wolfe Utilities & Power Research, FactSet

## Regulated comps table

### Exhibit 6: Regulated comps

| Company Name | Ticker | Current Price | Current Shares | Mkt Cap ($M) | P/E 2019E | P/E 2020E | P/E 2021E | P/E 2022E | Div Yield | Div Growth (E) | Payout Ratio | Price/ Book | Equity Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alliant Energy | LNT | $59.38 | 244 | $14,493 | 25.8x | 24.7x | 23.3x | 22.1x | 2.6% | 6.0% | 63% | 2.9x | 45% |
| Ameren | AEE | 85.75 | 246 | 21,097 | 26.4x | 24.8x | 23.0x | 21.7x | 2.3% | 4.0% | 57% | 2.6x | 46% |
| American Electric | AEP | 102.85 | 494 | 50,803 | 24.5x | 23.3x | 22.0x | 20.7x | 2.7% | 6.0% | 63% | 2.6x | 43% |
| Avangrid | AGR | 53.58 | 309 | 16,557 | 23.7x | 21.5x | 19.9x | 18.5x | 3.3% | 2.5% | 70% | 1.1x | 71% |
| CMS Energy | CMS | 67.92 | 284 | 19,281 | 27.1x | 25.4x | 23.8x | 22.1x | 2.4% | 7.0% | 61% | 3.8x | 28% |
| Con Edison | ED | 93.64 | 332 | 31,129 | 21.7x | 20.7x | 19.9x | 19.1x | 3.3% | 3.5% | 68% | 1.7x | 45% |
| **Duke Energy** | **DUK** | **100.11** | **733** | **73,381** | **19.8x** | **19.3x** | **18.3x** | **17.6x** | **3.8%** | **2.5%** | **73%** | **1.6x** | **43%** |
| Edison International | EIX | 77.37 | 359 | 27,745 | 16.1x | 17.5x | 16.4x | 15.4x | 3.3% | 3.0% | 58% | 2.1x | 45% |
| Entergy | ETR | 133.25 | 199 | 26,517 | 24.9x | 23.8x | 22.4x | 21.2x | 1.4% | 3.0% | 32% | 6.8x | 34% |
| Evergy | EVRG | 71.55 | 228 | 16,306 | 25.2x | 23.0x | 21.9x | 21.1x | 2.8% | 6.0% | 65% | 1.9x | 54% |
| Eversource Energy | ES | 92.48 | 324 | 29,941 | 26.8x | 25.2x | 24.0x | 22.7x | 2.5% | 6.0% | 62% | 2.5x | 45% |
| FirstEnergy | FE | 51.95 | 541 | 28,105 | 20.4x | 20.9x | 19.7x | 18.9x | 3.0% | 6.0% | 63% | 2.1x | 43% |
| Fortis* | FTS | 58.37 | 458 | 26,733 | 23.0x | 22.4x | 20.6x | 19.4x | 1.9% | 6.0% | 41% | NA | 59% |
| NiSource | NI | 30.19 | 374 | 11,277 | 23.4x | 22.0x | 20.8x | 19.5x | 2.8% | 2.5% | 61% | 1.9x | 40% |
| PG&E | PCG | 16.76 | 529 | 8,870 | 4.4x | 7.9x | 12.0x | 11.1x | 0.0% | 0.0% | 0% | 1.0x | 37% |
| Pinnacle West | PNW | 100.22 | 112 | 11,266 | 21.4x | 20.5x | 19.4x | 18.5x | 3.1% | 6.0% | 64% | 2.0x | 51% |
| Portland General | POR | 62.34 | 89 | 5,571 | 26.1x | 24.1x | 22.5x | 21.7x | 2.5% | 6.5% | 59% | 2.2x | 50% |
| PPL Corp. | PPL | 36.28 | 723 | 26,232 | 15.0x | 14.2x | 14.6x | N/A | 4.5% | 1.5% | 65% | 2.2x | 35% |
| Southern Company | SO | 69.54 | 1,049 | 72,929 | 22.3x | 21.8x | 20.9x | 19.4x | 3.6% | 3.5% | 78% | 2.7x | 39% |
| WEC Energy Group | WEC | 101.21 | 315 | 31,925 | 28.7x | 27.1x | 25.4x | 23.8x | 2.5% | 7.0% | 68% | 3.2x | 45% |
| Xcel Energy | XEL | 69.82 | 524 | 36,613 | 26.5x | 25.2x | 23.6x | 22.2x | 2.3% | 6.0% | 58% | 2.8x | 41% |
| **Average** | | | | | **22.5x** | **21.7x** | **20.7x** | **19.8x** | **2.7%** | **4.5%** | **59%** | **2.5x** | **45%** |
| **Average (ex EIX, PCG, PPL)** | | | | | **24.3x** | **23.1x** | **21.7x** | **20.6x** | **2.7%** | **5.0%** | **62%** | **2.6x** | **46%** |

Source: Wolfe Research

WOLFE RESEARCH

**Duke Energy**

**February 13, 2020**

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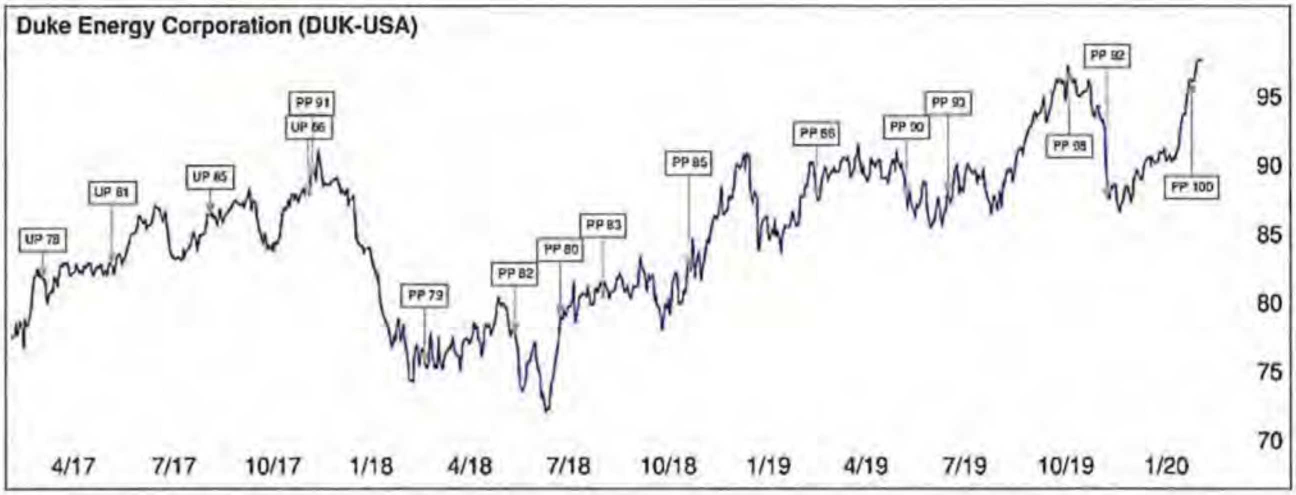
**Important Disclosures:**

Price Chart with Ratings and Target Price History




Note: OP = Outperform; PP = Peer Perform; UP = Underperform

**Wolfe Research, LLC Fundamental Valuation Methodology:**

| Company: | Fundamental Valuation Methodology: |
|---|---|
| DUK US Equity | P/E |

**Wolfe Research, LLC Fundamental Recommendation, Rating and Target Price Risks:**

| Company: | Risks That May Impede Achievement of the Recommendation, Rating or Target Price: |
|---|---|
| DUK US Equity | Economy, ACP delays and regulatory outcomes |

**Wolfe Research, LLC Research Disclosures:**

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|---|---|
| DUK US Equity | None |

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| | |
|---|---|
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| Peer Perform (PP): | The security is projected to perform approximately in line with analyst's industry coverage universe over the next 12 months. |
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| | |
|---|---|
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| | | |
|---|---|---|
| Outperform: | 46% | 2% Investment Banking Clients |
| Peer Perform: | 43% | 2% Investment Banking Clients |
| Underperform: | 11% | 0% Investment Banking Clients |

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# YOUNG REBUTTAL EXHIBIT NO. 7

**From:** Steve Fleishman
**To:** Stewart, Daniel
**Subject:** The Fleishman Daily 2/25/20 - D/DUK, D, EXC, CNP, Moody's, Weekly Mark, LNG, OKE, ETRN, Midstream
**Date:** Tuesday, February 25, 2020 9:04:11 AM

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# The Fleishman Daily 2/25/20

## Utilities: D/DUK, D, EXC, CNP, Moody's, Weekly Mark

## Midstream: LNG, OKE, ETRN, Midstream

### Utilities

**D/DUK** – Supreme Court seems to lean toward a favorable outcome for ACP; positive but expected
**D** – Clean Economy Act, offshore wind standalone both pass out of VA Senate committee; bill aimed at altering GTSA yet to be considered
**DUK/D** – NCUC's final order in D's NC rate case largely unchanged from recent notice; read-through to DUK
**EXC** – meeting with management – IL clean air law slowly progressing
**CPN** – Year-end results show record high EBITDA and FCF on strong ERCOT performance
**Utilities & Midstream** – A Moody's lifter
**The Weekly Mark** – Down Elon's rabbit hole

### Midstream

**LNG** – Q4 beats, 2020 guidance reaffirmed despite low global prices on hedges; room on repurchase; positive messaging
**OKE** – 2020 guidance in line but 2021 initial look better than expected, $920M of growth projects announced; positive
**ETRN** – What's good for ACP is good for MVP
**Midstream** – Big insider buying continues; ET/PAGP/EPD

**Quarterly data:** Weather, Forward Prices, Spot Prices, Nuke Outages

**Wolfe Utility & Midstream Materials:** Utility Comps, Utility Stock Charts, Midstream Comps, Midstream Stock Charts, Valuation Charts, Models, Arb Spreads

## Utilities

D/DUK – Supreme Court seems to lean toward a favorable outcome for ACP; positive but expected

- Yesterday, the SCOTUS heard oral arguments in ACP's Cowpasture case, where the VA 4th Circuit Court of Appeals held that ACP cannot cross the Appalachian Trail in a national forest
- After reading the transcript and media reports, it sounded that four of the conservative justices (Roberts/Gorsuch/Kavanaugh/Alito) interpreted statutes at issue favorably for ACP (Thomas remained silent)
    - Chief Justice Roberts asked about practical implications of the case for energy development, asking if the 4th Circuit's ruling would erect an "impermeable barrier"
    - Justice Alito asked "instead of having to draw this distinction between the trail and the land, why can't we just say that the trail is on the surface and something that happens 600 feet below the surface is not the trail?"
- More importantly, some Democrat appointees (Breyer/Sotomayor/Kagan) also seemed skeptical of the Respondent's arguments
    - Justice Breyer joined in on Justice Alito's line of questioning and wasn't sure whether the Nat'l Park Service or Forest Service had real control over the land
    - Justice Sotomayor joined in on Chief Justice Robert's question about practical implications and went further as to ask why the "parade of horribles" was unlikely
    - Justice Kagan added that "nobody makes that distinction in real life" when referring to the Respondent's argument that a trail was distinct from land
- A final decision from the SCOTUS is expected in May or June

We were happy to see a positive reaction to the Supreme Court arguments for both D and DUK yesterday. That said, we had expected that ACP would be successful on the Appalachian Trail issue once the Supreme Court took the case last fall. An interesting wrinkle is the level of skepticism from Democrat appointees over the Respondent's arguments, suggesting that ACP could win the case in a 6-3 or 7-2 vote vs a party-line vote. We would expect that the Supreme Court's ruling is explicit in reversing the 4th Circuit's decision rather than simply remanding it back to the 4th Circuit. A conclusive ruling from the SCOTUS could potentially have an impact on the 4th Circuit's subsequent views on ACP-related issues (i.e., the biological opinion) which would be helpful. We believe the critical path issue for ACP remains getting the biological opinion through the 4th Circuit.

D – Clean Economy Act, offshore wind standalone both pass out of VA Senate committee; bill aimed at altering GTSA yet to be considered

- Yesterday, the VA Senate Commerce and Labor Committee reported the VA Clean Economy Act (HB 1526) and an offshore wind standalone (HB 1664) by an 11-3 and 12-3 vote, respectfully
    - Both bills have companion bills that crossed over into the House and are currently before the Commerce and Labor Committee
- HB 1526 is a comprehensive piece of legislation which covers a wide range of clean energy initiatives in the state (including offshore wind)
- HB 1664 includes the same provisions for offshore wind as HB 1526 but is narrow in scope and specific to offshore wind (5,200 MW by 2034; 2,500-3,000 MW by 2026 developed by D)

- HB 1132, the Fair Energy Bills Act, which aimed to alter the GTSA to the detriment of D was not taken up for consideration yesterday
- The House Commerce and Labor Committee are scheduled to meet this afternoon; VA's legislative session adjourns on March 7th

It is good to see bills that would enable D's offshore wind plans move one step closer to passing in the Senate (already have in the House). Further, support from the Commerce and Labor Committee was conclusive which bodes well for a full Senate vote. Importantly, the Fair Energy Bills Act, which is anti-D legislation was not docketed for consideration, suggesting that the Senate may have chosen to kill it. It appears that the legislative session is proving out to be constructive for Dominion.

DUK/D – NCUC's final order in D's NC rate case largely unchanged from recent notice; read-through to DUK

- This week, the NCUC issued a final order in Dominion's NC rate case, after issuing a Notice of Decision with highlights of its order last month.
- The final order maintained the settled ROE of 9.75% and equity ratio of 52%; the NCUC wrote the ROE is "equal to the lowest...granted by the Commission for a major electric utility in the last ten years."
    - DUK's DEP/DEC are allowed 9.9% and 52%; in their pending rate cases, they have requested 10.3% ROE and 53% equity ratio.
    - Public Staff last week recommended for DEC's pending rate case a 9.0% ROE and 50% equity ratio.
- The final order also set terms of coal ash cost recovery, which appear unchanged from the Notice last month:
    - Full recovery of past costs – consistent with the previous orders for DUK's DEC/DEP;
    - Coal ash costs will be excluded from rate base and recovered over a 10-year amortization period – differs from the 5-year period in the DEC/DEP orders;
    - During the amortization and 10-year recovery period, coal ash costs shall not earn a return – differs from that allowed in the DEC/DEP orders.
- In the pending rate cases for DEC and DEP, both have requested deferral of costs over 5 years ($480M for DEC, $530M for DEP) and continued deferral of ongoing coal ash costs with a full return.
- Last week, Staff recommended 50/50 sharing of costs (as they did in the 2017/18 rate cases) in the DEC rate case; NCUC will hold hearings beginning 3/23, with rates effective by Aug; intervenor testimony in DUK's DEP rate case is set for 3/25, with hearings beginning 5/4 and rate effective by Sep.

The NCUC's decision that coal ash costs shall not earn a return during the coal ash cost recovery period is a bothersome data point for DUK. Even Moody's suggested yesterday that would be a negative development for NC regulation. The 10-year recovery period also could impact cash vs the 5-year period awarded DUK last time. Still, the 9.75% ROE and 52% equity ratio were both decent data points for DUK, given the low interest and high utility valuation environment. The NC rate cases, and to a lesser extent the IN rate case, are key events for DUK stock.

EXC – meeting with management – IL clean air law slowly progressing

- We met with EXC management yesterday for a brief update. There was nothing new to report on IL investigations, but it was nice to see that Clean Air legislation is progressing.
- The first legislative hearing on the Clean Air Clean Jobs Act was held last week in IL and the company thought the hearing was effective in highlighting the benefits of the law including environmental and job benefits.
- Nothing gets done in IL until around the session end so we still expect the bill to come to a head in late May.
- EXC's utilities continue to perform very well. Multi-year rate plans are possible in MD and DC later this year for the first time.
- We were better able to tie down the differential between EXC's capex increase on the YE call and ratebase staying about the same. Starting ratebase came down about $400M and CWIP for some larger transmission projects is a bigger piece of the mix during the forecast period.
- Overall, we continue to view EXC as an attractive de-risking play on the potential for L-T visibility for the IL nuclear fleet that is getting little to no credit in the current stock price.

CPN – Year-end results show record high EBITDA and FCF on strong ERCOT performance

- This morning, Calpine (formerly CPN, now private) reported year-end results – adjusted Free Cash Flow of $1,133M (vs. $976M in 2019) and adjusted EBITDA of $2,291M (vs. $2,077M last year)
    - Results were driven by improved commodity margin in the West and Texas regions, along with better retail performance; offset by weaker commodity margin in the East
        - West – higher resource adequacy revenues and hedging contribution, partially offset by lower RMR revenue and lower generation at Geysers geothermal plant due to wildfire outage
        - Texas – strong spark spreads in August/September – up $211M YoY
        - Retail – stronger gas supply hedging and lower costs
        - East – lower capacity revenues in PJM/NE and sale of Garrison/RockGen plants
- Capital allocation – after paying special dividends of $400M and $750M in 2019 to its parent entity, CPN finished the year with $1.5B of cash equivalents on its balance sheet
- Both of these results were the highest we've ever seen for Calpine in as long as we can remember – the company typically posted EBITDA in the $1.8-2.0B range and FCF in the $600-800M range, up until last year's impressive results

At a high level, the results signal continued strong financial metrics. It's good to be Calpine and it's good to be private in the power sector right now. Hopefully the positive result has a read-through to the publicly-traded IPPs reporting later this week, which have been unable to catch a bid in recent months.

Utilities & Midstream – A Moody's lifter

**Click here to view our complete note**

**Utilities: 2020 is a year of stabilization**

We hosted our annual investor meeting with the Moody's team to get their latest credit views on the utilities, power and midstream sectors. The outlook for utilities is improving. Only 12% of ratings have a negative outlook today (SRE, AEP, PNW, ED, and AES' DPL) down from 31% post tax reform. Outside of few states (Maine, Texas, Arizona), regulation has been constructive. That said, many companies still operate with little cushion in their metrics and some are slightly below their rating thresholds (SRE, D). ESG has a heightened focus at Moody's but is not a key driver of credit actions at this point. Key credits we discussed included CNP, AEP, D, DUK, SRE, NEE and of course PCG – see more in full report.

The Weekly Mark – Down Elon's rabbit hole
**Click here to view our complete note**
**What's the EV opportunity for utilities?** ESG and energy transition has been a big investor focus over the past few months. Electric utilities could have a key role to play in renewable generation construction given attractive economics of wind/solar/storage and significant upside in electricity demand from electric vehicles. The first driver is well underway as renewables are dominating new capacity additions. On the second, EV adoption is steady to date, but what if, in the spirit of the UK's recent announcement to ban gasoline car sales by 2035, all U.S. cars were swapped EVs? Stay with us here. Clearly this isn't happening anytime soon but even if only a fraction of EV conversion happens it could represent a huge amount of new generation capacity needs plus the need for significant T&D infrastructure upgrades.

## Midstream

LNG – Q4 beats, 2020 guidance reaffirmed despite low global prices on hedges; room on repurchase; positive messaging

- Cheniere reported Q4 EBITDA of $987M vs. $634M in 2018, significantly above our $909M estimate and the $940M consensus
- EBITDA rose on a 62% increase in LNG volumes from the additional trains in service, partially offset by higher operating costs
- Reiterated 2020 guidance. Cheniere reiterated 2020 EBITDA of $3.8B-$4.1B and DCF of $1B-$1.3B despite the weak global LNG market environment
    - 95% of 2020 production has been sold forward; $1 change in market margin impacts EBITDA by $80M (down from $100M in Q3)
- $750M buyback room left. As of yearend 2019, Cheniere had repurchased about 4M shares under its $1B authorization, leaving about $750M left for future repurchases
    - Cheniere also announced a transaction to redeem $300M of converts held by EIG for cash; prevented 6M shares of LNG getting issued
- Corpus 3, Sabine 6 on schedule. Corpus Christi 3 remains on schedule for 1H-2021 completion and Sabine Pass 6 is on target for 1H-2023 completion

There were a series of positives in the release: a Q4 beat, maintained guidance despite weak global LNG prices, reduced exposure to the open market, significant buyback capacity and work to reduce dilution from the converts. With long-term contracts kicking in at Corpus 2 in the next couple months Cheniere's exposure to the market will step down again as well. Apart from that, operations continue to be good and we liked that it is working to manage the converts with excess cash while still having a lot of room left on the buyback. The main questions will be on the conditions of the current spot market and when is that expected to normalize, as well as a better sense of a reasonable timeline on commercialization of Corpus midscale.

OKE – 2020 guidance in line but 2021 initial look better than expected, $920M of growth projects announced; positive

- ONEOK reported Q4 EBITDA of $661M vs. $625M in 2018, a little below our $673M estimate and the $680M street. Growth was driven by a combination of higher volumes in the NGL pipelines from Elk Creek and Arbuckle II and higher G&P volumes in the Williston offset by lower volumes in the Mid-Con.
- **2020 guidance detailed; in line**. OKE initiated 2020 EBITDA guidance of $3.1B-$3.35B, about in line with the street. Total capex was $2.45B-$2.95B, above WR estimate of $2.5B
- **2021 growth of 20% is better than consensus**. OKE indicated that 2021 EBITDA would be about 20% above the 2020 midpoint, or about $3.85B. This is well above consensus of $3.6B and above WR at $3.7B
- **Another $920M of growth projects announced**. OKE put the entire Elk Creek pipeline into service in December and now announced an expansion to 400 kbpd at a cost of $305M, up from 240 kbpd current capacity. OKE also announced a $310M, 100 kbpd expansion of West Texas LPG and a $305M, 200 mmcf/d expansion of Demicks Lake. The NGL expansions are expected return <4x EBITDA and Demicks a 4-5x multiple.

The report and guidance is positive and the company continues to demonstrate why it trades at a premium. The 2021 growth potential of 20% is better than our 15% estimate and even better than the street. The expansion of Elk Creek, West Texas LPG and Demicks Lake processing should continue that momentum into 2022 and we note that OKE remains one of the few companies in the sector with enough credibility that growth announcements are actually well-received. If we had to nitpick, the less good parts of the report were capex and EBITDA segment mix. 2020 capex at the midpoint is about $250M above our estimate, but likely attributable to the new growth projects. Additionally, the 2020 segment EBITDA was higher on G&P and lower on the NGL and natural gas pipeline segments than we had in our numbers – G&P fits into our valuation framework as a discount to the pipeline assets. Despite this, still a good report and we expect the stock to outperform today.

ETRN – What's good for ACP is good for MVP
**Click here to view our complete note**
**Supreme Court seems to side with Atlantic Coast Pipeline.** Shares of ETRN outperformed the AMZ by 500 bp on Monday after the Supreme Court heard US Forest Service v. Cowpasture and appeared to lean in favor of allowing ACP to cross the Appalachian Trail (ANST). See our preview published over the weekend for background (link). Several justices, including some Dem. appointees, struggled with the lower court's decision. We had expected the court to be skeptical of the case and there seems to be a path forward for ACP and ETRN's Mountain Valley Pipeline. We continue to believe MVP is likely to be completed and we remain Outperform on ETRN/EQM.

Midstream – Big insider buying continues; ET/PAGP/EPD

- There was more significant insider buying after the close yesterday in the sector:

**A form 4 after the close yesterday shows that ET CEO Kelcy Warren bought $45M of ET stock through a DRIP.** Warren receives distributions of about $78M/quarter, implying that he reinvested about 60% of his quarterly distribution back into the stock. This marks the 4th straight quarter where Warren has repurchased significant stock through the DRIP.

- **PAGP's director and former CEO Greg Armstrong bought $1.1M of stock** yesterday in the open market.
- **Lastly, EPD's Chairman Randa Duncan Williams bought her now typical 50,000 units again yesterday ($1.25M).** Duncan Williams has generally bought 50,000 units in the market every single day since EPD reported earnings in late January and the quiet period presumably ended.

There continues to be large insider buying activity in the midstream space despite poor stock performance.

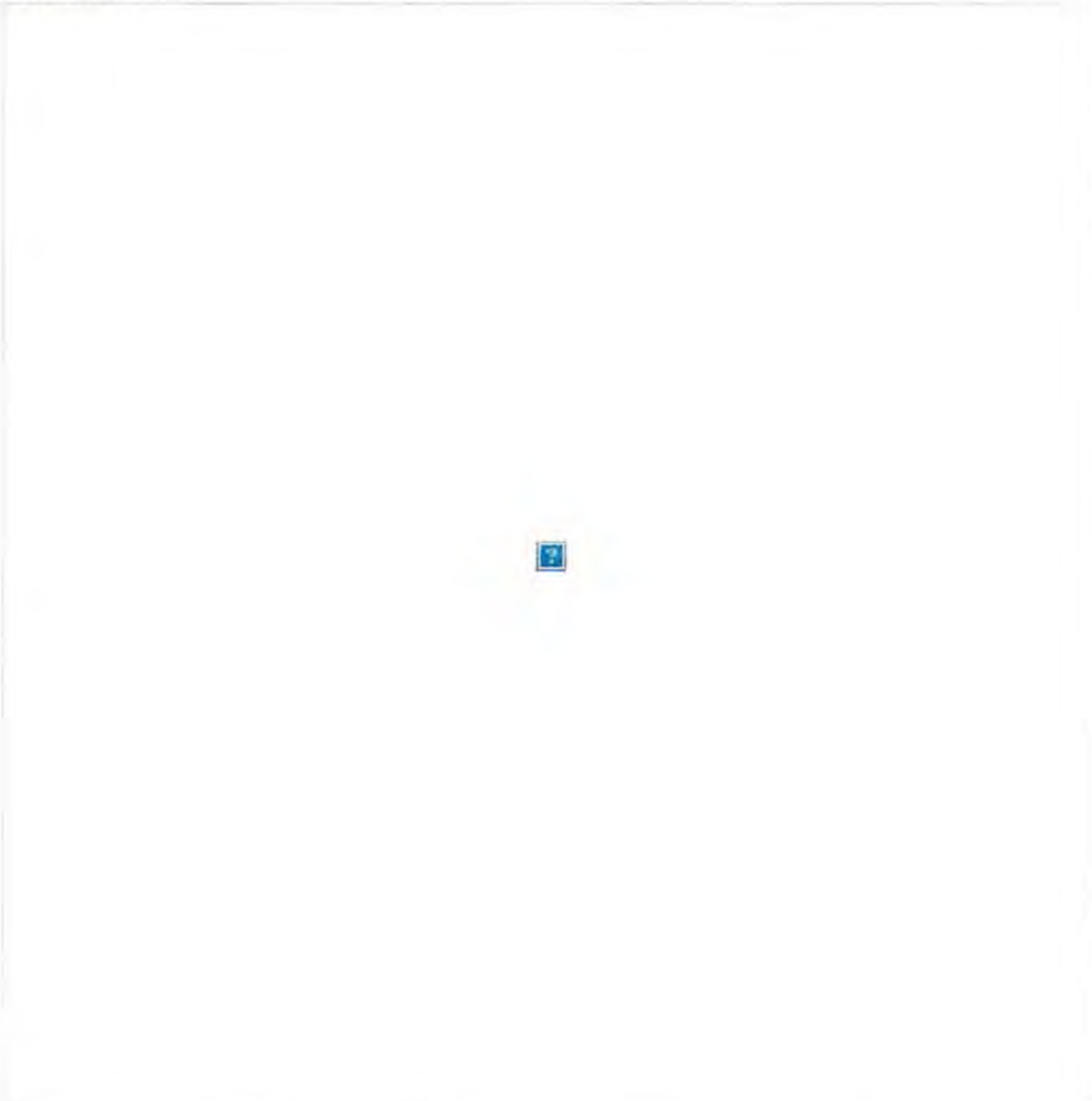
## Wolfe Events

March 2: CNP non-deal roadshow in NYC
March 6: AES Fireside Chat with CEO Andres Gluski
March 9: Lunch with Sustainalytics in NYC
March 12-13: CMS non-deal roadshow in LA/SF
March 19: DTE Fireside Chat with CEO Jerry Norcia
March 25: EIX non-deal roadshows in Irwindale, CA
March 26: PCG non-deal roadshows in San Francisco
March 30: Houston bus tour with LNG, PAA, TRGP, ENB, CNP, NRG, and VST
April 2: WEC non-deal roadshow in Chicago
April 2-3: ES non-deal roadshow in Europe
May 13-14: NEE non-deal roadshow in Boston/NY
June 17-18: CNP non-deal roadshow in Sydney
August 25-26: DTE non-deal roadshow in Sydney
September 7-9: AWK non-deal roadshow in Sydney
September 30-October 1: Wolfe Utilities & Energy Conference in NYC
October 2: AEE non-deal roadshow in Boston

## Most Popular Reports

**Utilities Top 10 for 2020**
**Midstream Top 10 for 2020**
**Midstream SOTP Valuation Methodology**
**Utilities Credit Metrics Outlook**
**Midstream Credit Metrics Outlook**
**Power Supply Outlook**
**Utility Proxy Review**
**Midstream Proxy Review**
**Utility Pension Review**
**Wolfe Utility Primer**

## Calendar



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For important disclosures regarding companies covered by Wolfe Research, LLC, please see www.WolfeResearch.com/disclosures.

I/A
AGO Hatcher Cross Exhibit 5
Docket No. E-7, Sub 1214A







PLACE: Dobbs Building

Raleigh, North Carolina

DATE: Thursday, March 15, 2018

TIME: 1:58 p.m. - 6:06 p.m.

DOCKET NO.: E-7, Sub 1146



BEFORE: Chairman Edward S. Finley, Jr., Presiding

Commissioner ToNola D. Brown-Bland

Commissioner Jerry C. Dockham

Commissioner James G. Patterson

Commissioner Lyons Gray

Commissioner Daniel G. Clodfelter

IN THE MATTER OF:

DUKE ENERGY CAROLINAS, LLC

Application for Adjustment of Rates and Charges

Applicable to Electric Utility Service

in North Carolina.

VOLUME: 18

Noteworthy
Reporting Services, LLC

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No. 1 were admitted into evidence.)

CHAIRMAN FINLEY: And Mr. Schneider, I believe, is the next witness.

MR. ROBINSON: Mr. Chairman, we are actually going to call Retha Hunsicker.

CHAIRMAN FINLEY: All right.

MR. ROBINSON: Mr. Chairman, as Ms. Hunsicker is coming up, in the interest of time, we are prepared to forego the reading of Ms. Hunsicker's summary of her testimony if the Commission wishes.

CHAIRMAN FINLEY: It's up to you.

RETHA HUNSICKER,

having first been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION BY MR. ROBINSON:

Q. Good afternoon.

A. Good afternoon.

Q. Ms. Hunsicker, please state your full name and business address.

A. My full name is Retha Hunsicker, and business address is 400 South Tryon Street, Charlotte, North Carolina.

Q. By whom are you employed and in what

capacity?

A. I'm employed by Duke Energy Business Services, and my capacity is vice president customer connect solutions.

Q. And did you cause to be prefiled in this docket prefiled direct testimony consisting of 12 pages and Hunsicker Exhibit 1 consisting of one page?

A. Yes.

Q. Do you have any changes or corrections to your direct testimony?

A. No, I do not.

Q. And if I asked you the same questions today, would your answers be the same?

A. Yes.

Q. Ms. Hunsicker, did you also cause to be filed in this docket prefiled rebuttal testimony consisting of 15 pages?

A. Yes.

Q. Do you have any changes or corrections to that testimony?

A. No.

Q. If I asked you the same questions today, would your answers be the same?

A. Yes, they would.

MR. ROBINSON: Mr. Chairman, at this time, I move that the prefiled direct and rebuttal testimonies of Witness Hunsicker be copied into the record as if given orally from the stand, and that her Hunsicker Exhibit 1 be marked for identification.

CHAIRMAN FINLEY: Ms. Hunsicker's direct testimony of 12 pages of August 25, 2017, is copied into the record as though given orally from the stand, and one exhibit is marked for identification as premarked in the filing, and her rebuttal testimony of 15 pages of February 6, 2018, is copied into the record as though given orally from the stand.

(Whereupon, Hunsicker Exhibit No. 1 was identified as marked when prefiled.)

(Whereupon, the prefiled direct testimony and prefiled rebuttal testimony of Retha Hunsicker was copied into the record as if given orally from the stand.)

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1146**

| | | |
|---|---|---|
| In the Matter of: | ) | |
| | ) | **DIRECT TESTIMONY OF** |
| Application of Duke Energy Carolinas, LLC | ) | **RETHA HUNSICKER** |
| For Adjustment of Rates and Charges | ) | **FOR DUKE ENERGY** |
| Applicable to Electric Service in North | ) | **CAROLINAS, LLC** |
| Carolina | ) | |

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Retha Hunsicker and my business address is 400 South Tryon Street, Charlotte, North Carolina.

**Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

A. I am employed by Duke Energy Business Services, LLC as Vice President Customer Connect, Customer Operations.

**Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL QUALIFICATIONS.**

A. I hold a Bachelor of Science degree in Business Administration from Indiana Wesleyan University.

**Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE.**

A. Since 1981, I have been employed by, and worked for, companies under what is now Duke Energy Corporation ("Duke Energy"). I began my career with Public Service Indiana, the predecessor to Duke Energy Indiana, Inc. as an Accounting Assistant. Since then I have held positions with increasing levels of responsibility. More recently, over the last ten years, I have held several roles including Director, Business Standards and Integration and General Manager, Smart Energy Systems and Processes. In 2012, I took the position of Regional Director, Customer Services, leading our Midwest contact centers before promoting to Vice President, Customer Contact Operations, in 2013. I assumed my current role as Vice President Customer Connect, Customer Operations in 2015.

Q. **PLEASE BRIEFLY DESCRIBE YOUR DUTIES AS VICE PRESIDENT CUSTOMER CONNECT, CUSTOMER OPERATIONS.**

A. I have executive management oversight for the Customer Information System ("CIS") consolidation project (known as Customer Connect), including the planning, execution and deployment. This program is responsible for the successful deployment of a new customer platform that will enable the functional capabilities needed to meet our strategic purpose of powering the lives of our customers by transforming how we serve them.

Q. **HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

A. While I have not appeared in person before the Commission, I submitted direct testimony in Duke Energy Progress's ("DE Progress") ongoing rate case in Docket E-2, Sub 1142, which is scheduled for hearings in November of this year. Q. **WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. The purpose of my testimony is to discuss the CIS used by Duke Energy Carolinas LLC ("DE Carolinas" or the "Company") and explain why it is necessary to convert that CIS into a modern customer service platform.

Q. **PLEASE SUMMARIZE YOUR TESTIMONY.**

A. DE Carolinas' CIS systems are in dire need of modernization. We have extracted all of the value we can from our current system, which is over twenty years old. Our business and our customers' needs are very different than they were when the original system was constructed, and have moved past the point where modular "bolt on" systems or modular upgrades are effective. In my testimony, I describe the Company's plans, the anticipated costs and the revenue requirement we are seeking in this case to support this major --and necessary--technological upgrade.

Q. **WAS HUNSICKER EXHIBIT 1 PREPARED BY YOU OR UNDER YOUR DIRECTION AND SUPERVISION?**

A. Yes, it was.

Q. **ARE YOU FAMILIAR WITH THE CIS OF DE CAROLINAS?**

A. Yes.

Q. **PLEASE EXPLAIN THE PURPOSE OF A CIS.**

A. A CIS manages the billing, accounts receivable, and rates for the Company and is the central repository for all customer information. It links the consumption and metering process to payments, collections, and other downstream processes including additional work order requests such as service connections and disconnections, outages and trouble requests. A CIS manages customer profiles and integration of data to provide a holistic view of the customer and should enable expected customer capabilities.

Q. **PLEASE PROVIDE A GENERAL DESCRIPTION OF THE COMPANY'S EXISTING CIS.**

A. The current CIS for DE Carolinas ("DEC") is a mainframe solution that was developed beginning in 1995, and was put in service in 1997. The current CIS was designed as a premise-based system. That is, it was developed to communicate with the meter attached to a premise, without regard to who may be consuming the services provided through the meter or how they may be consuming those services.

Although state-of-the-art twenty years ago, the current CIS was not designed to efficiently support new capabilities, including personalized experiences for our customers, advanced pricing structures and billing options, and tools for customers to better manage their energy consumption. We have added functions to the legacy system to try to meet business needs. But as we add newer technologies to the legacy system, the complexity continues to increase, thereby leading to more system disruptions and longer time to recover from outages. In some cases, the business has started looking for other options to meet needs, resulting in disjointed solutions and causing us to leverage multiple vendors. Moreover, certain functions are not compatible with the current CIS as further discussed below.

**Q. IS THE CURRENT SYSTEM A FULLY AUTOMATED SYSTEM?**

A. No. There are inherent design limitations in this decades-old system and it is not possible to incorporate modifications that enable the automation of certain functions, such as complex billing.

**Q. PLEASE EXPLAIN HOW COMPLEX BILLING IS COMPLETED UNDER THE COMPANY'S CIS.**

A. Because of the existing limitations with the current CIS, complex billing functions must be done manually. Additionally, the system is not designed to enable automated billing for customers having distributed generation with net metering. Our current systems were not designed to produce a credit bill, so these customers receive bills containing charges that are calculated manually. These manual interventions are not desirable for a variety of reasons. Among such reasons is inefficiency. Additionally, as the number of customers having these billing arrangements increases, there is an understandable impact on the Company's ability to provide timely and accurate bills. And it must be accepted that injecting manual intervention into what should be an entirely automated process creates an opportunity for unintended consequences.

A good example is net metering. The current system is unable to handle even simple transactions for any customers who produce their own energy, whether they're large industrial customers or a residential customer with a solar array on the roof. Any account that takes advantage of net metering must be reconciled by hand, which is not only burdensome on the Company's staff but also introduces a point for errors to be made which further frustrate our customers. As net metering grows, we need a system that can handle that type of complex billing as products, service and interactions continue to develop within our industry.

**Q. ARE THERE ANY DEFICENCIES WITH DE CAROLINAS' CURRENT SYSTEM?**

A. Yes, and those system deficiencies affect our ability to serve our customers. For example, the current CIS does not enable ready access to account histories that can be important in non-pay situations or when a customer is seeking to relocate within the Duke Energy jurisdictions. Consequently, a long-standing customer with a history of consistently paying bills on time and in full could be required to pay a security deposit as a condition of receiving service in a new home; a situation that could be avoided with improved access to account histories. Assume that a DE Carolinas customer moves to a DE Progress jurisdiction. At present, the DE Carolinas customer service representative can only help stop service. They can't help establish new service, or transfer any deposits. Once service is stopped at one location, the customer would need to be transferred to another customer service representative at DE Progress who has no knowledge of the customer's history with DE Carolinas. They are going to ask for all of the same information the customer has already given the DE Carolinas representative, and they'll perform a new credit check, and take new deposits. Even for a new customer, establishing service, it can take a customer service representation over 25 screens to get all of the necessary information input. This affects the ease in which customers can establish service. These types of challenges exist on many fronts, including routine service interactions.

As I mentioned above, the current CIS is a premise-based system. Such a restrictive system prevents DE Carolinas from interacting with customers in a meaningful and continually relevant manner. For example, the current CIS does not enable the Company to identify a customer's preferred method of communication. Thus, a customer who consistently opts out of the interactive voice response ("IVR") in order to speak directly with a customer service representative must continue to go through, for them, irritating process to obtain answers or information related to their utility service. Additionally, much of our customer base favors more modern communication channels, where information is almost immediately available. The current CIS does not enable these customers to employ their preferred methods of communication.

**Q. CAN DE CAROLINAS SIMPLY RELY ON CONTINUED MODIFICATIONS OF THE EXISTING CIS?**

A. No. As a practical matter, the current limitations discussed above cannot be remedied with modifications. Continued investment to modify an antiquated technology platform is not practical or sustainable. CIS's, like any other software solution, are subject to obsolescence, and like other technology and software, must be made periodically to meet customer expectations.

DE Carolinas' current system must be replaced to provide a more stable platform, greater flexibility, ease of configuration and ability to offer more advanced rates and billing structures, as well as services to customers, than what is currently possible. The existing system, while state-of-the-art twenty years ago, has become cumbersome, difficult to update and limited in functionality compared to new systems that are currently available. Continued investment in an antiquated technology platform is neither practical nor sustainable, and would cost considerably more in the long run than replacing the system in its entirety. Customer information systems, just like any other software solution, periodically require replacement to deliver on capabilities required by business operations, and more importantly, customers.

Q. **PLEASE DISCUSS HOW A MODERN CIS WILL BENEFIT DE CAROLINAS CUSTOMERS.**

A. Through the consolidation of the older customer information systems into a new customer information system, DE Carolinas will be able to deliver a customer experience that will simplify, strengthen and advance our ability to serve our customers. Key customer benefits include the following:

- Universal, simplified processes for customers
- Focusing on our customers rather than our meters to provide personalized service and to show customers that the Company understands their needs and quickly addresses their concerns.
- Improvements to bill formats, helping customers more easily view and understand their bills
- Ability to quickly help customers, provide the best, most cost effective rate structure for them, and allow the company to more quickly introduce and integrate new rates, riders and programs to better serve customers' unique needs
- Flexibility and scale in leveraging Advanced Metering Infrastructure ("AMI") and providing customers alternative rates and enhanced basic services (pick your own due date, usage alerts, Prepaid Advantage, etc.)
- More opportunities for advanced pricing structures and billing options

**Q. WILL THE NEW SYSTEM ALLOW FOR MORE FLEXIBLE RATE DESIGN AND OTHER RATE OFFERINGS?**

A. Yes, DE Carolinas' system requires significant coding to implement new rates and pricing. The system changes tend to be complex, expensive, and time-consuming. Indeed, the system is so burdensome that the Company has consulted with outside vendors to manage billing for new rate structures. New modern customer information systems are much more configurable, reducing the amount of time to test and implement pricing changes and offerings. As referenced in Witness Pirro's testimony, metering installed for the majority of current customers does not provide the interval level data that is required to bill these innovative designs. Therefore, DE Carolinas has plans to upgrade meters, and the CIS we are implementing will support evolutions in rate designs for our customers.

**Q. HOW LONG WILL IT TAKE TO FULLY IMPLEMENT THE SYSTEM FOR DE CAROLINAS?**

A. The Customer Connect Program will begin analysis and design in January 2018, and is currently planned to be placed in service for DE Carolinas in 2022. During this phase, the following activities will be completed, among others: understanding current state processes and capabilities of the new system, documenting future state processes, identifying any capability gaps with the new system and evaluating options for addressing those gaps, identifying the technical objects to be designed and developed, and identifying detailed requirements in preparation for the design phase of the program.

**Q. WILL THERE BE ANY BENEFICIAL IMPROVEMENTS FOR CUSTOMERS PRIOR TO FULL DEPLOYMENT FOR DE CAROLINAS?**

A. Yes, the Company will be deploying new capabilities every year leading up to full deployment to improve our customer's experience. These capabilities include, among others:

- Expanded communication preferences
- Streamlined experience when calling a service representative or using the automated voice prompts
- More personalized and customer-centric service
- Universal, customer-friendly bill format

**Q. WHAT WILL BE DUKE ENERGY CAROLINAS' ESTIMATED COST FOR THE CIS IMPROVEMENTS?**

A. The estimated cost for DE Carolinas is $285 - $295 million, with approximately 50 percent reflecting the capital investment. Specifically for DE Carolinas North Carolina, the costs will be between $220 - $230 million as shown on Hunsicker Exhibit 1. The Company has executed fixed price contracts for the primary software (SAP), systems integration (Accenture) and change management professional services (EY), following an extensive request for proposal process conducted in 2016. The best and final offer that resulted from this process formed the basis of the program's cost estimate, and includes an estimate of the incremental Company labor needed to support the scope of the contracts.

**Q. WHAT AMOUNT OF THAT COST IS DE CAROLINAS PROPOSING IN THIS CASE?**

A. In her testimony, Witness McManeus describes a pro-forma adjustment that increases the test year operating and maintenance ("O&M") expenses associated with the project from $4.4 million to $15.1 million. This increased amount is the average expected annual O&M associated with the project over the next three years, from 2018 through 2020.

**Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

A. Yes.

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1146**

| | | |
|---|---|---|
| In the Matter of: | ) | |
| | ) | **REBUTTAL TESTIMONY OF** |
| Application of Duke Energy Carolinas, LLC | ) | **RETHA HUNSICKER** |
| For Adjustment of Rates and Charges | ) | **FOR DUKE ENERGY** |
| Applicable to Electric Service in North | ) | **CAROLINAS, LLC** |
| Carolina | ) | |

## I. WITNESS IDENTIFICATION AND QUALIFICATIONS

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Retha Hunsicker and my business address is 400 South Tryon Street, Charlotte, North Carolina.

**Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

A. I am employed by Duke Energy Business Services, LLC ("DEBS") as Vice President, Customer Connect-Solutions.

**Q. DID YOU OFFER ANY DIRECT TESTIMONY IN THIS PROCEEDING?**

A. Yes. I pre-filed direct testimony in this case. My qualifications, professional experience, and current responsibilities are described in that testimony.

## II. PURPOSE AND OVERVIEW OF REBUTTAL TESTIMONY

**Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS PROCEEDING?**

A. My rebuttal testimony will respond to: (1) the justification used by Public Staff witness Michelle Boswell in her testimony to support the Public Staff's recommended adjustment to remove the forecasted expenses Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") expects to incur during the 2018-2020 time frame related to the Customer Connect project ("Customer Connect")[1]; and (2) NCSEA witness Michael Murray and EDF witness Paul J. Alvarez's recommendation to utilize "Green Button" to

[1] Testimony of Michelle Boswell, pp. 32-33

provide usage information to third parties,[2] and witness Murray's recommendations to provide historic usage and current rate data to customers and third parties in a machine readable format, and to establish a "user-friendly" customer authorization process[3].

**Q. PLEASE PROVIDE AN OVERVIEW OF YOUR REBUTTAL TESTIMONY.**

A. In response to witness Boswell's recommendation to remove the 2018-2020 forecasted O&M of $10.7 million from the Company's requested revenue increase, I explain that the Company's request to recover the forecasted O&M is reasonable and aligns with new functionality that will be in-service and providing benefits to customers every year of the project, beginning in 2018. In response to witnesses Murray and Alvarez, I explain the Company's position as it relates to providing customer information to third parties.

## ADJUSTMENT TO CUSTOMER CONNECT

**Q. PLEASE DESCRIBE WITNESS BOSWELL'S RECOMMENDATION REGARDING CUSTOMER CONNECT.**

A. Witness Boswell's testimony recommends an adjustment to remove the forecasted amounts the Company plans to spend between 2018 and the in-service date. In her testimony, witness Boswell's rationale for this adjustment is that the system is in the analytics stage, and more specifically, the Company

[2] Testimony of Michael Murray, pp. 15-46; Testimony of Paul J. Alvarez, pp. 39-41
[3] Testimony of Michael Murray, pp. 15-46.

is in the process of gathering customer data to build and develop the system. Witness Boswell also states that the system has not yet been placed in service and that full functionality for DEC is not expected until the summer of 2022.

**Q. DO YOU AGREE WITH THIS RECOMMENDATION?**

A. No. The Customer Connect program is far more advanced than witness Boswell suggests. Witness Boswell is correct that this is a long-lived program, but she is not correct about where we are in terms of our advancement of the program and our financial and contractual commitments to it. Moreover, to read witness Boswell's testimony, one would think she believes these costs should be capitalized to the program; however, that is not the way the accounting works as explained by Company witness Jane McManeus. The Company has only asked for the level of O&M necessary to deploy the capital for the program—we are not asking for the program or its costs to be placed into rate base at this time. Further, in order for the Company to recover these known and measurable O&M costs, they either need to be included in rates as we have asked, or, alternatively, set aside and capitalized to a regulatory asset to be recovered when the project comes on line as described by witness Boswell.

**Q. IS WITNESS BOSWELL CORRECT THAT CUSTOMERS NEED TO BE PROTECTED IN THIS CASE FROM FUNDING ESTIMATED COSTS FOR A SYSTEM THAT IS NOT YET FUNCTIONAL?**

A. No. First, as I fully describe later in my testimony, the Company will be delivering new capabilities to customers every year of the program beginning in 2018, so witness Boswell is incorrect that customers will not receive benefits until the system is fully installed. Second, the forecasted expenses for Customer Connect are known and measurable. Specifically, the Company has entered into fixed price contracts following an extensive request for proposal (RFP) process conducted in 2016. These contracts account for a significant portion of the overall cost of the program and cover the software, system integrator professional services, and change management and training professional services. These contracts also specify the amount of internal Duke Energy labor required to successfully complete the scope of each contract. The Company then added other costs required to complete the program for activities outside the scope of the contracts. Even the Public Staff's own witness, Jack Floyd, states in his testimony that he believes the amount of expenses included in this case related to the initial work on Customer Connect is reasonable.[4]

[4] Testimony of Jack Floyd, p. 36.

**Q. HOW WERE THE FORECASTED EXPENSES DERIVED?**

A. The best and final offers from the RFP process were used as the foundation for the forecast, which include the cost of the executed contracts as well as the amount of internal labor the Company is required to provide to complete the scope of the contracts. Specific costs to cover activities beyond the scope of the contracts but within the scope of the program, such as the effort to modify more than 100 interfacing systems, were added, leveraging established program estimating techniques and assumptions. These forecasted expenses were derived by members of the program team, each with extensive experience estimating and managing large-scale technology development programs similar to Customer Connect. The average O&M expense forecasted over the 2018-2020 period and attributable to DE Carolinas NC, which served as the basis for the incremental revenue requirement in this case, is approximately $15.1 million. That amount includes these components:

- Costs directly correlated with the fixed fee contracts, totaling approximately $3.8 million.
- As described above, the fixed fee contracts contain provisions requiring the Company to provide specific levels of labor to support execution of the work.. Costs for the incremental labor required to support the scope of the fixed fee contracts total approximately $1.2 million.
- The cost to develop each interface is within the scope of the fixed fee contract; however, the cost for any modifications required of the

interfacing systems is not within the scope of the fixed fee contract and represents a critical component of the overall program scope. Costs for the incremental labor required to modify the systems that the new Customer Connect solution will interface with total approximately $1.1 million.

- Costs for effective oversight, governance and quality management for the program, totaling $1 million.
- Costs for key leadership positions for the program, totaling approximately $0.8 million. These positions are filled, and their costs are known.
- Costs for cleanup of existing data in preparation for conversion into the new platform that were estimated following extensive benchmarking that occurred with other utilities that had recently completed a similar project. These costs cover the activities associated with mitigating data conversion risks and total approximately $0.6 million.
- The costs to ensure service to customers is not adversely impacted during the deployment of the new platform. These include items such as the cost to deliver training to end users of the new platform, incremental staffing required to maintain adequate customer service levels, and the stabilization period immediately following deployment. These costs total approximately $0.5 million.
- Costs to cover inflation and contingency that were forecasted using formal, established methods and were scrutinized and deemed appropriate

by an independent estimate review committee commissioned by the Company's project management center of excellence. These costs total approximately $4.7 million.

**Q. ALTHOUGH THIS IS A LONG-LIVED PROGRAM, IS WITNESS BOSWELL CORRECT THAT BENEFITS WILL NOT BE SEEN UNTIL FULL DEPLOYMENT?**

A. No. The Customer Connect program will deliver new capabilities to customers every year of the program beginning in 2018 and leading up to full deployment in 2021/2022. With this phased deployment approach, the Company will have system functionalities in-service and beneficial to customers at tiered stages throughout the implementation of the complete system, as referenced in Public Staff witness Floyd's testimony on page 33, lines 10-11. Accordingly, the Company's request to include the forecasted project spend from 2018-2020 in this proceeding aligns with the plan for multiple in-service dates throughout the project.

**Q. PLEASE ELABORATE.**

A. In 2018 ("Release 1" or "Analytics Release" and "Release 2" or "CRM Release"), the Company will incorporate advanced analytics capabilities that will allow it to better track the interactions and relevant touch points our customers are having with Duke Energy across multiple channels, such as web visits, Interactive Voice Response Unit (IVR), live voice calls, social media, etc. The Company will use that information to build a holistic customer profile, improving our ability to communicate with them and begin to engage with them in new ways. Per these releases, examples of new and/or improved capabilities that customers will experience include the following:

- Streamlined Customer Service experience -

  Leveraging insights from the holistic customer profile, the Company will be able to use the new platform to predict the intent of customers when they call, improving their experience with Duke Energy.

  In addition, the interaction tracking data, as referenced above, will be made available to the customer care specialists, who will leverage it for context into why the customer may be calling and to have a more informed and productive conversation with the customer.

- More timely, relevant and valuable communications -

  The customer data will also be leveraged to prioritize the types of information the customer prefers to receive and the methods of communication by which the customer prefers to receive the information, including via web, email or other channels to ensure it is timely, relevant and valuable to them.

- Improved communication campaigns -

  The Company will create improved communication campaigns to proactively provide important information about our customers' service with Duke Energy. Examples could include information about power outages, planned outages and vegetation management (*i.e.*, tree trimming).

These are just a few of the functions the Company intends to implement in 2018 to improve customers' everyday experience with Duke Energy.

In 2019 ("Release 3" or "Prepaid Release"), the Company will implement the Prepaid Release, which will implement core components of the complete meter-to-cash solution early for a subset of customers. With this release, the Company will be able to offer new or existing products and services on a prepaid basis to customers, providing them with more choice, control, and convenience in how they do business with us.

In early 2020 ("Release 4" or "Universal Bill"), the Company will introduce a universal bill format to help customers more easily view and understand their bill and energy usage. Positioning this release prior to final deployment not only delivers benefits to customers sooner, but also allows the Company to more efficiently respond to increased call volume that will likely result as customers become more familiar with the new bill format.

In 2021, the Company will begin deploying the final components of the meter-to-cash solution ("Releases 5-8" or "Core Releases"). In addition to all meter-to-cash processes, the Company will begin providing customers with additional self-service capabilities and portals, new rate offerings and advanced billing options.

**Q. PLEASE DESCRIBE HOW THE COMPANY IS INCORPORATING CUSTOMER NEEDS AND EXPECTATIONS AS IT RELATES TO THE DESIGN AND IMPLEMENTATION OF CUSTOMER CONNECT.**

A. Based on the collective experiences with its current CIS, the Company knew its customer platform would need to meet the following core needs: (1) configurability; (2) adaptability; (3) and a customer-centric platform, not simply a meter-to-cash replacement. As a result of the extensive procurement process we conducted, the Company is confident that the SAP platform it selected meets these core needs. For example, this platform has been implemented by more than 760 utilities globally, including utilities that have already implemented things such as renewable generation and advanced metering infrastructure (AMI), and are utilizing its full capabilities. By selecting the SAP platform, the Company and its customers will get the benefit of the technology as well as the ability to leverage best practices from these other utilities to keep pace with the needs and expectations of our customers. Further, because this platform is being used globally by utilities and retailers, the SAP platform is constantly evolving and being updated to accommodate the latest technologies and user interfaces to help ensure that customers continue to derive benefits from the system.

As I stated in my direct testimony, the Company is currently in the Analysis and Design phase of the Customer Connect platform (*i.e.*, assessing how the Company will use the platform and how best to incorporate it into our business processes). As such, we have leveraged both industry research and internal survey methods to understand customer expectations. Industry research confirms that customer expectations are changing; they are more fluid and consumers benchmark us against other customer service companies such as Amazon and FedEx, where there is transparency and awareness in their processes. For example, we have all come to expect the capability to track our packages and see, at any given moment, where the package is and when it is projected to be at our home. We understand our customers have come to expect the same thing from all service providers, including their utility, and we are confident that the SAP platform gives us the technology we need to meet this expectation. To that end, during the Design phase, using the collective experiences with its current CIS, the Company will take an opportunity to redesign outdated business processes that have been in place for more than 20 years. For example, the Company's current CIS requires Customer Care specialists to obtain information such as directions to a customer's home and the location of the meter when completing a request to start or stop service. With the deployment of AMI meters, as well as common technologies, like GPS, obtaining this information is no longer necessary. Although this information is no longer needed for service orders, our system and internal processes have not evolved to allow for these efficiencies. This is our opportunity to shape the future.

Finally, the Company intends to perform customer outreach. For example, the Company is currently planning to survey customers to understand the value they are receiving from the new platform. Additionally, the Company intends to gather customer feedback via outreach methods such as crowdsourcing, surveys, interviews, focus groups and/or open forums to gather feedback during the design of the Company's new bill format.

**Q. WILL THE COMPANY AGREE TO PROVIDE SEMI-ANNUAL REPORTS REGARDING CUSTOMER CONNECT DEPLOYMENT AS RECOMMENDED BY PUBLIC STAFF WITNESS JACK FLOYD?**

A. While the Company is certainly amenable to providing any level of reporting required by the Commission, the Company questions whether the level of detail and frequency of reporting recommended by Public Staff is sufficiently valuable, especially if the Company is not allowed to recover its forecasted expenses as Public Staff witness Boswell recommends. Instead, the Company proposes to provide updates about the program annually.

## III. GREEN BUTTON CONNECT / ACCESS TO CUSTOMER DATA BY THIRD PARTIES

**Q. PLEASE BRIEFLY DESCRIBE NCSEA WITNESS MICHAEL MURRAY'S RECOMMENDATION REGARDING GREEN BUTTON CONNECT.**

A. Witness Murray recommends that the Company: (1) utilize "Green Button," including "Connect My Data," to provide usage data information to third parties; (2) provide historic use and current rate data to customers and third parties in machine readable (xml) format; and (3) establish a "user friendly" customer authorization process for recommendations 1 and 2 above.

**Q. HOW DO YOU RESPOND?**

A. First and foremost, it is important to understand the new Customer Connect platform will be capable of enabling new capabilities such as these, should they arise. Therefore, whether Customer Connect, as designed, can accommodate these capabilities is not an issue that needs to be addressed in this case. The Company believes that providing these capabilities will require both approval from this Commission and customer consent.

As it relates to the sharing of information with third parties, whether it is in the "Green Button" format or any other, the Company agrees with and defers to Public Staff witness Floyd's recommendation on page 35, lines 2-5 of his testimony, to protect customer data and adhere to the Code of Conduct as it relates to the sharing of customer information.[5] The Code of Conduct defines customer information as: "non-public information or data specific to a Customer or group of Customers, including, but not limited to, electricity consumption, natural gas consumption, load profile, billing history, or credit

[5] The Code of Conduct establishes the minimum guidelines and rules that apply to the relationships, activities, and transactions between and among the public and nonpublic utility operations (as they relate to the public utility operations) of Duke Energy and its affiliates in North Carolina, including DEC, DEP and Piedmont (the "Companies"). The Companies are bound by the Code of Conduct pursuant to Regulatory Condition 6.1 approved by the Commission in Docket Nos. E-2, Sub 1095, E-7, Sub 1100, and G-9, Sub 682.

history that is or has been obtained or complied by DEC, DEP, or Piedmont in connect with supplying of Electric Services or Natural Gas Services to that Customer or group of Customers." Providing third parties with access to consumption and load profile data, which witness Murray recommends, would be in clear violation of the prohibition from disclosing customer information to third parties.

Further, in recommending the Company provide historic billing and rate information to customers and third parties in a machine-readable, automated manner, witness Murray does not mention that customers already have access to historic usage via the Company's external website. In fact, customers may view and download up to 24 months of historic usage data from the Company's website at any time in CSV file format. While the Company plans to assess the possibility of providing usage information to *customers* using programs such as "Green Button: Download My Data" in XML format, the timing and cost for such capability has not yet been determined. Additionally, the Company's rate schedules are publicly available via the Company's external website, where both customer usage data and our rate schedules may be accessed with ease.

## IV. CONCLUSION

**Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

A. Yes.

BY MR. ROBINSON:

Q. Ms. Hunsicker, do you have a summary of your prefiled direct and rebuttal testimony?

A. I do.

MR. ROBINSON: Mr. Chairman, at this time, we would ask to move the summary into the record.

CHAIRMAN FINLEY: Without objection, it will be copied into the record as though given orally.

MR. ROBINSON: Thank you, Mr. Chairman.

(Whereupon, the summary of the prefiled direct testimony and prefiled rebuttal testimony of Retha Hunsicker was copied into the record as if given orally from the stand.)

**Duke Energy Carolinas, LLC**
**Retha Hunsicker Direct and Rebuttal Testimony Summary**
**Docket No. E-7, Sub 1146**

My direct testimony discusses the Customer Information System used by Duke Energy Carolinas LLC and explains why it is necessary to convert that system into a modern customer service platform, known as Customer Connect. Particularly, the current system is over twenty years old and is past the point where modular "bolt on" systems or upgrades are effective. Our business and our customers' needs are very different than they were when the original system was constructed. Customer Connect is the next generation customer platform with new customer engagement and integrated operations and analytics capabilities that will provide the customer with more choice, convenience and control over how they do business with us. The Customer Connect Program began analysis and design in January 2018 and is currently planned to be fully implemented for DE Carolinas in 2022. Each year, beginning in late 2018, the program will advance the final solution while providing value and new capabilities to customers throughout the deployment.

The Company is seeking to adjust its test year O&M expense associated with the project from approximately $4.4 million to approximately $15.1 million, which reflects the average expected annual O&M expenses for the project from 2018 through 2020. The Company derived these forecasted expenses by using the best and final offers of the selected vendors as the foundation for the estimates.

My rebuttal testimony responds to: (1) Public Staff witness Boswell's recommendation to remove the Company's requested forecasted operating expenses for the Customer Connect program; and (2) NCSEA witness Murray and EDF witness Alvarez's recommendation to utilize "Green Button" to provide usage information to third parties, and witness Murray's recommendations to provide historic usage and current rate data to customers and third parties in a machine readable format, and to establish a "user-friendly" customer authorization process.

In response to witness Boswell, I explained that the Company's request for the forecasted O&M are reasonable and aligns with new functionality that will be in-service and providing benefits to customers every year of the project, beginning in 2018. I also explain that the O&M expenses I request are known and measurable because the best and final offers from the RFP process were used as the foundation for the forecasted expenses. Specific costs to cover activities beyond the scope of the contracts but within the scope of the program, such as the effort to modify more than 100 interfacing systems, were then added, leveraging established program estimating techniques and assumptions.

In response to witnesses Murray and Alvarez, I raise an area of concern the Company identified as it relates to providing customer information to third parties via the Green Button platform. Additionally, in response to witness Murray, I further explain that the Company's rate schedules and customer usage data is already available to customers on their monthly bills and via the customer portal on the Company's website.

This concludes the summary of my direct and rebuttal testimony.

MR. ROBINSON: The witness is available for cross examination.

CHAIRMAN FINLEY: Cross examination?

CROSS EXAMINATION BY MS. THOMPSON:

Q. Good afternoon, Ms. Hunsicker. Gudrun Thompson representing North Carolina Justice Center, North Carolina Housing Coalition, SACE and NRDC.

CHAIRMAN FINLEY: Ms. Thompson, we are going to break about 4:00, so get in about 10 minutes worth, if you can, then we'll come back.

MS. THOMPSON: Okay. I think we can do this in 10 minutes. Thank you, Mr. Chairman. I am going to go ahead -- in the interest of moving things along, I'm going to go ahead and ask my co-counsel to pass out a packet of cross examination exhibits.

BY MS. THOMPSON:

Q. Ms. Hunsicker, one of the functions of the Company's proposed customer information system is customers' billing, correct?

A. That's correct.

Q. You would agree that it's important for customers to understand their bills?

A. Yes.

Q. And the Company wants to provide accurate information to customers about their bills, correct?

A. Yes.

MS. THOMPSON: Has the exhibit been handed out to --

CHAIRMAN FINLEY: Yes.

MS. THOMPSON: Have you received a copy of the exhibit?

MR. ROBINSON: Yes.

MS. THOMPSON: Okay. Mr. Chairman, I would like to mark this first exhibit in the stack as NCJC et al. Hunsicker Cross Examination Exhibit 1.

CHAIRMAN FINLEY: Shall be so marked.

(Whereupon, NCJC et al. Hunsicker Cross Examination Exhibit No. 1 was marked for identification.)

BY MS. THOMPSON:

Q. Ms. Hunsicker, would you take a look at this exhibit that's been marked as Cross Examination Exhibit 1; do you recognize this?

A. The components of your electric bill?

Q. Yes.

A. Yes, ma'am.

Q. And would you agree with me that this is a fact sheet for Duke Energy Carolinas' customers, which I will represent to you that I downloaded this from the Company's website, but does this look familiar to you?

A. Yes, it does.

Q. And would you turn to the first page of that fact sheet, please? Do you see, under electric service, and then item A1, do you see that -- where it says basic customer charge?

A. I do.

Q. Is that the same thing as the basic facilities charge that's at issue in this case?

A. I believe so.

Q. And the current basic facilities charge is $11.80?

A. I believe that's correct.

Q. Okay. And let's turn to the second page.

Again, do you see item A1 under A, electricity service, and then item A1, basic customer charge?

A. I do.

Q. And that's -- again, that's the basic facilities charge at issue in this case, right?

A. I believe so.

Q. Can you read that description of the basic customer charge, please?

A. "The basic customer charge is a fixed monthly amount to cover the cost of maintaining your electric meter to your home or business, as well as maintaining customer records, billing, and other transactions affecting the account. It is applicable whether or not electricity is used."

Q. So this fact sheet says that the basic customer charge includes the cost of maintaining your electric meter, as well as maintaining customer records, billing, and other transactions, correct?

A. Yes. That's what it says.

Q. And it doesn't mention any other category of costs that go into the basic facilities charge, does it?

A. I do not see that on here.

Q. Okay. Let's turn to the next exhibit.

MR. THOMPSON: Mr. Chairman, I would like to have this marked as NCJC et al. Hunsicker Cross Examination Exhibit 2, please.

CHAIRMAN FINLEY: Shall be so marked.

(Whereupon, NCJC et al. Hunsicker Cross Examination Exhibit No. 2 was marked for identification.)

BY MS. THOMPSON:

Q. Ms. Hunsicker, do you recognize this document?

A. Yes, I do.

Q. And can you explain to me what this is?

A. This is a bill.

Q. Would you agree with me that this appears to be a sample bill for a DEC customer named John Doe?

A. Absolutely.

Q. And I will represent to you that I downloaded this from the Duke Energy Carolinas website.

Does this appear to -- does this look familiar to you?

A. Yes.

Q. Okay. Does this exhibit accurately represent an actual bill for a DEC residential customer?

A. It looks like that, yes.

Q. Okay. Now, under -- do you see there under rate schedule description, it's on the right, sort of under the little box that says 119.80, there is a rate schedule description header?

A. Yes.

Q. And do you see under that there is some line items?

A. I do.

Q. So residential service; you see that?

A. Uh-huh. Yes.

Q. And home wiring repair plan, renewable energy rider, sales tax; do you see those line items?

A. I do, yes.

Q. And there is no line item on the sample bill or on a real bill for the basic facilities charge, is there?

MR. ROBINSON: Mr. Chairman, the Company objects. Ms. Hunsicker did not testify to any of this, nor would this be within the scope of her knowledge.

MS. THOMPSON: May I respond?

CHAIRMAN FINLEY: Overruled. Let me tell you something. Hold on. I don't want to hear this objection about it's beyond the scope of the testimony anymore. Let's get this clear. In North Carolina, that's not a valid objection under the rules of evidence in this state, so please proceed.

MS. THOMPSON: Thank you, Mr. Chairman.

BY MS. THOMPSON:

Q. Returning to the sample bill -- and customer billing is part of your area of expertise and part of your duties with the Company, correct?

A. It is part of what we will calc out of the new system, yes.

Q. And that is the subject matter that you are here to testify about today, correct?

A. The system is, correct, yes.

Q. Now, going back to the fact that this basic facilities charge is not broken out as a line item, is that due to any kind of limitation in the Company's existing customer information system?

A. I do not know that level of detail.

Q. Okay. So would you know -- is it within your knowledge whether, once the Company's $290 million CIS is fully deployed, whether including the basic facilities charge as a line item on the bill, would that be something that would be within the capability of that new system?

A. We will have a new bill design as a part of the delivery of the new system.

Q. Okay. I'm gonna come back to that new bill format in just a moment, but let's go ahead and turn to the next exhibit, please.

MS. THOMPSON: And Mr. Chairman, I would like to have this marked for identification as NCJC et al. Hunsicker Cross Examination Exhibit 3.

CHAIRMAN FINLEY: Shall be so marked.

(Whereupon, NCJC et al. Hunsicker Cross Examination Exhibit No. 3 was marked for identification.)

BY MS. THOMPSON:

Q. Ms. Hunsicker, in your role as vice president of customer connect, customer operations for Duke Energy Business Services, do you support Duke Energy Florida?

A. That will be a part of our system as well. Just to be clear, I don't support any of the systems today. I am looking at and accountable for the solution that we're building out in the future.

Q. Okay. Thank you. That's helpful. I will ask you about this exhibit, and you can tell me -- if you don't know the answers, then that is fine, you can just say so.

So this I will represent to you -- well, let me just ask, do you recognize this exhibit?

A. I do.

Q. Okay. And what does it appear to be to you?

A. It is -- I think it's what we would find as we look to calculate the bill.

Q. I'm sorry, I couldn't hear that.

A. I think this is what we would find online to calculate the bill.

Q. Okay. So this is -- similar to the sample bill that's on the Duke Energy Carolinas website, this is kind of a fact sheet for customers -- for Duke Energy Florida customers; does that sound about right?

A. That sounds about right.

Q. Let's see. And let's turn to the second page of that exhibit, and you see this is "breakdown of the new 2018 monthly bill statement"?

A. I see that.

Q. And is this a breakdown of the new bill statement that is -- has come out after the most recent Duke Energy Florida rate case?

A. I don't know the answer to that.

Q. But it's -- it says what it says.

A. Uh-huh.

Q. So this -- to your knowledge, does this fact sheet or sample bill accurately represent the bill of a Duke Energy Florida's residential customer?

A. I would hope so.

Q. And you will see -- if you would look with me in that box that's headed residential load management, there is several line items on that -- in that box; do you see that?

A. I do.

Q. And one of them is customer charge; would you agree with me?

A. I see that.

Q. It says $8.82?

A. Uh-huh.

Q. There is a line item for that, and then there is a line item for the energy charge, fuel charge, and so on?

A. Yes.

Q. Okay. Thank you. Now, let's go back to that new bill format that you mentioned.

A. Okay.

Q. You mentioned this universal bill format that will be rolled out with the new CIS, correct?

A. Correct, uh-huh.

Q. And that is to help customers more easily view and understand their bill and energy usage?

A. That's correct.

Q. Okay. Will that new bill format break out the basic facilities charge as a line item?

A. We have not done the design of the new bill format.

Q. Are you aware that, in the Company's 2009 rate case, E-7, Sub 909, the Commission's order granting a general rate increase and approving the amended stipulation in that case, the Attorney General proposed that the Commission direct Duke Energy Carolinas to provide the basic facilities charge as a line item?

A. I was not a part of that.

Q. Okay. Would you accept that, subject to check?

A. I would.

Q. And would you also accept, subject to check, that the Commission stated that, although it would not order this BFC to be broken out as a line item on bills at that time, that the Commission said it was interested in consumers having this and possibly other useful information on their bills and shall consider adding this information in a future docket; would you accept that?

A. I would accept that, pending check.

Q. And is this -- is including the BFC as a line item on residential customer bills something that the Company is willing to consider as it rolls out the new bill format?

A. I think that's something we could consider.

Q. Okay. Just a couple more questions. Moving to a slightly different topic.

In response to intervenor testimony about sharing of customer data with third parties, you pointed to a code of conduct that governs sharing of customer data, among other things?

A. Correct.

Q. Now, DEC is bound by this code of conduct pursuant to a regulatory condition approved by the Commission in connection with the merger of Duke Energy and Piedmont Natural Gas, correct?

A. I'm not sure when it was created. I just know what the code of conduct is today.

Q. So you don't know anything about how that code of conduct came to be?

A. I do not.

Q. Okay.

MS. THOMPSON: Well, then I will end there. Thank you, Ms. Hunsicker.

THE WITNESS: Thank you.

CHAIRMAN FINLEY: We will take our afternoon break and come back at 4:15.

(At this time, a recess was taken from 4:00 p.m. to 4:15 p.m.)

CHAIRMAN FINLEY: Who is next?

CROSS EXAMINATION BY MR. LEDFORD:

Q. Good afternoon, Ms. Hunsicker. I'm Peter Ledford with the North Carolina Sustainable Energy Association. I believe most of my questions are gonna focus on your rebuttal testimony.

A. Okay.

Q. In your rebuttal testimony, you respond to the recommendations of NCSEA witness Michael Murray.

Do you have a copy of Mr. Murray's testimony with you?

A. I do.

Q. Could you flip to page 4 of his testimony?

A. I'm there.

Q. Thank you. Would you agree that, on lines 14 to 16 of his testimony, starting at little I, it reads that he recommends energy usage information transmitted through the Company's AMI network and back to the Company's CIS to be provided -- excuse me, provided to the consumer and authorized third parties?

A. I see that, yes.

Q. Okay. Thank you. On page 15 of your rebuttal testimony, you state that providing third parties with access to consumption load profile data, which Witness Murray recommends, would be in clear violation of the prohibition from disclosing customer information to third parties.

MR. LEDFORD: Mr. Chairman, at this time I would like to introduce an exhibit that's going to be passed around right now, and I am going to go ahead and pass two out at this time. (Pause.)

And Mr. Chairman, I would like to ask that the exhibit that states Code of Conduct at the top be marked as NCSEA Hunsicker Cross Exhibit 1.

CHAIRMAN FINLEY: So marked.

MR. LEDFORD: Thank you.

(Whereupon, NCSEA Hunsicker Cross Exhibit No. 1 was marked for identification.)

BY MR. LEDFORD:

Q. Ms. Hunsicker, have you had a chance to examine the document?

A. Briefly, yes.

Q. Thank you. Would you agree that this is a copy of the Company's code of conduct, as approved by the Commission, on September 29, 2016, when the Commission approved Duke Energy's merger with Piedmont Natural Gas?

A. Yes.

Q. Can you please point me to the provision in the code of conduct that would be violated by Mr. Murray's recommendation?

A. Down at the bottom of page 1, where it says "customers' information," that is what we are referring to.

Q. Okay. That's a definition; is it not?

A. Uh-huh.

Q. So Mr. Murray's recommendation would violate that definition?

A. I think we would have to understand. We would have to get clarity.

Q. Well, can I point you to a different provision in this?

A. Certainly.

Q. And it is on what is marked at the bottom as page 48.

A. Yes.

MR. LEDFORD: I apologize,

Commissioner Clodfelter, I didn't print the entire order, but I did print the entire code of conduct.

COMMISSIONER CLODFELTER: I actually already have this one.

BY MR. LEDFORD:

Q. Ms. Hunsicker, would you read section -- well, this is all Roman numeral 3(a), but could you read 2(b) on this page for me?

A. 2(b)?

Q. Yes.

A. "Except as provided in Section 3(a)(2), customer information shall not be disclosed to any affiliate or not-affiliated third party without customer consent, and then only to the extent specified by the customer."

Q. That's perfect.

A. Okay.

Q. Thank you. So without asking you to read the entirety of the code of conduct, there is an exception for Section 3(a)(2)(f).

Subject to check, would you agree that that has to do with things like releasing data pursuant to a court order or something like that?

A. Yes, I would.

Q. So could you please explain to me how NCSEA Witness Murray's recommendation that customers be able to authorize a third party to receive their energy usage data violates the Company's code of conduct?

A. Yeah. Let me talk a little bit about -- we all know that the SGTB order came out, right? And we also understand that we are going to have a forum to be able to talk about some of this. And so what I would like to do is talk about the fact that we really have no issue with providing capabilities, and the platform in which we are going to be building will be provide for those capabilities. But we are going to ask that, through this forum, we get some obligations met or get some alignment and understanding. And I want to talk about those four.

One of those things is the code of conduct, and make sure we understand what is required from regulators and that we have an understanding there. The other is to understand the customer consent. What does the consent look like? What do customers -- what are they giving consent for? So that will be one part of that. Another part of that really is trying to understand that whatever we do has no impact on the system or any kind of system security from a data-security perspective. We also want to understand ongoing monitoring of the platform. Is there going to be anything that would add additional cost to the business back to operations or to back office? And then we also want to understand the cost of such third-party access. So those are the things we hope to do in that forum.

Q. Okay. Thank you for that foreshadowing of what we have to look forward to after this case wraps up, but could you please explain to me how NCSEA Witness Murray's recommendation violates the Company's code of conduct, as you assert in your testimony -- rebuttal testimony?

A. It is -- we are just wanting to make sure that we are within the code of conduct. So the code of conduct, we don't want to share customers' information without their consent, and that is what we want to validate.

Q. I think that's perfectly fair, but you do characterize Witness Murray's testimony as violating the code of conduct. What I'm hearing you say today is that there needs to be clarity around the code of conduct?

A. We need to have clarity about what it is we want to do with the data, as well as clarity in the interpretation of the code of conduct. We also want to have a conversation to understand a lot of pieces allowing third-party access.

Q. So is it still your testimony that Mr. Murray's recommendation violates the code of conduct?

MR. ROBINSON: Objection. Asked and answered.

MR. LEDFORD: I don't believe she has.

CHAIRMAN FINLEY: No, it hasn't been answered. Answer the question, if you may.

THE WITNESS: Yeah. Personally, I believe that there is more to understand. I do think there is something there that could violate the code of conduct.

CHAIRMAN FINLEY: He wants to know if what he's recommending violates the code of conduct.

THE WITNESS: My belief is that it does.

BY MR. LEDFORD:

Q. So thank you. Your belief is that authorized access violates the code of conduct?

A. Yes.

Q. Thank you.

MR. LEDFORD: All right. Mr. Chairman, I additionally passed out a second document at the same time. I would ask that be premarked as NCSEA Hunsicker Cross Exhibit 2.

CHAIRMAN FINLEY: Shall be so marked.

MR. LEDFORD: Thank you.

(Whereupon, NCSEA Hunsicker Cross Exhibit No. 2 was marked for identification.)

BY MR. LEDFORD:

Q. Ms. Hunsicker, are you aware of whether Green Button connect, which was recommended by Witness Murray, requires of customer to consent to sharing of that data?

A. I believe it does.

Q. Okay. Could you please read the very first paragraph of the NCSEA Hunsicker Cross Examination Exhibit 2 under "utility customer engagement"?

A. "Green Button energy and water data access standard enables grid, electric, and water utilities to offer customers access to their usage data and empower them to securely share those data with authorized third-party service providers that can help them further monitor and manage their energy or water consumption."

Q. So you would agree that says customers may authorize third parties to receive access?

A. It does.

Q. All right. And it's still your assertion that it violates the Company's code of conduct?

A. Yes.

Q. Okay. Switching gears, I would like to ask a couple of questions about the development of the customer information system.

A. Absolutely.

Q. In your Progress -- in your testimony in the DEP case a couple of months ago, you stated that the Company had considered but dismissed Green Button. At that time, at least for me, it wasn't clear if you were referring to Duke Energy Progress or Duke Energy Corporation.

Are you aware of whether Duke Energy Carolinas or Duke Energy Corporation has considered Green Button?

A. I think we have, and we are looking forward to the forum in which we are going to be able to talk about third-party access at a deeper level.

Q. Has the Company estimated the cost to implement Green Button?

A. Not that I'm aware of.

Q. Okay. Do you believe it would be more expensive to integrate data access, such as Green Button, at the time the CIS is being developed, that is on the front end before it's deployed, or to add it afterwards in the form of a bolt-on?

A. We really haven't looked at that, so that's hard for me to say.

Q. Okay.

A. Uh-huh.

Q. And are you aware of the difference between Green Button download and Green Button connect?

A. I am.

Q. Okay. Moving away from customer access to energy consumption data.

Is there a relationship between the Company's outage management system or outage management software and the customer information system?

A. It would just be an interface.

Q. Is a portion -- is a goal of the new CIS that's being deployed to link the two of them?

A. It would be linked in the same way it's linked today. It's not a new linkage.

Q. Okay. There is no additional integration?

A. Correct.

Q. Is it accurate to say that J.D. Power reports, which are used widely by Duke Energy in measuring its customer satisfaction, report that satisfaction is much higher when customers receive information about outages?

A. Yes.

Q. Okay. So has the Company investigated linking in greater detail its outage management system with its new CIS?

A. We have not. We are right now in -- just starting design, right? And so, as we walk through design, we will be looking at the interfaces. But the ability to be able to reach out to customers about their outages really rests in two places. The first place is that you have to have your outage systems up to speed and be able to be communicating back with some level of communication. And outbound communication, or whatever that interface is, we have those today.

As we think about customer connect, one of the great things that we are going to be able to do is begin to understand our customers at a much more granular level. We are going to understand our customers' preferences. We are going to begin to be able to tailor and personalize information to them. So the interface is the same, but the data -- the understanding in which we know you, as a customer, will be greater because of the customer platform.

Q. Is it fair to say that you agree with me that it would be beneficial to ratepayers, or at least to the customer satisfaction of ratepayers, if the two were linked in some greater manner?

A. I think customers want to know -- I don't know if they need to be linked greater, but I think we need to know our customers, we need to have a platform that works off of customers not meters, which is what we have today. So the fundamental data model of our CIS needs to change. Once we are able to change that and house personalization, then we will be able to communicate to that customer in the way they wish to hear about their outage. Today, the interface, we have a couple of ways to be able to communicate with that customer. Those things will be a lot better in the future and a lot more personalized. The interfaces I don't think really have anything to do with it. It's about the capabilities that you enable, which is what we are doing.

Q. Fair enough. And forgive me if I forget the exact word you used in you testimony, but you talk about the CIS being rolled out in various, I believe it's releases over the coming years.

Is that something you anticipate the Company investigating, as to whether that would be available in the future, release of the CIS?

A. It will be available. And yes, we are rolling out, because we want customers to receive benefits of customer connect every year and along the way. So we will have two deployments in '18, one in '19, one in '20, and then 2 in '21 and '22.

Q. At this time, do you know when the information sharing between the outage management software and the CIS will begin, or is that, sort of, to be determined?

A. That is to be determined. There will be communications that probably will roll out early, which gives us more granularity in knowing the customer, and then the actual interface into the new CIS will not be until the new CIS deploys.

MR. LEDFORD: Great. Thank you. No further questions.

CHAIRMAN FINLEY: Mr. Finnigan, do you have questions?

MR. FINNIGAN: No, Your Honor.

CHAIRMAN FINLEY: Who is next?

CROSS EXAMINATION BY MS. ROSENTHAL:

Q. Sherri Zann Rosenthal, City of Durham. You may know -- do you know that the City of Durham's sustainability officer has asked Duke Energy for various information about citizen and geographic use of energy within Durham?

A. I'm not aware of that.

Q. And the sustainability officers for Durham, and Chapel Hill, and some of the other cities have gotten together to talk about the usefulness of shared data that they have.

When you are holding these forums, have you thought about having representatives from the cities there, in particular the sustainability officers?

A. The forum has not been set up yet, so that forum is going to be in place, I think, June 2nd or something like that. We have to have a plan in place for that.

Q. Could you add -- the purpose of my questions is to bring to the Company's attention that the sustainability officers have been very interested in the customer usage, energy usage data, depersonalized, because we have launched various waves of weatherization programs, and in targeting where we should put our money to help weatherize housing units, this information is very helpful. So if you could take that into account as you're designing your program to get some feedback, that would be very appreciated.

A. Okay. I just want to make sure that we're clear --

CHAIRMAN FINLEY: Pull that mic around, Ms. Hunsicker.

THE WITNESS: I want to make sure that we are clear on a couple of things. One of those is that we are really going to being looking at usage off the AMI meters, right? So that will be, kind of, what the forum is about. I'm not in a position to be able to say "yes" or "no" to that, but we could certainly take that back and make sure that we consider that.

MS. ROSENTHAL: Thank you.

CHAIRMAN FINLEY: Ms. Harrod?

MS. HARROD: Thank you, Mr. Chairman.

CROSS EXAMINATION BY MS. HARROD:

Q. Ms. Hunsicker, Jennifer Harrod with the AG's Office. And I understand you're employed by DEBS, so if I say "the Company," I guess we all use that term kind of loosely, but I think for the purposes of my questions, I think they are governed by the code -- around the code of conduct, so I think I am talking about both DEC and DEP. But if you need to make more clarification around who we are talking about, please do.

A. Okay.

Q. This question is specific to AMI data, but it could really apply to any data.

Who owns the data that is collected by a customer's -- a single customer's meter; who owns that data?

A. That's kind of a hard thing to say. I would say that's joint ownership.

Q. Okay.

A. That would be customer data, as well as it would be Company, based on the algorithms that we apply and the technology that goes against it.

Q. Okay. And then same question with respect to customer data and the aggregate, all of the information collected from the meters or any subset of information collected from the meters; who owns that data?

A. I think it would be the same.

Q. Okay. Has the Company had any conversations about or made any plans concerning selling that data, or monetizing it, or profiting from it in any way?

A. I'm not aware of anything like that.

Q. Okay. I just -- I noticed, in the code of conduct, there is a section on marketing that implies that at least the customer list has been -- you know, could be made available for marketing purposes.

Would you agree with me that, given the fact that the meters are ultimately paid for by ratepayers, that any financial -- and I'm not endorsing the Company selling customer information, just for the record, so by asking this question, I don't mean to be endorsing that as a good plan, but were the Company to do so, would you agree with me that, a minimum, that the profits from that enterprise ought to roll back to the customers who ultimately paid for that equipment?

A. Yeah. I'm not in that area, so it's really hard for me to answer that.

Q. Okay. Fair point. Is that the type of thing -- so in other words, I don't have a lot of information about this forum you are talking about in

June.

Is that the type of thing -- I know the -- probably the security of customer information is on the table, but is the use of that information for purposes other than the provision of electric service something that would be appropriate to consider in that forum?

A. I'm not sure that that's part of what's in the forum today. That's something that we could certainly take back. I think really it is a third party -- my understanding of reading the order is that it is about third-party access, and what we would make available, how we would make it available. And back to what I suggested earlier is we really want to understand a few tenets, to make sure that we are being very diligent with the data that we store for our customers.

MS. HARROD: Okay. Thank you. I don't have any further questions.

CHAIRMAN FINLEY: Public Staff?

UNIDENTIFIED FEMALE: No questions.

CHAIRMAN FINLEY: Redirect?

MR. ROBINSON: Just a couple, Mr. Chairman.

REDIRECT EXAMINATION BY MR. ROBINSON:

Q. Ms. Hunsicker, do you recall NCJC witness -- excuse me, attorney Thompson comparing definitions of the basic customer charge between North Carolina and Florida?

A. I do.

Q. Can I turn to your attention to NCJC Cross Exam Exhibit 3, page 2? Do you see the definition of customer charge there?

A. Yes, I do.

Q. Okay.

A. Is that the one I read earlier?

Q. Yes. Do you recall reading that?

A. Yes.

Q. Do you mind just reading it again for the record?

A. Certainly.

Q. Oh, you did not read it. So NCJC Cross Exhibit 3, page 2.

A. The Florida one?

Q. Yes.

A. Mine aren't marked. I'm sorry.

Q. Can you please read it?

A. I can. "Customer charge. A fixed monthly amount to cover the cost of providing service to your location. This charge is applicable whether or not electricity is used."

Q. Okay. And is there any difference, from your knowledge, between the components of the charge in Florida based off of that definition versus the definition in North Carolina?

A. I don't see any difference.

Q. Okay. And, Ms. Hunsicker, is there a witness in the Company's case that can better discuss the customer charge and the various components?

A. Absolutely. That would be Witness Pirro.

MR. ROBINSON: Okay. Nothing further.

CHAIRMAN FINLEY: Questions by the Commission? All right. Thank you, Ms. Hunsicker. You may be excused, and we will receive her exhibits in evidence and the NCSEA and NCJC Cross Examination exhibits into evidence.

(Whereupon, Hunsicker Exhibit No. 1 NCSEA Hunsicker Cross Exhibit Nos. 1 and 2 and NCJC et al. Hunsicker Cross Exam Exhibit Nos. 1 through 3 were marked for identification.)

MR. SOMERS: Mr. Chairman, the Company will call Mr. Donald Schneider.

CHAIRMAN FINLEY: Okay.

DONALD SCHNEIDER,

having first been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION BY MR. SOMERS:

Q. Good afternoon, Mr. Schneider. The long wait is over.

A. Good afternoon.

Q. Would you state your name for the record?

A. It's Donald Schneider, Junior.

Q. And what is your business address?

A. 400 South Tryon, Charlotte, North Carolina.

Q. And what do you do for a living?

A. My title is manager -- excuse me, general manager of AMI program management.

Q. And is that for all of Duke Energy or certain segments within the Company?

A. For all of Duke Energy.

Q. Have you caused to be prefiled in this matter direct testimony on or about August 25, 2017, of 10 pages?

A. I did.

Q. And do you have any corrections or revisions to your prefiled direct testimony?

A. I do not.

Q. So if I were to ask you the same questions here today, would your answers be the same?

A. Yes, they would.

MR. SOMERS: Mr. Chairman, I move that Mr. Schneider's prefiled direct testimony be entered into the record as if given orally from the stand.

CHAIRMAN FINLEY: Mr. Schneider's direct prefiled testimony of August 25, 2017, consisting of 10 pages is copied into the record as though given orally from the stand.

MR. SOMERS: Thank you.

(Whereupon, the prefiled direct testimony of Donald Schneider was copied into the record as if given orally from the stand.)

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1146**

| | | |
|---|---|---|
| In the Matter of: | ) | |
| | ) | **DIRECT TESTIMONY OF** |
| Application of Duke Energy Carolinas, LLC | ) | **DONALD SCHNEIDER, JR.** |
| For Adjustment of Rates and Charges | ) | **FOR DUKE ENERGY** |
| Applicable to Electric Service in North Carolina | ) | **CAROLINAS, LLC** |

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Donald L. Schneider, Jr., and my business address is 400 South Tryon Street, Charlotte, North Carolina 28202.

**Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

A. I am employed by Duke Energy Business Services, LLC ("DEBS"), as General Manager, Advanced Metering Infrastructure ("AMI") Program Management. DEBS provides various administrative and other services to Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") and other affiliated companies of Duke Energy Corporation ("Duke Energy").

**Q. PLEASE BRIEFLY DESCRIBE YOUR DUTIES AS GENERAL MANAGER, AMI PROGRAM MANAGEMENT, FOR DUKE ENERGY.**

A. My duties and responsibilities include managing the project execution of all AMI or "smart meter" related projects for all Duke Energy jurisdictions and management of Duke Energy's AMI Operations organization which has responsibilities for day-to-day management and monitoring of the AMI network.

**Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL QUALIFICATIONS.**

A. I received a Bachelor of Science Degree in Electrical Engineering from the University of Evansville (Indiana) in 1986. Upon graduation, I was employed by Duke Energy Indiana (then known as Public Service Indiana) as an electrical engineer. Throughout my career with Duke Energy, I have held various positions of increasing responsibility in the areas of engineering and operations, including distribution planning, distribution design, field operations, and capital budgets. In 2006, I was named General Manager, Midwest Premise Services, responsible for managing all of Duke Energy's Midwest premise service and meter reading departments. Following this, in 2008, prior to the Duke Energy/Progress Energy merger, I was promoted to a position responsible for managing the project execution for all Grid Modernization projects in the field, including both AMI and Distribution Automation ("DA") devices, for all legacy Duke Energy jurisdictions. In 2012, following the Duke Energy/Progress Energy merger, I was named to my current position. Additionally, I have been registered as a professional engineer with the State Board of Registration for Professional Engineers in the state of Indiana since 1995.

**Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION OR ANY OTHER REGULATORY BODIES?**

A. I have not testified before this Commission; however, have testified for Duke Energy Ohio before the Public Utilities Commission of Ohio, Duke Energy Kentucky before the Kentucky Public Service Commission and Duke Energy Indiana before the Indiana Utility Regulatory Commission in cases related to AMI and smart grid topics.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. The purpose of my testimony is to discuss the Company's status in implementing AMI technology, including deployment timelines, in the DE Carolinas North Carolina service territory.

## I. SUMMARY OF TESTIMONY

**Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

A. Approximately 574,000 DE Carolinas North Carolina customers have received smart meters as of year's end 2016. Current projections show a total of over 1 million smart meters deployed for DE Carolinas North Carolina customers by the end of November 2017.

Smart meters allow customers access to more detailed usage information (down to the hour) via the customer portal. Meter reads, monthly and for the purpose of transferring service ("off-cycle"), can be performed remotely for all customers, eliminating the need for a technician to come to the customer's premise. Additionally, service connections and disconnections can be performed remotely for the majority of customers who are starting and/or stopping service, again, eliminating the need for a technician to come to the customer's premise. During storm outages, damage assessment and repair verification can be done much more quickly when customers have a smart meter.

## II. ADVANCED METERING INFRASTRUCTURE

**Q. ARE YOU FAMILIAR WITH THE EXISTING AUTOMATED METER READING SYSTEM OF DUKE ENERGY CAROLINAS?**

A. Yes. Beginning in 2002, DE Carolinas began exchanging analog meters with Automated Meter Reading meters so that meter reading equipment installed in vehicles could gather kWh usage via a 900 MHz radio frequency ("RF") signal. During the deployment DE Carolinas exchanged the analog meters with either a digital Automated Meter Reading meter or an analog meter retrofitted with an RF radio transmitter inside (collectively "AMR Meters"). AMR meters were deployed for the vast majority of customers and monthly meter reading was no longer performed by having to physically visit each meter, but instead was performed monthly as vehicles drove through neighborhoods collecting the readings being transmitted by the AMR meters.

**Q. ARE THERE ANY LIMITATIONS WITH DE CAROLINAS' CURRENT SYSTEM?**

A. Yes. While the current AMR system provided efficiencies over physically visiting and reading each meter, its single monthly meter readings provide limited energy usage information. The current system also requires vehicles to drive through neighborhoods for readings. Finally, the one-way communications with AMR meters does not supply customers or the Company with expanded capabilities for enhanced customer programs and services.

**Q. WHAT IS ADVANCED METERING INFRASTRUCTURE?**

A. AMI meters - often referred to as smart meters - are digital electricity meters that have advanced features and capabilities beyond traditional electricity meters. Some of the advanced features include the capability for two-way communications, interval usage measurement, tamper detection, voltage and reactive power measurement, and net metering capability. The system utilizes an RF mesh architecture, which is flexible in that the meters within the mesh network establish an optimized RF communication path to a collection point either through other meters or, in some cases, through network range extenders.

The AMI implementation is not a simple meter change-out project. In addition to changing out the meters, AMI covers all of the components necessary to communicate with the advanced meters and collect usage data and event information from them. The system includes advanced meters, a two-way communication network, and central computer systems.

**Q. DESCRIBE THE CURRENT IMPLEMENTATION OF ADVANCED METERING INFRASTRUCTURE ACROSS THE DE CAROLINAS SYSTEM.**

A. Based on previous experience deploying smart meters in other Duke Energy jurisdictions, DE Carolinas is deploying the AMI technology by zones. To efficiently and effectively deploy AMI, the Company first strategically places the collection point equipment in a deployment zone. Then the Company installs the smart meters that will communicate through that collection point equipment or other nearby collection point equipment, allowing some overlap for redundancy purposes. This process is repeated on a rolling basis, in that the Company will begin new zones while deployment in other zones is underway. Once deployment is complete in a zone, there may still be ongoing work to relocate collection points or install range extenders in order to optimize the communication network.

As of December 31, 2016, DE Carolinas had installed approximately 574,000 smart meters in its North Carolina service territory. As of June 30, 2017, the Company had installed a total of 756,000 smart meters in its North Carolina service territory. DE Carolinas has continued installing additional meters, forecasting a total of approximately 1,091,000 across its North Carolina service territory by November 30, 2017. The plan is to continue AMI implementation through mid-2019 for all remaining DE Carolinas North Carolina customers' meters in scope.

**Q. HOW WILL THE ADVANCED METERING INFRASTRUCTURE IMPLEMENTATION DIRECTLY BENEFIT THE COMPANY'S CUSTOMERS?**

A. The AMI technology is customer-focused; it enables greater convenience, control and transparency over a customer's energy consumption. Customers with smart meters will have access to detailed information about their hourly and daily usage patterns through the Duke Energy customer portal so they can make more informed choices regarding how they use energy. With the capability to record interval usage data, smart meters are a foundational technology that can enable new rate designs, as referenced in Witness Pirro's testimony. This additional data, combined with the new Customer Information System, referenced in Witness Hunsicker's testimony, will provide the Company with expanded options and flexibility in supporting enhanced services and rate offerings.

Additionally, two new customer programs are now available to DE Carolinas customers with smart meters. Pick Your Due Date allows eligible customers to select their desired billing due date from the 1st to the 31st of the month, better aligning with a customer's needs. Usage Alerts provides eligible customers with an alert at the midpoint of their billing cycle showing their accumulated charges and forecast of their month-end bill. Usage Alert customers can customize their experience by choosing to receive threshold alerts that notifies them when their charges are approaching/exceeding their monthly budget. Usage Alert customers can further set and change their alert preferences in the usage alert management tool and set a budgeted dollar amount and change their alert channel to text message.

All customers receiving smart meters will benefit from the greater convenience that enables DE Carolinas to perform regular meter reads and off-cycle meter reads remotely. Additionally, customers will experience the convenience of not needing to schedule a technician to visit their premise when they request that their electric service be connected or disconnected. Likewise, electric customers who become eligible for disconnection for non-payment will have power restored more quickly through the remote reconnect capability, than they would if DE Carolinas had to send a technician on site.

Finally, smart meters will be integrated into Company efforts to increase communications with customers about outages and restoration timelines. DE Carolinas will have the capability to interrogate individual smart meters or masses of smart meters to determine if customers have power. During the damage assessment phase of a storm, the mass meter interrogation capability allows the Company to have a better view of where outages are located on the system. This functionality helps reduce the assessment time, thus reducing outage durations for customers. During the power restoration phase of a storm, the capability of mass meter interrogation enables the Company to determine whether power has been restored to each meter before leaving an area. For example, today, if the Company restores power to a circuit that was experiencing an outage, DE Carolinas does not know whether each individual home has been restored along that circuit. It could happen that power is restored to nearly all of the homes along the circuit, but that one or two homes continue to be without service due to some other individual issue. The Company presently has no way of knowing if this has occurred until the customer notifies DE Carolinas that they are still without service, and by that time, the Company's crew may have moved on to a new area. Smart meters will allow the Company to know whether individual customers are back in service before the Company moves on. And lastly, during the cleanup phase of a storm, when the Company is clearing out single-outage tickets, the capability of interrogating individual meters can tell the Company when customers power has already been restored, saving a truck roll to confirm power has been restored.

**Q. ARE COSTS FOR THE ADVANCED METERING INFRASTRUCTURE IMPLEMENTATION INCLUDED IN THIS RATE CASE?**

A. Yes, costs of the smart meter implementation are included in this rate case. In 2016 the Company spent $73.9 million across the system in North and South Carolina. Through pro forma adjustments, the Company has included North Carolina retail's share of actual and estimated costs of implementation for the period January through November 2017 of $123.1 million for the system. Pro forma and North Carolina specific adjustments in this rate case are discussed in the testimony of Witness McManeus. In addition, Witness McManeus requests permission to use a regulatory asset to address the cost recovery of meters that will be replaced by the smart meter implementation.

**Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

A. Yes.

BY MR. SOMERS:

Q. Mr. Schneider, did you also cause to be prefiled rebuttal testimony in this matter of some 17 pages on or about February 6, 2018?

A. Yes, I did.

Q. Do you have any changes or corrections to your prefiled rebuttal testimony?

A. I do not.

Q. So if I were to ask you the same questions here today on the stand, would your answers be the same?

A. Yes, they would.

MR. SOMERS: Mr. Chairman, I would move to admit into the record Mr. Schneider's rebuttal testimony, as if given orally from the stand.

CHAIRMAN FINLEY: Mr. Schneider's rebuttal testimony of 17 pages of February 6, 2018, is copied into the record as though given orally from the stand.

MR. SOMERS: Thank you.

(Whereupon, the prefiled rebuttal testimony of Donald Schneider was copied into the record as if given orally from the stand.)

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1146**

| | | |
|---|---|---|
| In the Matter of: | ) | |
| | ) | **REBUTTAL TESTIMONY OF** |
| Application of Duke Energy Carolinas, LLC | ) | **DONALD SCHNEIDER, JR.** |
| For Adjustment of Rates and Charges | ) | **FOR DUKE ENERGY** |
| Applicable to Electric Service in North | ) | **CAROLINAS, LLC** |
| Carolina | ) | |

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Donald L. Schneider, Jr., and my business address is 400 South Tryon Street, Charlotte, North Carolina 28202.

**Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

A. I am employed by Duke Energy Business Services, LLC ("DEBS"), as General Manager, Advanced Metering Infrastructure ("AMI") Program Management. DEBS provides various administrative and other services to Duke Energy Carolinas, LLC ("DE Carolinas" or the "Company") and other affiliated companies of Duke Energy Corporation ("Duke Energy").

**Q. DID YOU SUBMIT DIRECT TESTIMONY IN THIS PROCEEDING?**

A. Yes. I caused to be pre-filed direct testimony on behalf of DE Carolinas.

**Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

A. The purpose of my testimony is to respond to portions of the direct testimony filed by Public Staff witnesses Jack L. Floyd, North Carolina Sustainable Energy Association ("NCSEA") witness Michael E. Murray, and Environmental Defense Fund ("EDF") witness Paul J. Alvarez regarding DE Carolinas implementation of AMI meters and various recommendations they have made to the Commission.

## I. SUMMARY OF TESTIMONY

**Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

A. I will respond and clarify questions that Public Staff witness Floyd and EDF witness Alvarez had about the DE Carolinas AMI cost-benefit analysis and explain further how a foundational investment of AMI enables increased customer value. I join in agreement with Public Staff witness Floyd encouraging the Commission to rule on the AMI opt-out tariff filed by the Company in July 2016. Additionally, I will further support DE Carolinas' request that new AMI meters receive a 15-year depreciation life instead of the 17-year life recommendation from the Public Staff. I explain that the current proceeding combined with DE Carolinas' annual Smart Grid Technology Plan ("SGTP") filings offer the Commission, Public Staff and other interested parties the ability to investigate and comment on the Company's AMI plans without requiring a separate docket or proceeding. Finally, I respond to NCSEA's witness Murray's request that the Commission adopt a "bring your own device" requirement as part of this rate case.

## II. ADVANCED METERING INFRASTRUCTURE

**Q. IN HIS TESTIMONY AT PAGE 42, PUBLIC STAFF WITNESS FLOYD STATES THAT "I AM GENERALLY SUPPORTIVE OF THE ANALYSES PROVIDED BY THE COMPANY" AND ON PAGE 45 "THE COMPANY HAS MADE A REASONABLE ASSESSMENT OF THE COSTS AND BENEFITS ASSOCIATED WITH ITS PROPOSED DEPLOYMENT OF AMI," BUT AT PAGES 40-43, HE NOTES A FEW CONCERNS WITH THE AMI COST-BENEFIT ANALYSIS PERFORMED BY THE COMPANY. FIRST, HOW DO YOU RESPOND TO HIS CONCERNS ABOUT THE NON-TECHNICAL LOSS BENEFITS INCLUDED IN THE ANALYSIS?**

A. DE Carolinas provided a discussion of, and cost-benefit analysis for, its AMI project plan in the Company's SGTP filed on October 2, 2017 in Docket No. E-100, Sub 147, as well as in response to data requests in this rate case.

As pointed out by Witness Floyd, the Company is basing the reduction in non-technical line loss benefit on a 2008 EPRI report titled "Advanced Metering Infrastructure Technology - Limiting Non-Technical Distribution Losses In The Future" that was prepared by industry experts. According to the 2008 EPRI report, industry experts project that a reasonable percentage for non-technical losses is 2 percent of gross revenue. This assumption was utilized as a basis in calculating the DE Carolinas AMI non-technical loss reduction benefit. This benefit item represents expected revenue capture during and after an AMI project as a result of the increased ability to identify, correct and/or collect cases of non-performing or under-performing ("slow/stuck") meters from registration erosion, power theft and pilferage by way of either direct tapping, manipulating, or bypassing the meter, non-reading of meters, and misconfigured equipment and installation errors such as mis-wiring, incorrect application of multiplying factors, and defects in current transformer ("CT") & potential transformer ("PT") circuitry.

As reported in the December 15, 2017 filing in Docket Nos. E-7, Sub 1115 and E-100, Sub 147 analyzing Non-Technical Loss ("NTL") is significantly complex and it would not be possible to use the actual historical kilowatt-hour and lost revenue data for energy theft that DE Carolinas has experienced, as the Company is only able to measure what has been identified. Nevertheless, the Company provided an estimate of the costs and benefits for the AMI deployment using the Commission-requested adjustments to its AMI cost-benefit methodology. Analytics capabilities for revenue protection with AMI are continuing to develop as more AMI data becomes available. A full deployment of AMI is expected to further enhance revenue loss identification abilities and the Company is striving to maximize capture of NTL.

**Q. PUBLIC STAFF WITNESS FLOYD ALSO STATES ON PAGE 42 OF HIS TESTIMONY THAT THE PUBLIC STAFF IS CONCERNED THAT DE CAROLINAS "WILL NOT IMMEDIATELY MAXIMIZE THE BENEFITS AVAILABLE TO CUSTOMERS FROM AMI." HOW WILL AN AMI PROJECT DIRECTLY BENEFIT THE COMPANY'S CUSTOMERS, AND HOW WILL THE COMPANY "MAXIMIZE" THE BENEFITS?**

A. AMI is a foundational investment that will enable DE Carolinas to provide customers with greater convenience, choice, control and transparency over their energy consumption. Public Staff witness Floyd mentions that "without access to all of the functionalities of AMI, customers will not experience the greater convenience and control of usage that should be available to them." He then goes on to describe some specific ways that Duke Energy should address his concern about benefit maximization. As I describe below, the Company is already working to address those concerns.

On page 43 of his testimony, Public Staff witness Floyd says, "DEC should produce rate designs that include new TOU rate structures that provide stronger price signals to shift load." With the capability to record interval usage data, smart meters are a foundational technology that can enable new rate designs, as referenced in Company witness Pirro's rebuttal testimony. This additional data, combined with the new Customer Connect project, referenced in Company witness Hunsicker's rebuttal testimony, will provide DE

Carolinas with expanded options and flexibility in supporting enhanced services and rate offerings.

Public Staff witness Floyd also says on page 43 of his testimony that DE Carolinas' AMI deployment "should also result in new payment options including allowing customers to prepay for electricity. One new payment option that has already been implemented for DE Carolinas customers with AMI meters is Pick Your Due Date, which allows eligible customers to select their desired billing due date from the 1st to the 31st of the month, better aligning with a customer's needs. Additionally, it just so happens that the Company filed a Prepaid Advantage energy efficiency pilot program on January 16, 2018 in Docket No. E-7, Sub 1167. Participants in the pilot will pay in advance and settle daily for their energy use, rather than being billed for usage after it has occurred. The pilot is designed to facilitate customers' control over their energy use and enable bill management for residential customers by allowing customers to pay the amount they choose when they choose, thereby avoiding unexpectedly high bills and non-pay disconnects.

Finally, Public Staff witness Floyd says on page 43 of his testimony, "DEC should also produce informational tools and applications that provide more granular and timely data to allow customers greater insight and control over their actual usage." Customers with AMI meters have access to detailed information about their hourly and daily usage patterns through the Duke Energy customer portal so they can make more informed choices regarding how they use energy. Also, as part of continuing to build upon the foundational investment of AMI, an additional enhanced customer service was implemented for DE Carolinas customers referred to as Usage Alerts. The Usage Alerts offering provides AMI metered customers with an alert at the midpoint of their billing cycle showing their accumulated charges and forecast of their month-end bill. Usage Alert customers can customize their experience by choosing to receive threshold alerts that notifies them when their charges are approaching/exceeding their monthly budget. Usage Alert customers can further set and change their alert preferences in the usage alert management tool and set a budgeted dollar amount and change their alert channel to text message.

Public Staff Witness Floyd says, "The Public Staff's support for the AMI deployment is predicated on maximizing these non-quantifiable benefits for customers," but the Company notes that it will provide even more benefits for customers through its AMI deployment. All customers receiving AMI meters are benefiting from the greater convenience that enables DE Carolinas to perform regular meter reads and off-cycle meter reads remotely. Additionally, customers experience the convenience of not needing to schedule a technician to visit their premise when they request that their electric service be connected or disconnected. Likewise, electric customers who become eligible for disconnection for non-payment have power restored more quickly through the remote reconnect capability, than they would if DE Carolinas had to send a technician on site.

Finally, AMI meters are being integrated into Company efforts to streamline restoration efforts. DE Carolinas has the capability to interrogate individual AMI meters or masses of AMI meters to determine if customers have power. During the damage assessment phase of a storm, the mass meter interrogation capability allows the Company to have a better view of where outages are located on the system. This functionality helps reduce the assessment time, thus reducing outage durations for customers. During the power restoration phase of a storm, the capability of mass meter interrogation enables the Company to determine whether power has been restored to each meter before leaving an area. For example, today, if the Company restores power to a circuit that was experiencing an outage, DE Carolinas does not know whether each individual home has been restored along that circuit if they don't have an AMI meter. It could happen that power is restored to nearly all of the homes along the circuit, but that one or two homes continue to be without service due to some other individual issue. With the legacy meters the Company has no way of knowing if this has occurred until the customer notifies DE Carolinas that they are still without service, and by that time, the Company's crew may have moved on to a new area. AMI meters allow the Company to know whether individual customers are back in service before the Company moves on. And lastly, during the cleanup phase of a storm, when the Company is clearing out single-outage tickets, the capability of interrogating individual meters tells the Company when customers' power has already been restored, saving a truck roll to confirm power has been restored.

**Q. PUBLIC STAFF WITNESS FLOYD ALSO ENCOURAGES THE COMMISSION TO ISSUE AN ORDER ON THE OPT-OUT PROGRAM FILED BY DE CAROLINAS IN DOCKET NO. E-7, SUB 1115. HOW DO YOU RESPOND?**

A. DE Carolinas agrees that customers should have the choice to opt-out of the AMI meter through a cost-based tariff. The Company agrees with the Pubic Staff that the Commission should approve the opt-out program as filed, and respectfully requests approval by the Commission soon.

**Q. ON PAGE 46 OF HIS TESTIMONY, PUBLIC STAFF WITNESS FLOYD RECOMMENDS THAT THE COMPANY FILE AN UPDATED COST-BENEFIT ANALYSIS THAT IS BASED ON THE ACTUAL AMI DEPLOYMENT COSTS INCURRED IN ITS NEXT BASE RATE CASE. HOW DO YOU RESPOND?**

A. DE Carolinas does not believe that such an additional cost-benefit analysis should be required. The Company's decision to fully deploy AMI meters to its customers has been made and the Public Staff and Commission have the necessary information and tools to determine their positions on recovery of those costs based upon the information the Company had at the time the relevant decision was made. Such a requirement would be burdensome and costly and, although I am not an attorney, I believe it would be contrary to the North Carolina ratemaking principles which do not allow a "hindsight" analysis. Having said that, DE Carolinas' deployment of AMI is cost-effective and beneficial to its customers and the Company stands by its decision.

**Q. PUBLIC STAFF WITNESS FLOYD RECOMMENDS AT THE COMPANY'S NEXT BASE RATE CASE THAT IT FILE "A DETERMINATION OF THE ACTUAL NON-TECHNICAL LOSS BENEFITS THAT ARE REALIZED, INCLUDING SAMPLE CASE STUDIES THAT WOULD ILLUSTRATE THOSE BENEFITS AND HOW THOSE BENEFITS HAVE IMPACTED THE COMPANY'S BASE REVENUE ITEMS THAT COMPRISE THE NTLS." HOW DO YOU RESPOND?**

A. The Company is willing to work with the Public Staff about how to best provide information about this benefit in the next rate case.

**Q. ON PAGE 20 OF HER PRE-FILED DIRECT TESTIMONY, PUBLIC STAFF WITNESS MCCULLAR RECOMMENDS THAT DE CAROLINAS UTILIZE A 17-YEAR AVERAGE SERVICE LIFE FOR AMI METERS AS OPPOSED TO 15 YEARS AS DE CAROLINAS PROPOSED. DO YOU AGREE WITH HER RECOMMENDATION?**

A. No, I do not agree. Given the pace of technology advancement, the trend across the industry is shorter depreciation schedules from a regulatory and accounting perspective, as systems such as AMI are more of a computer based technology. In addition, the Commissions in Indiana, Kentucky, Ohio and Florida all utilize 15-year depreciation lives for the Duke Energy AMI meters deployed in those jurisdictions.

**Q. IN HIS PRE-FILED DIRECT TESTIMONY, EDF WITNESS ALVAREZ AT PAGES 24-29, DISCUSS CONCERNS WITH THE COMPANY'S AMI COST-BENEFIT ANALYSIS. HOW DO YOU RESPOND?**

A. First, the Company's AMI cost-benefit analysis was filed in DE Carolinas' SGTP supplemental filing on May 2, 2017 and again on October 2, 2017 in Docket No. E-100, Sub 147. In past SGTP dockets, the Company has discussed that parties likely have different definitions of a "cost-benefit" analysis, and there is not a standard template that every project related to smart grid technologies follows in completing the evaluation and analysis for determining the business case for a specific technology. Many different factors go into the decisions to invest, or not invest, in any specific technologies or solutions at any specific time. Those decisions follow the same process as any investment made across the utility. As such a cost-benefit analysis is not in and of itself determinative of whether a project will move forward. As I discussed previously, AMI is a foundational investment that enables additional customer convenience, choice, control and transparency. Without the AMI capability, future such customer benefits will not be possible. Public Staff witness Floyd, on page 42 of his testimony regarding his discussion of the AMI cost-benefit, acknowledges that "while helpful and necessary in the decision to replace meters, should not be the sole basis used to justify replacement of the existing AMR meters." Additionally, witness Floyd goes on to say "The Company's commitment to new rate designs, the changing nature of the utility business, and the need to properly identify cost causation and to appropriately price the goods and services provided by the Company, must also be considered. I consider these to be benefits that are not easily quantified in terms of a strict cost-benefit analysis". The Company agrees with Witness Floyd's comments.

Regarding Mr. Alvarez's concerns that DE Carolinas failed to provide sufficient detail to his liking as to future rate options that will be enabled by an AMI project, Company Witness Pirro addresses rate options in his rebuttal testimony. The Company certainly expects that innovative future programs and applications that are not even contemplated at this point in time may be developed as a result of a foundational AMI project. DE Carolinas believes that the Commission's existing SGTP, ratemaking and EE/DSM processes provide opportunity for stakeholder engagement and comment in the development and approval of such programs to maximize customer benefits.

**Q. IN HIS PRE-FILED DIRECT TESTIMONY, EDF WITNESS ALVAREZ AT PAGES 35-36, DISCUSSES THAT THE COMPANY LISTED "PREPAID ADVANTAGE" AS A PROGRAM THE COMPANY PLANS TO OFFER. IS THERE AN UPDATE ON THIS PROGRAM FROM THE COMPANY?**

A. Yes, as noted above in my testimony the Company filed on January 16, 2018 a Prepaid Advantage energy efficiency pilot program in Docket No. E-7, Sub 1167. The Company is excited to offer Prepaid Advantage that witness Alvarez highlights as a program that will drive conservation benefits for customers.

**Q. IN HIS PRE-FILED DIRECT TESTIMONY, EDF WITNESS ALVAREZ AT PAGES 36-37, DISCUSSES USAGE ALERTS, BUT SAYS "THE COMPANY DOES NOT COMMIT TO OFFERING USAGE ALERTS." CAN YOU CLARIFY THIS ASSERTION?**

A. Yes, this assertion by witness Alvarez is confusing. I noted in my direct testimony in this case on page 8 that DE Carolinas has already implemented usage alerts.

**Q. EDF WITNESS ALVAREZ RECOMMENDS THAT COMMISSION REVIEW DE CAROLINAS' AMI PROJECT AS PART OF A NEW GRID MODERNIZATION PROCEEDING. DOES DE CAROLINAS AGREE WITH THE PROPOSAL TO ESTABLISH YET ANOTHER GRID MODERNIZATION DOCKET OR PROCESS TO REVIEW THE AMI PROJECT?**

A. No, DE Carolinas does not believe that a new grid modernization process is needed. The Commission already has a SGTP rule and dockets to review, allow for intervenor investigation and comment, and ultimately accept, modify or reject the Company's SGTP and those of the other utilities. The Company filed its AMI cost-benefit analysis in the DE Carolinas' SGTP supplemental filing on May 2, 2017 and again on October 2, 2017 in Docket No. E-100, Sub 147. In the past, the Commission has sought verified answers to questions they submitted and scheduled presentations, as was done in October 2017, to gain additional information about AMI plans and there is no indication that the Commission does not have the necessary means to review AMI plans under its existing processes. Cost recovery for the Company's AMI program will be subject to the existing robust and transparent rate case process. Accordingly, DE Carolinas does not agree with the proposals to create a duplicative process to review AMI plans.

**Q. ON PAGES 33-35 OF HIS TESTIMONY, NCSEA WITNESS MURRAY ALSO RECOMMENDS A "BRING YOUR OWN DEVICE" OFFERING THAT ALLOWS CUSTOMERS TO CONNECT HOME AREA NETWORKS DIRECTLY TO THE COMPANY'S AMI RADIO. HOW DO YOU RESPOND?**

A. First, smart meter to home area network ("HAN") connections combine two separate security risks. First, the current lack of security within Internet of Things ("IoT") devices, gateways and applications, and second, external connections to critical infrastructure. For both topics, Duke Energy is deliberately and carefully evaluating the associated risk to the reliability of the power grid. Our considerations currently include: (1) research conducted by third parties, (2) compliance with National Institute of Standards and Technology ("NIST") based security standards that federal and state commissions have encouraged the Company to adopt, (3) alignment with recently released security principles related to both topics provided by the Department of Homeland Security ("DHS"), National Security Agency ("NSA") and the Department of Energy ("DOE"). Cyber security threats are of the utmost concern to the Company and for these reasons the Company does not support the bring your own device recommendation by witness Murray at this time.

Second, another concern is support and upgradeability. At this time, if a customer buys a device not known to the Company, DE Carolinas would not be able to provide support to the customer if that device fails or is not able to connect to the meter. If a new security release is made available the Company may push that to the meter. The Company would have no way to test to ensure that that new version that was pushed is compatible with all of the devices that a customer may have purchased. Customer satisfaction would be impacted along with a large increase in call volumes. Again, the Company does not support the "bring your own device" recommendation by witness Murray, unless or until such concerns are addressed.

**Q. DOES THIS CONCLUDE YOUR PRE-FILED REBUTTAL TESTIMONY?**

A. Yes.

BY MR. SOMERS:

Q. Mr. Schneider, have you also prepared summaries of your direct and rebuttal testimony?

A. Yes, I did.

MR. SOMERS: Mr. Chairman, in an effort to move things along, we would ask that those be entered into the record and waive him reading them, unless the Commission would prefer otherwise.

CHAIRMAN FINLEY: Without objection, the Schneider summaries shall be copied into the record as though read orally.

(Whereupon, the summary of the prefiled direct testimony and prefiled rebuttal testimony of Donald Schneider was copied into the record as if given orally from the stand.)

Duke Energy Carolinas
Summary of Rebuttal Testimony of Donald L. Schneider, Jr.
NCUC Docket No. E-7, Sub 1146

The purpose of my rebuttal testimony is to respond to comments and recommendations of Public Staff witnesses Jack Floyd and Roxie McCullar and EDF witness Paul Alvarez regarding DE Carolinas' AMI cost-benefit analysis and explain further how an investment in AMI will increase customer value. In response to concerns about maximizing the benefits of AMI deployment, I discuss how the Company is addressing those concerns. With the capability to record interval usage data, smart meters are a foundational technology that can enable new rate designs, as referenced in Company witness Pirro's rebuttal testimony. This additional data, combined with the new Customer Connect project referenced in Company witness Hunsicker's rebuttal testimony, will provide DE Carolinas with expanded options and flexibility to support enhanced services and rate offerings. As for new payment options, the Company recently filed a Prepaid Advantage energy efficiency pilot program that will allow participants to pay in advance and settle daily for their energy use, rather than being billed after usage has occurred. And as for informational tools that provide more granular and timely data, as I discussed previously, customers with AMI meters have access to detailed information about their hourly and daily usage patterns through the Duke Energy customer portal.

On the issue of opt-out, I join Public Staff witness Floyd who has encouraged the Commission to rule on the AMI opt-out tariff filed by the Company in July 2016. However, I disagree with Public Staff witness Floyd's recommendation that the Company perform additional cost-benefit analyses in its next base rate case. The Commission has the necessary information to determine recovery of costs based on the information DE Carolinas had at the time that the decision to fully deploy AMI meters was made.

On the issue of depreciation, I support the Company's request that new AMI meters receive a 15-year depreciation life instead of the 17-year life recommended by Public Staff witness Roxie McCullar. Given the pace of technology advancement, the trend across the industry is shorter depreciation schedules from a regulatory and accounting perspective for systems, such as AMI, using computer-based technology.

On the issue of a new Grid Modernization proceeding proposed by EDF witness Alvarez, I explain that the current proceeding, combined with DE Carolinas' annual Smart Grid Technology Plan filings, offers the Commission, Public Staff and other interested parties the ability to investigate and comment on the Company's AMI plans without requiring a separate proceeding.

Finally, I respond to NCSEA witness Michael Murray's request that the Commission adopt a "bring your own device" requirement, to allow customers to connect home area networks directly to the Company's AMI radio. Smart meter to home area network connections combine separate security risks that could affect reliability of the power grid. Because cyber security threats are of the utmost concern to the Company, DE Carolinas does not support this proposal.

This concludes the summary of my Rebuttal Testimony.

MR. SOMERS: I want to make sure Mr. Finnigan gets home in time to watch the Musketeers and Bearcats play. With that, Mr. Schneider is available for cross.

MR. FINNIGAN: Much appreciated. Your Honor, may I approach the witness with an exhibit that was marked in Mr. Simpson's cross examination?

CHAIRMAN FINLEY: Yes, you may.

CROSS EXAMINATION BY MR. FINNIGAN:

Q. Mr. Schneider, nice to see you again. We've met before?

A. Yes, we have, John.

Q. And just for the record, I'm John Finnigan, counsel for Environmental Defense Fund. Mr. Schneider, I've placed before you the exhibits from Mr. Simpson's cross examination, and I would like you to turn to Exhibit 2. It's at Tab 2 there. And that's a report on the stimulus bill smart grid pilot projects, and that was the grant from the Department of Energy to Duke to do the smart grid pilots in a few states.

Could you turn to page 2 of 6, as it's marked in the upper right-hand corner?

A. Yes.

Q. And there is a box there in the middle of the page on the right where it references customer engagement pilots?

A. Customer -- I see.

Q. For the Carolinas?

A. Customer enablement pilots?

Q. Yes.

A. Okay.

Q. What are those?

A. Well, I see this is dated back in March of 2015. I'm not familiar with that term, "customer enablement pilots," but I do believe it is in relation to electric -- some electric vehicle pilots that we had back at that time.

Q. Okay.

A. That's about all I know. That term does not look familiar to me.

Q. Okay. Thank you.

A. I don't believe it's related to AMI.

CHAIRMAN FINLEY: Pull the mic around there, Mr. Schneider, so we could hear you.

MR. FINNIGAN: That's all the questions I have about that. Thank you.

And Mr. Chairman, may I approach to have some exhibits marked?

CHAIRMAN FINLEY: Yes, you may.

BY MR. FINNIGAN:

Q. Mr. Schneider, I would like to first ask you about performance metrics.

Would you agree with me that, when a utility does a major project, like AMI, it's good utility practice to have some performance metrics that lay out what the objectives are you that are trying to accomplish, and then allow you to measure your performance against those objectives?

A. Yes, I would agree with that.

Q. And can they also help the Commission to determine whether you're implementing the project in a prudent manner?

A. Yes. Depending on what the metrics are, yes, I would agree.

Q. And did you propose any performance metrics in your testimony in this case?

A. No, we did not.

Q. Could you please turn to the document that's marked as Exhibit EDF Schneider Cross Exam Exhibit 1?

A. Yes. Page 1 of 79?

Q. Yes. Can you identify that as testimony you filed with the Indiana Commission to support an AMI deployment there?

A. Yes, that's correct.

Q. And could you turn to the very last page of that document, page 79 of 79, in the upper right-hand corner at the top of the document?

A. Yes, I'm there.

Q. Can you identify that as performance metrics that you proposed with the AMI deployment in Indiana?

A. Yes, they do look familiar. I can't recall if it was part of our proposal, or part of the negotiation or the stipulation settlement, or I don't recall if we submitted it as proposal or -- but yes, eventually we got to this as a proposed metric.

CHAIRMAN FINLEY: Do you want it marked, Mr. Finnigan? Mr. Finnigan, do you want it marked?

MR. FINNIGAN: Yes. I would like that document marked as EDF Schneider Cross Examination Exhibit 1, the entire exhibit that's at Tab 1.

CHAIRMAN FINLEY: Shall be so marked.

(Whereupon, EDF Schneider Cross Examination Exhibit No. 1 was marked for identification.)

BY MR. FINNIGAN:

Q. And then please turn to page 24 of 79 of that document.
A. Okay. I'm there.
Q. And let me ask you to take a look, beginning at the sentence that starts at line 11, it says, "Based on experiences in other jurisdictions, in terms of relevant information and ability to collect, Duke Energy Indiana proposes to develop metrics for tracking both the AMI deployment, build metrics, and the AMI benefits packet metrics"; have I read that correctly?
A. Yes, I see that.
Q. So does that refresh your memory that you did propose those as part of your filed --
A. Yes, it does. That's why I wasn't sure if it was in my original testimony or elsewhere. Thank you.
Q. Okay. Now, would you agree to use those same metrics and report those to this Commission on an annual basis as you go forward with the AMI deployment here in Duke Energy Carolinas' territory?
A. Yes. I think we would be willing to work out what the pertinent metrics would be that the Commission and others would be interested in seeing.
Q. Now, if those metrics were pertinent in Indiana, that's what you propose?

A. Yes.
Q. Would you be willing to report on the same metrics here for this Commission?
A. Sure. Yes, sir.
Q. Now, let's change the subject to home energy monitors.
Do you agree that an in-home display, or a home energy monitor, is an important tool to give customers greater control over their energy usage?
A. I think it's one of many tools that can give customers a view -- a better view into their interval usage data. I think, also, what we provide already today, as part of our AMI deployment, we have available on our customer portal the customer usage information in hourly increments for our customers to be able to go out and view at any time. So I think that's another way. I would say the in-home management is the most important form -- or in-home display is the most important form, as you stated, I believe.
Q. I didn't say it was the most important. I just said an important.
A. Oh, an important, yeah. I would say it is one. I don't know that it's the most important.
Q. Okay. Now, has Duke tested any home energy

monitors?

A. I can't recall if in years past we have, but most recently, we are working on or have worked on a pilot -- energy usage pilot, I believe, in the Carolinas is where we have done that.

Q. For home energy monitors?

A. Yes. It's -- well, it's an app, so you use your phone as the monitor.

Q. Is this referred to as the Powerley device?

A. Yes, that's it.

Q. It's manufactured by Detroit Edison?

A. I do not know that.

Q. And it's a bridge -- there is a device called the Energy Bridge that's in the customer's home, and that allows the energy usage data to be transmitted to the customer's phone or a computer tablet?

A. That's my understanding, yes.

Q. Mr. Fountain talks about it in his testimony?

A. Yes. Yes, he does.

Q. Now, I wanted to ask you how the information is transmitted over this energy bridge to the customer's phone and computer tablet. The home energy monitor connects to the smart meter over the customer's personal Wi-Fi network; is that right?

A. That's my understanding, yes. The customer has to have an Internet service provider and Wi-Fi.
Q. Okay. And the Company is in the process of developing a pilot program for these devices, according to Mr. Fountain?
A. That's my understanding, yes.
Q. Okay. Now, under this program, the customer would only be able to use these kind of devices that are supplied by Duke; is that right?
A. That's my understanding for this pilot, yes.
Q. And they would only be able to get the information that Duke wants them to get?
A. That I don't know.
Q. Would you know whether third parties could transmit information to customers using these devices?
A. I do not know enough about the pilot to answer that.
Q. Now, in your rebuttal testimony, you referred to some testimony that Mr. Murray filed about a bring-your-own-device program?
A. Yes, I recall.
Q. And his basic recommendation was that customers should be allowed to bring their own home energy monitors, to select the ones that they wanted to

use for themselves in their home, and you recommended against that for a number of reasons?

A. That's correct.

Q. And this Powerley Energy Bridge that's in the home, the end result would be customers can't select their own monitors; they would be forced to use only the one that Duke supplies?

A. Well, again, the monitor is either your laptop or a tablet. So in terms of a definition of a monitor, I would say that's incorrect.

Q. Okay. Let's -- I'm sorry. I used the wrong term. I meant bridge, the energy bridge.

The customers would be forced to use the energy bridge that Duke provides and wouldn't be able to use their own home energy monitors?

A. So when you say "bridge," so there is a, what I would call, a black box device that we do provide to that customer in order for them to be able to use their own devices as display monitors.

Q. And that goes in their home and connects with their Wi-Fi?

A. That's correct.

Q. Now, are you aware that, traditionally, the utility's monopoly service ends at the point of the meter?

A. Yes.

Q. So what you are proposing in this pilot is to go beyond that and extend the monopoly into the customer's home?

A. I don't know how to answer that question, I mean, other than the fact that we are providing that black box to the customer.

Q. And you're not -- you're recommending against them being allowed to get their own monitors?

A. Well, at this time, we are, because we have some security concerns, because any device that a customer would bring, there is a couple of concerns around how there is an external connection into our critical grid structure. And when I talk with our IT security, cyber security experts, they've got grave concern about that without looking into it further. So based on what they know today about some of the security issues with the Internet of these type of devices, you know, they are willing to continue to look at it, but today, to say that we would commit to something, a bring-your-own-device program, they are not comfortable with it.

The other part is, you know, as we constantly provide security updates to our systems, as well as the programs on the meters and everything, you know, we're not sure if that -- those updates -- those security patches, updates, would be compatible with a customer's in-home device. So, you know, there could be times where we push out an update, and all of a sudden the customer's device doesn't work. So we don't want to be in a position where customers are spending money on something, and we can't ensure it's going to always work.

Q. What is your understanding of how a home energy monitor would interface with the smart meter? Would it receive the data via the customer's personal Wi-Fi network?

A. So the black box device receives the customer's interval usage data from the meter via what they call a ZigBee radio. So it's a radial RF frequency radio built into the meter that would provide that information to that black box device.

Q. Okay. And then isn't that the same way the home energy monitor would work?

A. It is, yes.

Q. Okay. So on the Powerley program, you let the customer use any phone they want, any customer tablet they want, and it's just getting information from that ZigBee radio that's in the smart meter, and a home energy monitor does the same thing, right?

A. Yes, but we have got -- we've got control over that black box that I talk about. We know what that device is, we know what it does.

Q. Okay. You have tested it on your system?

A. Yes. We have already started the pilot, yes.

Q. Okay. Now, if a customer wanted to use their own home energy monitor device, as long as you first tested it on your system, would that address any concerns you would have about cyber security and security of the grid, as long as you had an opportunity to test that brand first?

A. Well, yeah. So then you get into, you know, do we recommend just certain brands, or do we test all brands out on the market to truly let the customer -- you know, so you get into a pretty costly endeavor there to try to decide which ones we would recommend or test. But I would say that, you know, we commit to continuing to look at those devices, in general -- not any specific manufacturer or models, but looking at those devices, in general, to see if we could get past this cyber security concern.

Q. Okay. And are you aware that there are other utilities that do have these bring-your-own-device programs that are up and running now?

A. Yes. There are some that I have heard of, yes.

Q. Okay. Now, please take a look at the document that is at Tab 2, and I would like to have that marked as EDF Schneider Cross Exam Exhibit 2.

CHAIRMAN FINLEY: Shall be so marked.

(Whereupon, EDF Schneider Cross Examination Exhibit No. 2 was marked for identification.)

BY MR. FINNIGAN:

Q. And I will represent to you that this is from the Pacific Gas and Electric website, and it's a bring-your-own-device protocol that they use. It's four steps that the customer has to follow, and includes utility testing of the device.

In light of the Commission's order that came out recently in the smart grid technology plan case -- I'm not gonna ask you any questions about this. I'm not gonna ask that this be introduced into evidence in this proceeding, but when we convene at a later date to work through these issues, as Ms. Hunsicker was talking about, if you would just -- if we could discuss it at that time.

A. Yeah. I'm sure that's possible. Again, I haven't looked at the details of the order to see what we are ordered to discuss.

Q. Now, I want to ask you a couple of questions about the Ohio AMI deployment.

When did Duke initially deploy AMI meters in Ohio?

A. We started in, I believe, the late 2007 or early 2008 time frame.

Q. Okay. When was that finished?

A. 2014, if I recall.

Q. Okay. And, to your knowledge, was there any opportunity for stakeholder input and engagement with interested parties before that process began?

A. There was a collaborative group with the Public Staff and other parties that went on throughout that deployment. I wasn't a part of them, but I am aware they were taking place.

Q. Okay. But even though there was some engagement there, did you have an opportunity to engage with the retail electric suppliers to determine what needs they had for data regarding customer usage from those AMI meters?

A. Yes. To my knowledge, they were part of that collaborative.

Q. But isn't it true that, since the date that those meters were deployed, they have complained that Duke has not supplied them with the information they need to build time-of-use rate plans?

A. Yes. And so there are several issues that are around that. Mainly, it's that we have all the residential meters into a very early version of our meter data management system. And Oracle -- during that deployment, Oracle came out with a new version that offered some efficiencies and enhancements. So we moved to that after our deployment. And so the meters that are in the new version have that capability. The meters in the old version do not. So there is a costly effort to transfer those meters from the old version to the new version, and I know there has been a lot of discussion over who bears that cost. Is it the retail electric suppliers or is it the Duke ratepayers?

Q. That cost is about $165 million?

A. I don't recall what it is.

Q. Over $100 million?

A. I don't recall.

Q. And as we sit here today, that complaint about data access still has not been resolved?

A. I know there is parties that are still working on it, yes.

Q. Now, I'd like to change the topic and go back to these displays, like the Powerley display that we talked about with this energy bridge and home energy monitors, and I just want to ask whether Duke has any information about how much a customer can save on their bill if they do have access to their energy usage data, on a real-time or near real-time basis?

A. I can't state the exact studies, but I know there is some EPRI studies out there back in the 2008 time frame I believe, that talks about, you know, the different methods of receiving that information and what they have seen, you know, in some utilities, as far as reduction in customer usage. So the first one was just having the data -- the interval data available for customers to go out and see, and thereby change their usage habits, the number was in the 5- to 10-percent range. And then there is a slight jump, if you go to what you are referring to as the display, a home energy management system with just a display in the home, as opposed to going, you know, into our portal and looking at it, but having it right there in the display, I think the numbers went from 5 to 10 to 8 to 12 or something, that's the best I can recall.

Q. And you're familiar with Envision Charlotte?

A. Vaguely, yes.

Q. And just tell us, generally, what that is.

A. So my understanding is it started out in downtown Charlotte with some of the larger commercial buildings in an effort to drive energy efficiency in those buildings by installing devices and monitors in those buildings to, kind of, start some competition, if you would, amongst the different large commercial buildings in trying to see some energy efficiency savings.

Q. And as a result of having those monitors in those buildings, and with the behavioral programs that went along with that, the Company developed a goal that they would try to save 20 percent on their electricity bills; is that correct?

A. I don't remember the exact number.

Q. Could you please turn to Tab 3 -- or I'm sorry, Tab 4.

MR. FINNIGAN: And I would ask that that document be marked as EDF Schneider Cross Exam

Exhibit 4.

BY MR. FINNIGAN:

Q. And that's a document from Duke Energy that explains a little bit about Envision Charlotte, right? Do you see that?

A. Yes, I'm there.

CHAIRMAN FINLEY: We will mark it 4.

(Whereupon, EDF Schneider Cross Examination Exhibit No. 4 was marked for identification.)

BY MR. FINNIGAN:

Q. Now, the second full paragraph -- I'm not gonna read it, but just the last sentence says, "The goal is to reduce energy use by up to 20 percent by 2016," right?

A. Yes, I see that.

Q. Now, let me ask you to take a look at Tab 3.

MR. FINNIGAN: And I would ask that that document be marked as EDF Schneider Cross Exam Exhibit 3.

CHAIRMAN FINLEY: Shall be so marked.

(Whereupon, EDF Schneider Cross Examination Exhibit No. 3 was marked for identification.)

BY MR. FINNIGAN:

Q. And that's the Company's May 5, 2017, SGTP filing with the Commission?

A. Yes. Yes, it is.

Q. And do you review those as part of your work for -- with the AMI project?

A. I usually do have a chance to look them over, yes.

Q. Let me ask you to take a look at page 3 of 12, and let me know when you are there.

A. Okay. I'm there.

Q. In the upper right-hand corner, the --

A. Yes.

Q. And are you there?

A. Yes, I am.

Q. Do you see about in the middle of the page a heading that says "DEC AMI Full-Scale Deployment"?

A. Yes. You have it so nicely highlighted for me.

Q. Taking the Chair's words to heart to speed it up. That talks about AMI being the foundational investment that will enable enhanced customer solutions, and then talks about what those are.

And would those enhanced customer solutions that are enabled by AMI include things like time-of-use rate plans, or home energy monitors, or the Powerley bridge, things like that; that's what we mean when we talk about enhanced customer solutions?

A. Yes, it is.

Q. Now --

A. That's a few of them.

Q. Okay. Those are examples?

A. Yes.

Q. Now, please go to the next page, 4 of 12, last two lines at the bottom, and there it says, "Therefore, the ability to offer the enhanced basic services and programs, as detailed above, along with improvements in customer satisfaction, are some of the nonquantifiable benefits further supporting the Company's decision to move forward with a full-scale deployment of AMI"; is that --

A. I see that, yes.

Q. -- nonquantifiable.

Now, have you heard of something called the Prius effect?

A. Yes, I have.

Q. The Prius effect is something that happened when Prius cars went on the market, and what it means is that, when the drivers got to see how much gas they were saving because of the display on their car when it was operating under battery or on electricity, they saved even more gas than what the developers expected; is that right?

A. That's correct. Yes, that's what I understand.

Q. And the same thing applies to electricity usage, that if a customer has a home energy monitor in their home, they could see how much electricity they are using, then they can save even more electricity, and that's likely 8 to 12 percent reported by EPRI, or the 20 percent goal for Envision Charlotte; that's the Prius effect as it applies to the electricity industry?

A. That's correct.

Q. Okay. And in the cost-benefit study that DEC did in this case for the AMI deployment, did you quantify the Prius effect?

A. I don't believe we did.

Q. Okay. But you --

A. That solely is a customer benefit.

Q. Okay. You have quantified that for other commissions where you have proposed to do AMI?

A. Yes, we did.

Q. Okay. So go back to Exhibit 1, and please take a look at page 79, the last page that we were looking for before, those performance metrics, and then about two-thirds of the way down on that page, that's one of the metrics that you are gonna quantify is, how much savings customers are getting by having access to these displays, this Prius effect; that's one of those performance metrics, isn't it?

A. Yeah. So this is a nonfinancial metric where we were tracking number of customers who could view internal usage on the portal, and the number of different customers viewing interval usage data from AMI meter on the customer portal.

Q. Okay. And then please turn to page 70 of 79.

A. I'm there.

Q. Okay. And what is that?

A. This is our detailed AMI costs and benefits from the Indiana AMI business case.

Q. Okay. And go to the very bottom of that chart there where it says "total benefits." Two lines up from the bottom you have got customer feedback, or Prius effect, and the total savings there is $125 million over a 20-year period?

A. Yes, I see that.

Q. And that's -- and if you look at the next line down, total customer savings, total customer savings over the same period are $366 million?

A. Yes, I see that. I'm not sure what that number -- what that number represents, though.

Q. Wouldn't it be the total of all those items added up?

A. Well, there is total benefits of $642 million, so I'm not sure what the $336 million total -- what items total to the $336 million.

Q. Okay. Well, in any event, the $125 million savings from the Prius effect is a significant component of the total customer savings?

A. Yes. Again, not -- I would have to figure out where that $336 million, what items we were considering at that time as customer savings.

Q. Okay. Now, please turn to Tab 5 of that document. This is the last one I want to ask you about.

MR. FINNIGAN: I would like to have this marked as EDF Schneider Cross Exam Exhibit 5.

CHAIRMAN FINLEY: Shall be so marked.

(Whereupon, EDF Schneider Cross Examination Exhibit No. 5 was marked for identification.)

BY MR. FINNIGAN:

Q. Could you identify this, Mr. Schneider, as testimony filed with the Kentucky Commission to support an AMI deployment down there?

A. Yes, it is, for a CPC and for AMI.

Q. Now, please turn to page 97 of that Document, 97 of 102.

A. Yes, I'm there.

Q. Now, what that shows at the very bottom of the page, is there is a category "customer savings," and the entire customer savings are the Prius effect, either from the electric or the gas service?

A. Correct.

Q. That's a combined utility gas and electric at the time?

A. That's correct.

Q. Okay. And that comprises the entire category of customer savings?

A. Yes, it does.

Q. And then if you would please turn to page 90 of 102, and let me know when you are there.

A. Yes, I'm there.

Q. And this is your cost-benefit study that you filed with the Kentucky Commission, and about two-thirds of the way down, under the benefits category, it shows customer savings, which we established is comprised of the Prius effect, and that is $20 million?

A. Yes, that's correct, marked confidential.

Q. Well, I got this from the Kentucky Commission website.

A. Okay. Got you.

Q. So -- and that's out of a total benefits of $114 million?

A. That's correct.

MR. FINNIGAN: That's all the questions I have today, Mr. Chairman. Thank you, Mr. Schneider. I would like to move for admission of the EDF Cross Exhibits 1 through --

CHAIRMAN FINLEY: Hold that motion for a few minutes, and we will address it in a little while.

MR. FINNIGAN: And then withdrawing that Item Number 2.

CHAIRMAN FINLEY: Okay.

CROSS EXAMINATION BY MR. SMITH:

Q. Good afternoon, Mr. Schneider. My name is

Ben Smith, and I'm here on behalf of the North Carolina Sustainable Energy Association. Today I'm going to be asking you some questions about the AMI meters, as you were already asked by Mr. Finnigan, and the Company's implementation of them. I'm gonna start off with a little bit of background.

When did you manage your first AMI project?

A. I started in September of 2008.

Q. And where was that project located at?

A. In Duke Energy Ohio.

Q. And how many Duke Energy legacy jurisdictions, I believe is how you referred to them, have you assisted or oversaw the implementation of AMI devices in?

A. Duke Energy Ohio, Duke Energy Kentucky, Duke Energy Indiana, Duke Energy Carolinas.

Q. And are these all AMI meters the same type of meter that are currently being proposed in this matter?

A. Duke Energy Ohio we started with a different manufacturer, different AMI solution.

Q. Is that the Echelon meter?

A. Yes, it is.

Q. Do -- and in terms of -- this is more of a jurisdictional question.

Do the smart readers in the different areas, are they adjusted in any way to read different information by jurisdiction, according to legislative requirements, or laws, or rules, or anything like that?

A. Yeah. So the intervals that we collect data are driven, for each jurisdiction, based off of tariff. So -- and it's really the demand. So if a state requires a 15-minute demand or a 30-minute demand, that's how we program those meters to collect data.

Q. Okay. And what is North Carolina's tariff on that; do you know?

A. I believe it's 30 minutes.

Q. Okay. How about data storage; is that any different across jurisdiction due to rules, statutes?

A. Not that I'm aware of.

Q. Okay. I want to talk about the actual meter that is going to be implemented, I believe.

CHAIRMAN FINLEY: I know it's late in the day, but everybody speak up. You are going to put us all to sleep if you don't be careful.

BY MR. SMITH:

Q. The Itron OpenWay CENTRON, is that the meter that's going to be used for that?

A. That is the AMI meter, yes.

Q. Okay. Do you know when this meter was released for sale to the public?

A. I do not know the date.

Q. Subject to check, would you agree that fourth quarter 2009 might be accurate?

A. That sounds about right, yes.

Q. Okay. And would you classify this meter as state-of-the-art technology?

A. Yes, I would.

Q. Okay. What are the advantages over this meter versus the prior AMR meter?

A. Well, there are several advantages. One, obviously we no longer have to drive around to collect the reads from the AMR meter. The meters have a built-in disconnect so we can remotely disconnect and reconnect customers, instead of rolling trucks. Customers no longer have to have appointments. The interval reads, themselves, is a benefit over the top of the AMR meters. And the other thing is we can get alarms and alerts from the AMI meters. The AMI meters are -- it's a two-way communication device, so we can send data to it to send commands for disconnect, reconnect, as well as sending program updates, those sort of things. So those are the main benefits, and then, of course, there is all the other things that can be enabled through the foundation of AMI in regards to customer -- enhanced customer services, like pick your due date, prepay advantage, you know, just like John was saying, customers having usage data available to them and so on.

Q. And that -- are all the those benefits going to be available immediately upon installation in a customer's --

A. We are still -- as I mentioned, we are still working on a pilot, as far as customer information display. There is -- there was a prepay advantage filing that just took place in DEC a few -- a month or so ago. So I think, yeah, everything I mentioned is basically available today.

Q. Is the AMI meter capable of customer data storage?

A. The meter, itself?

Q. Yes.

A. No. Customer data?

Q. Storage, yes.

A. Energy usage data?

Q. Yes.

A. Yes. I'm sorry. Yeah, usage data does store in the meter.

Q. If I say "data storage," I am referring to energy usage data, but I will try and use that terminology throughout.

A. Okay.

Q. All right. I am going to move to data management -- energy usage data management.

What energy data is specifically gathered by the AMI machines?

A. Kilowatt-hour in and kilowatt-hour out. And we are also collecting voltage data.

Q. So that includes individual household peaks?

A. Well, it collects -- it collects that data, the kilowatt-hours in and out, every 15-minute or 30-minute interval.

CHAIRMAN FINLEY: Individual household? What did you say, please? Individual?

MR. SMITH: I'm sorry?

CHAIRMAN FINLEY: Individual household what?

MR. SMITH: Individual household peaks.

CHAIRMAN FINLEY: Peaks, okay.

BY MR. SMITH:

Q. Do the AMI meters allow for information, such as appliances being used or whether an electric vehicle is plugged in at the time?

A. Not -- I mean, you can't specifically see that. It's just a whole house usage meter.

Q. Is there a standard for the Company protocol for energy data usage collection, as in where the data goes, how it's secured, who has access to it, and any indication to the customer whether that has been collected?

A. I'm not aware.

Q. Okay. I think you just said -- and I'm just looking for some clarity here -- the interval collections on the AMI meters, are they going to be at 15 minutes or 30 minutes?

A. For DEC, I'm pretty sure it's 30 minutes.

Q. But the customer portal allows for one-hour interval review by customers on the website, correct?

A. That's right. They could see hourly interval data.

Q. Is there any reason for the disparity between 30 minutes?

A. Well, again, when we set that up years ago, we knew that, you know, all our jurisdictions were different in terms of what the collection interval was going to be, so we just chose to standardize on the hourly interval to provide to the customers.

Q. And is that portal still standardized across all Duke jurisdictions, where it's an hour in Ohio, Kentucky?

A. Yes, it is.

Q. Okay. Would you agree that AMI implementation is part of the Company's modernization efforts?

A. In general, yes.

Q. However, AMI cost recovery is not part of the GRR, the grid resiliency rider?

A. That's correct.

Q. How are the AMI costs being recovered?

A. We are seeking recovery for part of the cost in this case, and then we would seek the rest of the cost in a future rate case.

Q. Okay. And does it -- do you know if it's through a basic fixed charge, the basic facility charge I believe it's called, or is it through the --

A. I can't answer that. That would probably be more Witness McManeus.

Q. Okay. Can you explain to me how the AMI meters are going to interact with the customer connect program once it's implemented?

A. Yeah. So there are both -- there are two stand-alone programs, but the they kind of have to live together in some sense, in that the AMI is a foundational solution which provides additional customer benefits that we talked about, customer solutions. Some of those customer solutions, like some dynamic pricing rates and those sort of things, do require a use of a more modern customer information system that we are proposing.

Q. Move ahead on that then.

Isn't it correct that the goals of the Company through implementation of the AMI smart meters, one of the goals is to create new, inventive rate designs?

A. Again, AMI is a foundational platform that allows us to do those sorts of things. I wouldn't say that outcome is a goal of our AMI deployment.

Q. Could you give me -- and I apologize if you've said this already, but what would you say the goal is, if you could give the elevator speech goal for the AMI deployment?

A. The goal is to deploy the foundational AMI solution so that we could enable additional customer benefits and customer programs.

Q. So rate design -- innovative rate design might be a customer benefit as a result?

A. That would be a customer program, yes.

Q. Do you anticipate any new rate designs in 2018 as a result of the AMI implementation in the DEC territory?

A. That would be better suited -- question would be better suited for Witness Pirro.

Q. All right. On page 16 of your rebuttal testimony, you state that the Company opposed connection to a home area network, and this is set in the NCSEA Murray testimony; isn't that correct?

A. Yes, it is.

Q. Can you explain exactly the basis of your opposition for that? And I apologize. I know this runs a little bit over what we were just talking about, but I was hoping you could just expand a little bit on what the opposition is?

A. I think the main opposition, at this point, is the security -- cyber security issue that I spoke to.

Q. And that's what I thought you were going to get to. You cited, I believe on the same page of your rebuttal, recent release security principles from the Department of Homeland Security, National Security Agency, and the Department of Energy as guiding principles in the cyber security that you are referencing, and part of the basis for the opposition.

Can you tell me where the Department of Homeland Security, National Security Agency, or the Department of Energy released principles related to data storage or collection from smart meters?

A. Yeah. I'm not that well versed on those. I mean, this is just information that I gathered from our cyber security experts.

Q. Okay. So another person who works in the cyber security team at Duke, was it at DEBS or at DEC?

A. It would be a DEBS employee.

Q. Okay, DEBS. And they told you these are the protocol, and they found it through these different agencies?

A. That's correct.

Q. Okay. But you have no -- well, is it your position that DHS, NSA, or DOE specifically oppose home area network connections in conjunction with utility implementation of AMI?

A. Did you say that they oppose?

Q. Yes.
A. No, I don't think that's the case.
Q. Okay. And you also mentioned the Company has reviewed third-party research in determining that it opposes such home area network AMI connections.
What third parties and what type of research are you talking about?
A. Can you point me to that?
Q. Yes, I can. In the line 9 through 11 -- I'm sorry, 11 through 12, "Our considerations currently include: one, research conducted by" --
A. What page are you on?
Q. 16 still.
A. 16?
Q. Of your rebuttal testimony, yes.
A. There is only eight lines on page 16.
Q. I'm not sure -- the question is on pages 33 through 35 in his testimony, NCSEA, that's the question.
A. Can you read the question, because I think there was two different versions of my testimony. I may not have the right version in front of me.
Q. Okay.
CHAIRMAN FINLEY: First time that has

happened, but go right ahead.

BY MR. SMITH:

Q. "On pages 33 through 35 of his testimony, NCSEA Witness Murray also recommends a, quote, bring your own device, end quote, offering that allows customers to connect home area networks directly to the company's AMI radio. How do you respond?"

And without going through your full response, you do go to say, "Our considerations currently include: one, research conducted by third parties," and I was just wondering what third parties those were.

A. (Witness peruses document.)

Okay. Yeah. That's -- again, that's information I got from our cyber security experts. I'm not sure what research they are referring to.

Q. Okay. I'd like you also to -- excuse me. On page 5 of your rebuttal testimony, you -- near the end, you state, "A full deployment of AMI is expected to further enhance revenue loss identification abilities."

What exactly do you mean by that?

A. What line?

Q. This is lines 16, 17, and 18.

A. (Witness peruses document.)

Okay. Could you read it again, because

again, I think the line numbers are off on this copy I have got for some reason.

Q. Sure. You testify, "A full deployment of AMI is expected to further enhance revenue loss identification abilities."

A. Is that following the question that starts out, "Public Staff Witness Floyd"? Is that the question?

Q. It's starts out with, "In his -- what testimony on page 42 Public Staff Witness Floyd states, I am generally supportive."

CHAIRMAN FINLEY: Somebody maybe better get Mr. Schneider the correct copy of his testimony there.

COMMISSIONER PATTERSON: And rebuttal.

THE WITNESS: Okay. Could you give me the page number again? I'm sorry.

BY MR. SMITH:

Q. Yes, I can. Page 5, and those are lines 16, 17, and 18.

A. (Witness peruses document.)

Where it starts out, "Analytics capabilities for revenue protection"?

Q. Ir begins, "A full deployment of AMI is expected to further enhance revenue loss identification abilities." It's page 5 of your rebuttal.

A. Okay. Yeah. "A full deployment of AMI is expected to further enhance the revenue loss." Yes, uh-huh.

Q. I was just hoping you would expand on what you meant by that.

A. Yeah. So the revenue loss is around theft, as well as slowed meters, incorrect meter installations for the larger transformer rated meters, all, sort of, what we call nontechnical losses that AMI allows us to better detect.

Q. Okay. And when you talk about theft, is there any -- actually, scratch that question. Okay. I want to go over just a few more things, and then I will be finished.

The AMI meters, has the Company done any outreach to customers to see what they wanted in a smart meter?

A. Well, I don't know that -- I think we did in some other jurisdictions. We held focus groups and surveys around listing out some of the programs that we were planning to offer with AMI and -- or that would be available through AMI, and questions were around, you know, would you -- how likely would you be to sign up for such a program?

Q. And was third-party data access part of that customer outreach?

A. I don't really recall.

Q. Okay. So with regards to the new AMI meters being implemented, they have, I believe, a 15-year depreciation life is what Duke is asking for; is that correct?

A. That's correct.

Q. Is it also correct to say that they are -- fully functional abilities will not be completely implemented until the customer connect is rolled out at the end of 2022, or during the year 2022?

A. Well, the full capabilities of AMI, itself, as a solution, will be. Some of the products and services that it enables will not be.

Q. So Duke won't be able to utilize them until customer connect is rolled out in 2022?

A. In the example of dynamic pricing, yes.

Q. So for time-of-use rate designs and new rate designs like that, you would have to wait until after customer connect is rolled out in 2022?

A. That's right. I think Retha -- or

Witness Hunsicker talks about that in her testimony.

Q. So by the time -- actually, scratch that. So with the new AMI meters, I want to talk about some of their capabilities very quick before I finish.

Are the new AMI equipped to handle integration of net metering?

A. Yes, they are.

Q. Are they equipped to integrate -- excuse me. Are they equipped to -- for integrated distributed generation?

A. I don't know what is meant by "are they equipped."

Q. Local generation, solar, different types of --

A. So again, as the AMI solution, the data we get from the meters helps enable some distributed energy renewables.

Q. So they are equipped to take on renewables is what my question is.

A. They provide the data.

Q. Are they equipped -- and I realize we have been over this, and they are not currently planned to -- are they equipped to allow third-party data access?

A. Again, it's not the meters themselves that are equipped with anything to do that. It's all about the data and how the data is released.

Q. But if the data goes through -- and I'm talking about, again, the energy data goes through the meters and then it is disbursed somehow, to maybe the customer connect program or maybe to a third party, the meter, itself, is allowable to have a third party connect to it?

A. A third party to connect to the meter?

Q. I'm saying that the meter could disburse the same way that it does to customer connect theoretically, it could to a third party who is looking through that --

A. So, again, the meter provides data that would be housed and available for third party access?

Q. Okay. Is it equipped to integrate microgrid technologies?

A. Again, that line of questioning does not make a lot of sense. They are not -- the meters, themselves aren't equipped to do that stuff. The meters, themselves, are equipped to provide information that's related to those.

Q. And I guess what I'm not trying to do here isn't -- I'm not trying to put down the meter or try and take away from its abilities. I just want to see if it's capable of integrating with those technologies going forward.

A. It's capable to provide information that will allow that, yes.

Q. And is it capable to provide information that will be something that will be -- is it capable to integrate and provide information regarding energy storage -- excuse me -- energy storage?

A. Again, the meter is not capable to integrate, but the meter is capable to provide information that will assist with energy storage.

MR. SMITH: I have no further questions.

CHAIRMAN FINLEY: Let's see if we could finish Mr. Schneider here before the day is out.

CROSS EXAMINATION BY MS. ROSENTHAL:

Q. I will try and make this snappy. Hi. Sherri Zann Rosenthal, City of Durham.

The meter is providing two-way communication; is that wired communication or is it through Wi-Fi or cellular?

A. It's wireless through RF 900 megahertz frequency for the majority of the meters. We do have some meters that are -- have a cellular modem in them, so we would provide that or receive that data back -- or the two-way communications to that meter would be via cellular.

Q. And are you aware -- and I would guess that you are -- that the other states you have operated in are no different than our state, that there is some customers who do not want cellular or other near-microwave communication in or around their house, to the extent that they can avoid it?

A. Yes, I am aware of that.

Q. And did you know that North Carolina has a docket to determine whether, for these customers who want to forego the AMI meter, if there should be an additional charge for reading that meter?

MR. SOMERS: Mr. Chairman, we will stipulate that there is a docket open on the AMI opt-out, and questions could be asked in that docket.

BY MS. ROSENTHAL:

Q. Okay. Then I will ask either of you.

Has data from the other states, and what they may have determined an appropriate charge to be, been provided in that other docket?

A. I'm not familiar.

Q. If it has not, could we have the data on other states and what they have done on this issue?

MR. SOMERS: Mr. Chairman, I am going to object to the continued attempts to conduct discovery on the stand. I don't think it's appropriate. There is another docket for that, and the City of Durham can intervene and ask whatever data request it wants to in that docket.

CHAIRMAN FINLEY: All right. Ms. Rosenthal, you have been invited to ask your questions in that docket.

MS. ROSENTHAL: Thank you so much, sir. I so appreciate the welcome invitation. That's all.

CHAIRMAN FINLEY: Ms. Thompson?

CROSS EXAMINATION BY MS. THOMPSON:

Q. Good afternoon, Mr. Schneider.

So advanced metering infrastructure, AMI, you say that that's a foundational investment that enables additional customer convenience, choice control, and transparency, correct?

A. Correct, yes.

Q. And with regard to the control prong of that catchphrase, AMI can help customers make more informed choices about their energy use?

A. Yes, they can.

Q. And you would agree that smart meters would enable customer access to granular and timely data about their energy usage that give them -- that help them to make more informed choices about how they use energy?

A. That's correct, yes.

Q. Now, customers won't be able to use their energy usage data to reduce the basic facilities charge, will they?

A. Not to my knowledge, no.

Q. And that's because that's a fixed charge on the bill that doesn't vary according to usage, right?

A. That's my understanding, yes.

Q. Okay. You also say that smart meters can enable new rate designs?

A. Correct.

Q. And you point to the existing smart grid technology plan, ratemaking, and energy efficiency demand-side management processes at the right proceedings to establish those future rate options that would be enabled by AMI?

A. That sounds correct, yes.

Q. Okay. Now, the smart grid technology plans -- I will come back to that in a moment, but as far as the ratemaking processes that you are referring to, are you referring to a general rate case such as this one?

A. For time-of-use rates?

Q. I'm not even specifically asking about time-of-use rates. You just made a pretty generic statement in your testimony about the future rate options enabled by AMI.

A. Yes. I'm speaking about dynamic pricing, in general, which would include time-of-use rates, and I believe Witness Pirro talks more to that in his testimony.

Q. Okay. And in developing the rates for this case, and I guess for future cases, does the Company typically solicit stakeholder input in developing those proposed rates?

A. That would be, again, a question for Witness Pirro.

Q. The other -- one of the other processes that you say are existing and adequate was the energy efficiency demand-side management rider proceedings, correct?

A. Yes.

Q. And is it your testimony that it would be appropriate for the Commission to establish base rate tariffs that would be enabled by AMI in those proceedings?

A. Again, that would be -- that's outside of my area of expertise, so probably Witness Pirro.

Q. All right. Now, you also say that a separate proceeding to review the Company's grid modernization and AMI plans is not needed, right?

A. That's correct.

Q. And you point to the smart grid technology plan rule, and the process under that rule is adequate?

A. That's correct.

Q. And there you are referring to the Commission Rule R8-60.1; is that right?

A. Subject to check, yes.

Q. Okay. And does that rule provide for hearings on the smart grid technology plans?

A. I am not intimately familiar with the rule, itself.

Q. Okay. So you are not familiar with that rule that you referred to in your testimony as providing for an adequate process for reviewing the smart grid technology plans?

A. I'm just not that intimate into the details of the rule, itself. I'm aware of the rule and how we provide our smart grid technology plan on an annual basis that can be reviewed by the Commission and other parties.

Q. All right. So you are aware that there is a comment period in those dockets?

A. Yes, I am aware of that.

Q. Okay. And are you aware of -- going back to -- going back a couple of years, are you aware that the Commission stated, in its November 5, 2015, order approving the initial smart grid technology plans, that the proceedings are intended to be informative, but the Commission doesn't anticipate using them to order utilities to make specific smart grid investments, nor are they a means by which utilities should seek to secure advance prudency reviews of smart grid investments; does that sound right, subject to check?

A. I'm not familiar with that language, but yes, subject to check.

Q. Are you aware that the Company filed -- and this is Duke Carolinas -- filed a smart grid technology plan in October 2016?

A. Yes, I'm aware of that.

Q. And the Company did not mention any plans for deployment of smart meters in that plan, did it?

A. I believe you are incorrect. I believe we did mention --

Q. So it's your testimony --

A. I believe we did mention it in the DEC 2016.

Q. Okay. So are you aware of the Commission's March 29, 2017, order approving the smart grid technology plans?

A. What was the date of that? I'm sorry.

Q. This was March 29, 2017.

A. Again, not intimately familiar, no.

Q. Would you accept, subject to check, that the Commission, in that order, stated it interpreted the omission of any concrete plans for deployment of smart meters in the October 2016 SGTP to mean that the Company had no plans to replace its existing meters with AMI during the following five years?

A. Okay. So what I do recall is that we talked about some of the AMI deployments that we had currently going on, but we, at that point, in that filing, did not -- had not committed to a full-scale AMI deployment, as of October 3rd, '16. We actually made that commitment through our senior management approval and board approval, I believe, in the November -- late November time frame of '16. That's why we filed a supplemental SGTP, and I believe it was in May of '17, to inform the Commission that we had made that decision, just following the filing of the October 3, 2016, SGTP.

Q. That's right about the late 2017 decision to deploy smart meters. So it's your testimony that the Company's supplemental SGTP filing in May of 2017 was not in response to the Commission's March 29th order in which the Commission noted the omission of the Company's plans to deploy smart meters?

A. No. So the 2016 supplemental was just an update, again, to provide the Commission with the fact that we had made the decision to go with a full deployment.

Q. All right. If the Company wants to build a -- let me ask you first. In this case, the Company is seeking to recover about $197 million for smart meter implementation, correct; does that sound about right?

A. Yeah. I don't know the exact number.

Witness McManeus might be able to check that number for you.

Q. Okay. So, hypothetically, if the Company wanted to build a 200 megawatt -- I'm sorry, $200 million power plant, it would have to obtain a certificate of public convenience and necessity, right?

A. Again, that's not my area of expertise, so I can't answer that.

Q. All right. Would you accept that, subject to check, that there was a requirement that the Company obtain a certificate prior to constructing a new power plant?

A. Subject to check, yes.

Q. And we have also agreed that there is no advance prudency review in the smart grid technology plan docket, the way there is if the Company had proposed to build a $200 million power plant, right?

A. Well, I don't know what you mean by a prudency review. Again, the smart grid technology plans are available for all parties to review and comment on.

Q. Okay. Thank you.

MS. THOMPSON: That's all the questions I have. Thank you.

CHAIRMAN FINLEY: Public Staff, do you have a question? Ms. Edmondson?

CROSS EXAMINATION BY MS. EDMONDSON:

Q. Good afternoon, Mr. Schneider. Lucy Edmondson with the Public Staff. I just had a couple of clarifying questions.

You discussed with Mr. Finnigan the benefits of the home energy monitor program, the Prius effect?

A. Yes.

Q. And those benefits are energy savings?

A. Yes, they are.

Q. Am I correct that Duke Energy Carolinas is planning to offer the home energy monitoring program as an energy efficiency program?

A. I'm not aware of that.

Q. So you don't know whether it's gonna collect those through -- the cost through base rates or the DSM-EE rider?

A. So are you -- what are you referring to, the pilot that we talked about?

Q. Right.

A. The Powerley pilot?

Q. Right.

A. Yeah. I'm not familiar with how we will do that. I'm not aware of that.

Q. And the prepay advantage program, that has been filed as an energy efficiency program?

A. Subject to check, I believe you are correct.

Q. And are you aware that, under the DSM-EE mechanism for Duke Energy Carolinas, Duke will receive, as incentive, both its net loss revenues for energy saved and an incentive based on energy savings?

A. I'm not familiar with that rider at all.

Q. So in your cost-benefit analysis you discussed for AMI, did you include the cost or the benefits associated with the prepay --

A. No --

Q. -- program?

A. -- we did not. We didn't have costs or benefits included.

Q. So those would be through the DSM-EE program?

A. Again, I'm not familiar enough to know that.

MS. EDMONDSON: All right. I just wanted to clarify. Thank you.

CHAIRMAN FINLEY: Redirect?

MR. SOMERS: Yes. Thank you, Mr. Chairman.

REDIRECT EXAMINATION BY MR. SOMERS:

Q. Mr. Schneider, both Mr. Finnigan and Ms. Thompson asked you several questions about the smart grid technology plans and Docket Number E-100, Sub 147; do you remember those?

A. Yes, I do.

MR. SOMERS: Chairman, I would ask that the Commission take judicial notice of all the Company's filings and any other intervenor filing and the Commission's orders in that docket from October 3rd, 2016, to present and make those part of the record in this case.

CHAIRMAN FINLEY: All right. Without objection, we will take judicial notice from October of what date?

MR. SOMERS: October 3rd, 2016, which, to clarify, is the date that the Companies', DEC and DEP's, 2016 smart rate technology plans were filed.

CHAIRMAN FINLEY: All right. E-100, Sub 147 shall be allowed.

MR. SOMERS: Thank you.

BY MR. SOMERS:

Q. Ms. Thompson asked you if in the Company's -- and I am referring to Duke Energy Carolinas -- in Duke

Energy Carolinas' 2016 smart rate technology plan filed in October of 2016, she characterized it as the Company didn't mention plans for deploying smart meters; do you remember that?

A. Yes, I do.

Q. And I believe you said she was incorrect?

A. Yes.

Q. Do you have copy of the 2016 smart rate technology plan up there with you?

A. Yes, I do.

Q. If you look at page 20 of that, under section 4, which I will quote to you, says, technologies actively under consideration, end quote?

A. Yes, I see that.

Q. Do you see the second sentence that begins, "In 2016"?

A. Yes.

Q. Would you read that, please?

A. "In 2016, the Company began evaluating the case for continuing with incremental deployments or moving forward with the project to exchange all remaining non-AMI meters." Do you want me to go on?

Q. Read the next sentence.

A. "A full deployment will exchange all

remaining AMR meters and any other non-AMI meters, in scope, with an AMI meter, and scale up the back office systems to integrate the new meters over a planned five-year period. A full deployment of AMI would enable enhanced basic services for customers, as well as new choice, control, and flexibility in energy usage, billing, and program offerings."

Q. So in the 2016 smart grid technology plan, the Company informed the Commission, under the technologies actively under consideration, that a full deployment of AMI was being evaluated; is that correct?

A. That's correct.

Q. And then when did you -- I believe you testified that later that year the Company made the actual decision to deploy after that evaluation was complete; is that correct?

A. That is correct.

Q. And when was that, roughly?

A. I believe it was in November.

Q. Of 2016?

A. Of 2016.

Q. Okay. Ms. Thompson also asked you, and referred to the Commission's March 29, 2017, order which approved the 2016 smart grid technology plans; do

you recall that?
A. Yes, I recall that.
Q. And I believe you testified the Company filed an update with the Commission on May the 5th, 2017; is that correct?
A. That's correct.
Q. And that was in response to the Commission's March 29, 2017, order, correct?
A. I don't recall that.
Q. Okay.
A. If it was or not.
Q. All right. Well, the cover letter that I filed speaks for itself; doesn't it?
A. Yes, it does.
Q. All right. So in the -- and Ms. Thompson also asked you about the Commission's order that was issued last week in the smart grid technology plan docket, correct?
A. Correct.
Q. And she asked you about the Commission's holding, which is also in that order, that says the smart grid proceedings are intended to be informative, but they don't approve anything, certainly not cost recovery; is that correct?

A. Subject to check, yes.
Q. In this proceeding is when the Company is asking for cost recovery for its AMI deployment costs in the test period in this case, correct?
A. That is correct.
Q. In the Commission's March 7, 2018, order, which was issued last week, and that was certainly after you filed testimony in this case; is that correct?
A. That's correct.
Q. And you are generally familiar with the Commission's March 7th order, correct?
A. The 2018, March 7th?
Q. Yes, sir.
A. I did glance over it, yes.
Q. Okay. And in the Commission's order, they talked about the cost-benefit analysis that the Company prepared as part of its decision to deploy AMI meters on a full scale throughout DEC, correct?
A. Correct, yes.
Q. And the Commission also asked the Company a series of written questions to which the Company responded over a several-month period in that docket; is that correct?

A. That is correct.

Q. And, in fact, the Commission ordered a presentation from the Company, in this very room, that you presented along with Justin Brown for the Company; is that correct?

A. That is correct.

Q. And what was the purpose of that presentation?

A. To provide a general overall presentation on the AMI solution technology and open it up for questions to the Commission and other parties.

Q. And also in that docket, shortly before that presentation actually took place, the Company filed, on October 6, 2017, extensive, detailed cost information as requested by the Commission; is that correct?

A. That is correct.

Q. And after the presentation that you were one of the two presenters at here in October, I believe it was, the Company was also asked by the Commission to do an updated cost-benefit analysis; is that correct?

A. That is correct.

Q. And that was discussed in some detail in the Commission's March 7, 2018, smart grid order, correct?

A. I do recall seeing that, yes.

Q. Now, do you recall -- when the Commission asked the Company to update its AMI cost-benefit analysis that was subsequently filed in December of 2017, do you recall what it is they asked the Company to change in its assumptions for that cost-benefit analysis?

A. So there were a couple of things that I recall. One was an updated cost on the direct connect meters, but the main one was around adding in the cost to replace the meters based on a 15-year life. So replacing them, you know, 15 years out into the business case.

MS. THOMPSON: Mr. Chairman, I am going to have to object. I'm sorry, I don't know if this is still on. I think it is going quite beyond the scope of the cross.

CHAIRMAN FINLEY: I'm gonna allow it. I think it's relevant.

MR. SOMERS: Thank you, Mr. Chairman.

BY MR. SOMERS:

Q. So, Mr. Schneider, when the Commission asked the Company to update the cost-benefit analysis with those revised assumptions that you just mentioned, did the Company provide that?

A. Yes, we did.

Q. And in providing that, did the Company explain its concerns with that methodology?

A. Yes, we did. We had concerns that we were required to add the cost of replacing the meters in the 15-year time frame, but it was still a 20-year business case, so we were not at -- that business case view is not seeing the full benefit of those replaced meters. So really what should have been a 30-year business case to really see the full -- excuse me, the full benefit of those replaced meters, because in our original case, we did not replace the meters after 15 years, but we did have costs -- ongoing costs based on the meter failure rate, and then after the 15-year life, we backed out the benefits in our original business case. So we feel like that is a more accurate business case view than what we were asked to provide.

Q. And certainly the Company doesn't, in any way, dispute the Commission's authority to ask the Company to produce whatever cost-benefit information it wants; does it?

A. Not at all, no.

Q. And with all due respect to the Commission's request for an updated cost-benefit analysis, did it, essentially, ask the Company to include -- to double the cost, but only include half of the benefits?

A. Basically, that's what it is, yes.

Q. And if you do that kind of analysis, what do you think the results will be?

A. They are more than likely going to come out negative, which indicates it did.

Q. And is that the type of analysis that Duke Energy would ever rely on in making a business decision for something like, and as important as, the full-scale deployment of AMI meters across its territory?

A. No. No, we wouldn't.

Q. You were also asked some questions by, I believe, Mr. Finnigan about AMI deployment in other jurisdictions.

Do you recall those questions? And you were handed a lot of exhibits about that.

A. Yes.

Q. Where does North Carolina stand, in terms of the rest of the nation, as regards the deployment of AMI meters?

A. North Carolina, as a whole, or DEC North Carolina?

Q. Let's start with North Carolina as a whole.

A. So North Carolina, as a whole, to my understanding, all of the co-ops have already deployed AMI for several years, so their customers are seeing those benefits. DEC we're -- for DEC North Carolina, we are about halfway done.

Q. And how does North Carolina compare to other states in the United States, in terms of deployment of AMI meters?

A. Yeah. I would say, in general, we are behind in the other -- from what I have seen from a lot of the other states that have deployed AMI.

Q. Coming back to the cost-benefit analysis that the Commission asked the Company to perform before --

CHAIRMAN FINLEY: I think this is really in the nature of additional direct testimony, so let's wrap it up, if we can.

MR. SOMERS: I will, Mr. Chairman. And I will note that the Commission's smart grid order said that these issues will be decided in this case, and I haven't had a chance to ask my witness about them, since the order was only issued last week, but I will wrap it up.

CHAIRMAN FINLEY: As I said, I think it should have been additional direct testimony, but go ahead.

BY MR. SOMERS:

Q. Mr. Schneider, the additional assumption is that the Company was asked to include in the updated cost-benefit analysis by the Commission.

How does that compare to a cost-benefit analysis that the Company would do in making the decision and seeking a CPCN for a new power plant, for example?

A. Could you repeat the question?

Q. Sure. The way the Commission's order asked the Company to do an updated cost-benefit analysis, it asked the Company to include replacement of all the meters after 15 years. So, essentially, doubling the cost, but not including the benefits beyond that 15-year point.

How does that compare to the way the Company does a business case cost-benefit analysis for a power plant?

A. Yeah. So, again, we wouldn't include the costs -- the replacement cost of a power plant in a business case that we would provide for that situation.

Q. Why not?

A. Well, again, you would have to have the benefits -- you would have to see the benefits from that replacement cost. And so, you know, you are just basically rebuilding a whole other business case again, you know, based on the replacement and the additional benefits you get from that.

MR. SOMERS: Mr. Chairman, thank you.

One last question.

BY MR. SOMERS:

Q. Certainly, the Company respects the Commission's authority to seek whatever information it does, but based upon your judgment and experience, why should this Commission allow the Company to recover the costs of its full-scale deployment of AMI meters as included in the test period of this case?

A. Well, because, I think, again, the original business case we submitted was a sound business case that came out with a positive net present value, and as we spoke several times already, you know, there is a lot of additional customer programs and benefits that the AMI, as a foundation, enables that, again, we didn't have those costs and benefits in our cost-benefit model because they just weren't designed yet. We didn't know what the costs were in each of those cases, you know, will be on their own. So in general, with a positive business case, and plus the fact that we know there is additional customer products and services that this solution can enable, the Company has made a decision that this is a viable project that we want to move forward with.

MR. SOMERS: Thank you, Mr. Chairman.

CHAIRMAN FINLEY: Questions by the Commission?

EXAMINATION BY COMMISSIONER GRAY:

Q. Mr. Schneider, in the revised cost-benefit analysis -- it was, I believe, submitted in December of 2017 -- do you have an estimate of the break-even year when the revised cost-benefit analysis -- what is the break-even year because of the changes in that cost-benefit analysis?

A. Yes. I don't recall exactly what that -- I was thinking -- and I may be getting this confused with the DEP case, but I was thinking it was 2025.

Q. In your direct testimony, on page 6, you describe AMI on line 6 and 7 that the meters have voltage and reactive power measurement capability.

Can you tell me what that is?

A. Yeah. So, without getting too technical from an engineering perspective, you have kilowatts and you have kVARs. So it's watts and VARs make up the total power. And so we can measure both VARs and watts with these meters.

Q. Is this going to be part of the expansion of AMI; this is part of the AMI?

A. This is part of the AMI, yes.

Q. All right. Some customers who hear about AMI have suggested that they want to be bypassed because they don't want to use the radio frequencies, they don't want to use -- what percentage of customers, so far in DEC, or perhaps even DEP too, have opted out?

A. So DEC, again, we don't have the ruling on the order, but what we are doing with customers that have concerns, of course, we try to address their concerns, but if they are still adamant about not wanting the meter, we put them on a bypass list. And currently, today, we have just a little over 4,000 on that list, which comes out to .3 percent. And I think, in our opt-out case -- like I said, I think this is general across all jurisdictions -- we use an estimated .1 percent, which is what we are seeing in all other jurisdictions. And so what happens is, if you don't have the opt-out tariff approved as you are deploying, and you just put people on bypass list, that grows up to that .3, even sometimes to .5. But then when you get the opt-out tariff, and they have to make that commitment to pay for that opt-out, that's when they accept the meter. So that's when it drops down to that .1 that we have seen across all jurisdictions. But we are at .3 percent right now on the bypass list for DEC North Carolina.

Q. When you install a net metering customer, someone who perhaps may have a solar panel on their roof, is the process and cost the same for other residential customers?

A. Yeah. It's the exact same meter.

Q. Exact same. Thank you. In your rebuttal, on page 13, lines 4 and 9, we talked about cost causation and appropriate pricing of goods and services to be produced by the Company must all be considered and strict cost-benefit analysis.

Do you mean that customers who benefit from a good or service should be the ones who pay for it?

A. Repeat the question?

Q. Rebuttal, page 13, lines 4 and 9.

A. (Witness peruses document.)

Okay.

Q. Are you with me?

A. Yes, I am.

Q. And it -- starting on 5, "The need to properly identify cost causation, and to appropriately price the goods and services provided by the Company must also be considered."

Are you with me?

A. Yes, I am.

Q. Does that mean that the customers who benefit from a good or service should be the ones who pay for it?

A. No. I don't necessarily agree with that.

Q. All right. And let me think.

COMMISSIONER GRAY: That's it for now. Thank you.

CHAIRMAN FINLEY: All right. Questions on the Commission's questions?

Commissioner Brown-Bland has questions.

EXAMINATION BY COMMISSIONER BROWN-BLAND:

Q. Just a quick one, Mr. Schneider. With regard to -- do you know or have a good idea whether, with respect to the information that the customers receive in their home energy reports, that kind of information where it compares the usage with the neighborhood's usage, do you know from that what percentage of the DEC customers are in the top category, the lowest usage and most efficient?

A. No. I'm just vaguely familiar with that report.

Q. For the customers who get the little -- at least my report, I had the little house, and it will say, "Way to go" --

A. I get the same thing.

Q. -- "you are better than your neighbors" --

CHAIRMAN FINLEY: Or worse.

BY COMMISSIONER BROWN-BLAND:

Q. -- in your usage and efficiency."

For those customers, will they be able to get savings benefits, do you think, out of the AMI meters?

A. Again, I think they would, if they -- you know, if they take the initiative to go out and look at their usage information on a regular basis and understand their usage patterns and how they can change habits to reduce their energy usage. I will say that report you are referring to does not rely on AMI data.

Q. Right.

A. Yeah.

Q. But assuming those customers, one day in the future, will have AMI, I'm just wondering -- and given that they already have a low -- you know, high efficiency, low use, will they be able to benefit and to what extent?

A. I would say yes, by looking at their detailed usage information on a regular basis instead of wait until the end of the month and get the bill and realize how much energy you used.

Q. So I don't know if this is a recognized phenomenon, but kind of like the Prius effect, is there any information, either within the industry with other companies you know that have deployed AMI more fully than here in North Carolina, or on the basis of Company pilots or experimentations, is there any observance that, after some period of time, you know, the newness of the whole phenomenon of being able to get the information from AMI kind of wanes, and their interest in continuing to try to make use of that AMI information and reduce their usage, does that kind of drop off after a while?

A. Yeah. I don't know if I read any reports that speak to that, but I certainly could see where that would be possible. But I think, you know, if they truly are looking at it and trying to reduce their usage, they change their habits, and if they see their bills go down, they wouldn't have a need to continually look at their usage.

COMMISSIONER BROWN-BLAND: All right. Thank you.

CHAIRMAN FINLEY: Commissioner Patterson has questions.

EXAMINATION BY COMMISSIONER PATTERSON:

Q. Just one. Let's say I live in a mobile home, 2-inch thick walls, leaky windows, leaky doors, leaky roof; is AMI gonna help me?

A. Well, again, by being able to look at your energy usage, you know, you can see if it's a space heater you are using or something like that, and that you are running it all day, you would be able to see that, you know, hey, if I turn that off, or if I turn my thermostat down in the winter, that I can see the results of that conservation and reduction in my energy use.

Q. Assuming I'm still alive.

CHAIRMAN FINLEY: Mr. Schneider, I take it that the Company was not too pleased with the assumption the Commission had in its last order about AMI meters, right?

THE WITNESS: I don't know how to answer

that one.

CHAIRMAN FINLEY: That's all right.

Questions on the Commission's questions?

MR. SOMERS: I have one.

FURTHER REDIRECT EXAMINATION BY MR. SOMERS:

Q. Mr. Schneider -- I realize I'm holding everybody up, so I will be quick -- both Commissioner Gray and Commissioner Patterson asked some very insightful questions about benefits and who should pay for this.

In the Company's opinion, do all customers benefit from AMI deployment, and if so, how?

A. Yes. All customers benefit, you know, that -- there are several of the things that I mentioned earlier that all customers receive benefits, from; the convenience and everything else. But probably the other areas would be the cost savings that are the benefits that are in our business case. So those reduced costs all customers see. And then if customers do reduce their energy usage, that would reduce the fuel cost that all customers would see as well.

MR. SOMERS: Thank you. No further questions.

CHAIRMAN FINLEY: All right. So, Mr. Schneider, thank you very much. We will receive the cross -- without objection, we will receive the cross examination exhibits of EDF, with the exception of Exhibit Number 2.

(Whereupon, EDF Schneider Cross Examination Exhibit Nos. 1, 3, 4, and 5 were admitted into evidence.)

CHAIRMAN FINLEY: All right. This brings us to the end of the case for this week. We will start up again on Monday at 9:30, but we will -- because of the conflict with the hearing we have in Little Washington Monday night, we will not go later than 3:00 on Monday, and because the panel has got to come back from Little Washington on Tuesday, we will not start before 10:30 on Tuesday, for planning purposes. Otherwise, 9:30 on Monday.

COMMISSIONER BROWN-BLAND: I'd just say, to recognize, I know at least Ms. Downey will be traveling that way with us.

CHAIRMAN FINLEY: Try not to get lost, okay. Come back at 9:30.

(The hearing was adjourned at 6:06 p.m. and set to reconvene at 9:30 a.m. on

Monday, March 19, 2018.)

CERTIFICATE OF REPORTER

STATE OF NORTH CAROLINA )
COUNTY OF WAKE )

I, Joann Bunze, RPR, the officer before whom the foregoing hearing was taken, do hereby certify that the witnesses whose testimony appears in the foregoing hearing were duly sworn; that the testimony of said witnesses was taken by me to the best of my ability and thereafter reduced to typewriting under my direction; that I am neither counsel for, related to, nor employed by any of the parties to this; and further, that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.

This the 20th day of March, 2018.

JOANN BUNZE, RPR
Notary Public #200707300112