

OFFICIAL COPY

INFORMATION SHEET

PRESIDING: Commissioners Brown-Bland, Chairman Finley and Dockham, Patterson, Gray, Clodfelter and Mitchell

PLACE: Dobbs Building, Room 2115, Raleigh, NC

DATE: September 18, 2018

TIME: 9:47 a.m. – 10:00 a.m.

DOCKET NO.: E-2, Sub 1174

COMPANY: Duke Energy Progress, LLC

DESCRIPTION: Application for approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider Pursuant to G.S. 62-133.9 and Commission Rule R8-69.

VOLUME:

APPEARANCES

DUKE ENERGY PROGRESS, LLC:

Kendrick Fentress, Esq.

FOR CAROLINA INDUSTRIAL GROUP FOR FAIR UTILITY RATES II:

Warren Hicks, Esq.

FOR CAROLINA UTILITY CUSTOMERS ASSOCIATION, INC.:

Robert F. Page, Esq.

FOR NORTH CAROLINA SUSTAINABLE ENERGY ASSOCIATION:

Benjamin Smith, Esq.

FOR NORTH CAROLINA JUSTICE CENTER, NORTH CAROLINA HOUSING COALITION, NATURAL RESOURCES DEFENSE COUNCIL, AND SOUTHERN ALLIANCE FOR CLEAN ENERGY:

David L. Neal, Esq.

FOR THE USING AND CONSUMING PUBLIC:

Lucy E. Edmonson, Esq., Public Staff

Heather D. Fennell, Esq., Public Staff

WITNESSES

See Attached.

EXHIBITS

See Attached.

TRANSCRIPT ORDERED BY: Fentress, Smith, Edmondson and Fennell

OFFICIAL CONFIDENTIAL EXHIBITS ORDERED BY: Fentress, Smith, Edmondson and Fennell

REPORTED BY: Kim Mitchell

TRANSCRIPT PAGES: 26

TRANSCRIBED BY: Kim Mitchell

PREFILED PAGES: 237

DATE TRANSCRIBED: October 5, 2018

TOTAL PAGES: 263

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OCT 10 2018

Clerk's Office
N.C. Utilities Commission

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(Confidential filed under seal)

NORTH CAROLINA UTILITIES COMMISSION
APPEARANCE SLIP

DATE 9/18/18
DOCKET #: E-2 SW-1174
NAME OF ATTORNEY Kenneth C. Santos
TITLE Associate General Counsel
FIRM NAME Duke Energy
ADDRESS 410 Wilmington St.
CITY Raleigh NC
ZIP 27601

APPEARING FOR: _____

APPLICANT COMPLAINANT _____ INTERVENOR _____
PROTESTANT _____ RESPONDENT _____ DEFENDANT _____

PLEASE NOTE: Electronic Copies of the regular transcript can be obtained from the NCUC website at [HTTP://NCUC.commerce.state.nc.us/docksr_ch.html](http://NCUC.commerce.state.nc.us/docksr_ch.html) under the respective docket number.

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NORTH CAROLINA UTILITIES COMMISSION
APPEARANCE SLIP

DATE 9/18/18
DOCKET #: E-2, Sub 1173 ; E-2, Sub 1174 ; E-2, Sub 1176
NAME OF ATTORNEY Warren Hicks
TITLE Attorney
FIRM NAME Bailey & Dixon
ADDRESS PO Box 1351
CITY Raleigh
ZIP 27602

APPEARING FOR: Carolina Industrial Group for
Jai Utility Rates II

APPLICANT _____ COMPLAINANT _____ INTERVENOR
PROTESTANT _____ RESPONDENT _____ DEFENDANT _____

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NORTH CAROLINA UTILITIES COMMISSION
APPEARANCE SLIP

DATE September 18, 2018
DOCKET #: E-2, Sub 1173, E-2, Sub 1174, E-2, Sub 1175
NAME OF ATTORNEY Benjamin Smith
TITLE Regulatory Counsel for NCSEA
FIRM NAME _____
ADDRESS 4800 Six Forks Road, Suite 300
CITY Raleigh
ZIP 27609

APPEARING FOR: North Carolina Sustainable Energy Association

APPLICANT _____ COMPLAINANT _____ INTERVENOR
PROTESTANT _____ RESPONDENT _____ DEFENDANT _____

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NORTH CAROLINA UTILITIES COMMISSION
APPEARANCE SLIP

DATE 09/18/18 DOCKET #: E-2, Sub 1174
NAME AND TITLE OF ATTORNEY Robert F. Page
FIRM NAME Crisp & Page, PLLC
ADDRESS 4010 Barrett Dr., Suite 205
CITY Raleigh ZIP 27609

APPEARING FOR: Carolina Utility Customers Association, Inc.

APPLICANT _____ COMPLAINANT _____ INTERVENER
PROTESTANT _____ RESPONDENT _____ DEFENDANT _____

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Signature: _____

PLEASE SIGN BELOW IF YOU HAVE SIGNED A CONFIDENTIALITY AGREEMENT. CONFIDENTIAL PORTIONS OF TRANSCRIPT WILL ONLY BE PROVIDED UPON SIGNATURE!

Signature: _____

NORTH CAROLINA UTILITIES COMMISSION
APPEARANCE SLIP

DATE 9/18/2018
DOCKET #: E-2 sub 1174
NAME OF ATTORNEY David L. Neal
TITLE Senior Attorney
FIRM NAME Southern Environmental Law Center
ADDRESS 601 W Rosemary St, Ste 220
CITY Chapel Hill, NC
ZIP 27516

APPEARING FOR: NC Justice Center, NC Housing Coalition, Natural Resources Defense Council, and Southern Alliance for Clean Energy

APPLICANT _____ COMPLAINANT _____ INTERVENOR
PROTESTANT _____ RESPONDENT _____ DEFENDANT _____

PLEASE NOTE: Electronic Copies of the regular transcript can be obtained from the NCUC website at [HTTP://NCUC.commerce.state.nc.us/docksr_ch.html](http://NCUC.commerce.state.nc.us/docksr_ch.html) under the respective docket number.

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Signature: 
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NORTH CAROLINA UTILITIES COMMISSION
PUBLIC STAFF - APPEARANCE SLIP

DATE September 18, 2018 DOCKET #: E-2, Sub 1174

PUBLIC STAFF MEMBER Lucy E. Edmondson & Heather D. Fennell

ORDER FOR TRANSCRIPT OF TESTIMONY TO BE **EMAILED** TO THE PUBLIC STAFF - PLEASE INDICATE YOUR DIVISION AS WELL AS YOUR EMAIL ADDRESS BELOW:

ACCOUNTING _____

WATER _____

COMMUNICATIONS _____

ELECTRIC _____

GAS _____

TRANSPORTATION _____

ECONOMICS _____

LEGAL lucy.edmondson@psncuc.nc.gov & heather.fennell@psncuc.nc.gov

CONSUMER SERVICES _____

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***PLEASE INDICATE BELOW WHO HAS SIGNED A CONFIDENTIALITY AGREEMENT. IF YOU DO NOT SIGN, YOU WILL NOT RECEIVE THE CONFIDENTIAL PORTIONS!!!!



Signature of Public Staff Member

1A

Duke Energy Progress, LLC
Docket No. E-2, Sub 1174
Summary of 2019 DSM/EE Rates

	<u>Source:</u>	<u>cents/kWh</u> <u>Rate</u>	<u>Reg Fee</u>	<u>Billing Rate</u>
Residential Rate				
EMF Rate - DSM	Miller Exhibit 2, page 5	0.009	0.000	0.009
EMF Rate - EE	Miller Exhibit 2, page 4	-0.006	0.000	-0.006
Projected Rate - DSM	Miller Exhibit 2, page 2	0.120	0.000	0.120
Projected Rate - EE	Miller Exhibit 2, page 1	0.530	0.001	0.531
Total Residential Rate		0.653		0.654
General Service				
EE EMF Rate	Miller Exhibit 2, page 4	0.122	0.000	0.122
EE Projected Rate	Miller Exhibit 2, page 1	0.684	0.001	0.685
Total General Service EE Rate		0.806		0.807
DSM EMF Rate	Miller Exhibit 2, page 5	-0.018	0.000	-0.018
DSM Projected Rate	Miller Exhibit 2, page 2	0.062	0.000	0.062
Total General Service DSM Rate		0.044		0.044
Lighting EE Rate				
Lighting EE EMF Rate	Miller Exhibit 2, page 4	0.001	0.000	0.001
Lighting EE Projected Rate	Miller Exhibit 2, page 1	0.099	0.000	0.099
Total Lighting EE Rate		0.100		0.100

1A

DUKE ENERGY PROGRESS, LLC
 Docket No. E-2, Sub 1174
 Energy Efficiency Rate Derivation

NC Rate Class	Adjusted NC Rate Class kWh Sales ⁽¹⁾	Rate Class Energy Allocation Factor ⁽²⁾	EE Revenue Requirements							Total EE Rate (9) = (8) / (1)
			Residential Programs ⁽³⁾	CIG Programs ⁽⁴⁾	DSDR ⁽⁵⁾	Non-DSDR Allocated A&G and Carrying Costs ⁽⁶⁾	DSDR Allocated A&G and Carrying Costs ⁽⁷⁾	Total of Allocated Costs (8) = Σ (3 thru 7)		
Residential	15,740,238,953	60.65%	\$ 61,089,894	\$ -	\$ 14,597,379	\$ 6,829,356	\$ 977,130	\$ 83,493,759	0.530	
General Service	9,852,771,378	37.96%	\$ -	\$ 52,049,316	\$ 9,137,386	\$ 5,609,117	\$ 611,645	\$ 67,407,463	0.684	
Lighting	361,265,217	1.39%	\$ -	\$ -	\$ 335,035	\$ -	\$ 22,427	\$ 357,461	0.099	
NC Retail	25,954,275,548	100%	\$ 61,089,894	\$ 52,049,316	\$ 24,069,799	\$ 12,438,473	\$ 1,611,202	\$ 151,258,684		

NOTES:

- (1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6
- (2) Rate Class Energy Allocation Factor is derived in Miller Exhibit 5, page 5, column (4).
- (3) Residential Program costs are allocated solely to the Residential Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (4) Non-Residential Program costs are allocated solely to the General Service Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (5) DSDR Costs allocated using the Rate Class Energy Allocation Factor from column (2) in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (6) Non-DSDR A&G and Carrying Costs are allocated on the basis of Non-DSDR revenue requirements (excluding incentives and net lost revenues).
- (7) DSDR A&G Costs and Carrying Costs are allocated using the Rate Class Energy Allocation Factor from column (2).

Please note: Exhibit may not foot due to rounding

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Demand-Side Management Rate Derivation

NC Rate Class	Adjusted NC Rate Class kWh Sales ⁽¹⁾	Rate Class Demand Allocation Factor ⁽²⁾	DSM Revenue Requirements					Total of Allocated Costs	Total DSM Rate
			EnergyWise Program Costs ⁽³⁾	CIG DR Program ⁽⁴⁾	Allocated A&G Costs ⁽⁵⁾	Allocated Carrying Costs ⁽⁵⁾	(7) = Σ (3 thru 6)		
	(1)	(2)	(3)	(4)	(5)	(6)			
Residential	15,740,238,953	67.12%	\$15,819,687	\$ -	\$ 538,120	\$ 2,475,417	\$ 18,833,224	0.120	
General Service	9,737,467,991	32.88%	\$ -	\$ 4,835,895	\$ 222,164	\$ 1,021,980	\$ 6,080,039	0.062	
Lighting	360,425,890	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	-	
NC Retail	25,838,132,834	100.00%	\$15,819,687	\$ 4,835,895	\$ 760,284	\$ 3,497,397	\$ 24,913,263		

NOTES:

(1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.

(2) Rate Class Demand Allocation Factor is derived in Miller Exhibit 5, page 6, column (5).

(3) EnergyWise costs are directly assigned solely to the Residential Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(4) CIG DR Program costs are directly assigned solely to the General Service Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(5) A&G and Carrying Costs are allocated on the basis of revenue requirements (excluding incentives and net lost revenues).

Please note: Exhibit may not foot due to rounding.

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Rate Period Revenue Requirement Summary - NC Level
January 2019 - December 2019

NORTH CAROLINA JURISDICTIONALLY ALLOCATED RETAIL COSTS ONLY																		
	D&M	Insurance	A&G Expense	Capitalized O&M and A&G	Amortization of Capitalized O&M	Amortization of Capitalized A&G	Prior Period Amortization	DSDR Capital Costs	Income Taxes on DSDR Capital Costs	DSDR Property Taxes	DSDR Depreciation	Carrying Costs Net of Taxes	Income Taxes on Carrying Cost	Rev Reqmt Before PPI & NLR	Net Lost Revenue Recoupment	Program Performance Incentive	Rev Reqmt With PPI & NLR	
	(1)	(2)	(3)	(4)	(5)	(6)		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
				ICols(1) thru (4)	((1)-(2))/(10 or 5 or 3)	(6)								ICols(1) thru (15)			ICols(1) thru (18)	
NC DSM Program Expenses																		
1	CIG DR	Per Forecast	2,242,859	-	2,242,859	747,670	-	1,808,922	-	-	-	-	-	2,556,542	-	-	809,758	3,366,300
2	EnergyWise	Per Forecast	11,585,804	-	11,585,804	1,158,580	-	8,523,255	-	-	-	-	-	9,681,835	-	-	6,137,852	15,819,687
3	EnergyWise for Business	Per Forecast	2,030,607	-	2,030,607	676,869	-	763,752	-	-	-	-	-	1,440,621	113,832	(84,858)	1,469,595	
4	Total DSM	Σ Lines 1 thru 3	15,859,270	-	15,859,270	2,583,069	-	11,095,929	-	-	-	-	-	13,678,998	113,832	6,862,752	20,655,582	
5	DSM Assigned A&G and CCost	Per Forecast	-	794,570	794,570	-	264,857	495,427	-	-	-	2,859,534	637,863	4,257,681	-	-	4,257,681	
6	Total DSM and Assigned Costs	Σ Lines 4 thru 5	15,859,270	794,570	16,653,840	2,583,069	264,857	11,591,356	-	-	-	2,859,534	637,863	17,936,679	113,832	6,862,752	24,913,263	
NC EE Program Expenses																		
7	Res Home Advantage	Per Forecast	-	-	-	-	317,234	-	-	-	-	-	-	317,234	-	168,458	485,692	
8	Res Home Energy Improvem't	Per Forecast	3,222,042	-	3,222,042	322,204	-	4,395,337	-	-	-	-	-	4,717,541	724,481	331,825	5,773,847	
9	Neighborhood Energy Saver	Per Forecast	1,640,297	-	1,640,297	164,030	-	1,416,497	-	-	-	-	-	1,580,527	158,184	-	1,738,711	
10	Solar Hot Water Pilot	Per Forecast	-	-	-	-	31,026	-	-	-	-	-	-	31,026	-	-	31,026	
11	EE Lighting (Res)*	Per Forecast (allocated)	9,513,184	-	9,513,184	1,902,637	-	8,942,428	-	-	-	-	-	10,745,065	3,377,430	4,281,624	18,404,120	
12	Res Appliance Recycling	Per Forecast	-	-	-	-	-	681,344	-	-	-	-	-	681,344	-	120,467	801,811	
13	My Home Energy Report*	Per Forecast	6,457,601	-	6,457,601	6,457,601	-	-	-	-	-	-	-	7,267,092	(76,809)	13,647,883		
14	Residential New Construction	Per Forecast	10,255,599	-	10,255,599	1,025,560	-	4,161,785	-	-	-	-	-	5,187,345	1,775,751	904,849	7,868,944	
15	Multi-Family	Per Forecast	2,212,059	-	2,212,059	442,412	-	1,524,692	-	-	-	-	-	1,967,104	1,315,711	781,261	4,064,076	
16	Energy Education Program for School	Per Forecast	610,964	-	610,964	122,193	-	476,552	-	-	-	-	-	598,745	267,977	-	866,722	
17	Save Energy and Water Kit	Per Forecast	1,234,634	-	1,234,634	246,927	-	502,990	-	-	-	-	-	749,917	3,750,041	1,370,632	5,870,590	
18	Residential Energy Assessments	Per Forecast	921,529	-	921,529	184,306	-	696,796	-	-	-	-	-	881,102	496,978	158,392	1,536,472	
19	Home Depot CFL	Per Forecast	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20	Residential Found Revenue	Per Forecast	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	Subtotal-Residential	Σ Lines 7 thru 20	35,067,909	-	36,067,909	10,867,870	-	23,046,681	-	-	-	-	-	33,914,551	19,134,644	8,040,699	61,089,894	
22	CIG Energy Efficiency	Per Forecast	-	-	-	-	3,841,812	-	-	-	-	-	-	3,841,812	-	-	3,841,812	
23	EE Lighting (General Service)*	Per Forecast (allocated)	1,153,016	-	1,153,016	230,603	-	1,073,488	-	-	-	-	-	1,304,091	832,240	1,486,980	3,623,310	
24	Energy Efficiency for Business	Per Forecast	-	-	-	-	-	5,965,591	-	-	-	-	-	5,965,591	7,241,363	-	13,206,954	
25	Smart Saver Prescriptive	Per Forecast	10,417,475	-	10,417,475	3,472,492	-	2,613,153	-	-	-	-	-	6,085,645	-	6,526,244	12,611,889	
26	Smart Saver Custom	Per Forecast	1,588,219	-	1,588,219	529,406	-	399,463	-	-	-	-	-	928,869	-	335,732	1,264,601	
27	Smart Saver Performance Incentive	Per Forecast	-	-	-	-	-	-	-	-	-	-	-	-	212,540	54,602	267,143	
28	Small Business Energy Saver	Per Forecast	7,444,308	-	7,444,308	2,481,436	-	7,241,864	-	-	-	-	-	9,723,300	5,144,673	2,690,548	17,558,521	
29	Business Energy Report	Per Forecast	-	-	-	-	-	5,539	-	-	-	-	-	5,539	-	-	5,539	
30	General Service Found Revenue	Per Forecast	-	-	-	-	-	-	-	-	-	-	-	-	(930,453)	-	(930,453)	
	Subtotal-General Service	Σ Lines 22 thru 30	20,603,018	-	20,603,018	6,713,937	-	21,340,910	-	-	-	-	-	27,854,847	13,100,363	11,094,106	52,049,316	
31	Total of EE Programs	Σ Lines 21 + 30	56,670,927	-	56,670,927	17,581,807	-	44,187,591	-	-	-	-	-	61,769,398	32,235,008	19,134,804	113,139,210	
32	EE Assigned A&G and CCost	Per Forecast	-	3,544,357	3,544,357	-	1,181,452	2,076,601	-	-	-	7,506,074	1,674,346	12,438,473	-	-	12,438,473	
33	Total EE and Assigned Costs	Lines 31 + 32	56,670,927	3,544,357	60,215,284	17,581,807	1,181,452	46,264,192	-	-	-	7,506,074	1,674,346	74,207,871	32,235,008	19,134,804	125,577,683	
NC DSDR Program Expenses																		
34	DSDR Program	Per Forecast	4,409,208	666,199	5,075,407	507,541	-	4,938,575	6,323,991	1,410,664	603,872	10,285,156	-	24,069,799	-	-	24,069,799	
35	DSDR Assigned A&G and CCost	Per Forecast	-	-	-	-	-	-	-	-	-	1,317,347	293,855	1,611,202	-	-	1,611,202	
36	Total DSDR and Assigned Costs	Σ Lines 34 thru 35	4,409,208	666,199	5,075,407	507,541	-	4,938,575	6,323,991	1,410,664	603,872	10,285,156	1,317,347	293,855	25,681,001	-	25,681,001	
37	Rate Period Totals	Lines 6 + 33 + 36	76,939,405	666,199	77,605,604	20,672,417	1,446,909	62,794,123	6,323,991	1,410,664	603,872	10,285,156	11,682,955	2,606,064	117,825,551	32,348,840	25,997,556	176,171,948

*All Non-Residential programs are amortized over a 3 year period. The Residential Lighting Program, Multi-Family EE, EE Education, Save Energy and Water Kit and Residential Energy Assessments are recoverable over a 5 year period. My Home Energy Report is recoverable over a 1 year period. All other Residential EE programs are recoverable over 10 years.

Please note: Exhibit may not foot due to rounding

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Energy Efficiency Experience Modification Factor Rate Derivation

NC Rate Class	Adjusted NC Rate Class kWh Sales	Rate Class Energy Allocation Factor ⁽²⁾	EE EMF Revenue Requirement								
			Residential Programs ⁽³⁾	CIG Programs ⁽⁴⁾	DSDR ⁽⁵⁾	Non-DSDR Allocated A&G and Carrying Costs ⁽⁶⁾	DSDR Allocated A&G and Carrying Costs ⁽⁵⁾⁽⁷⁾	Total of Allocated Costs (8) = Σ (3 thru 7)	Less: Prior Period EE Rate Adjustment ⁽⁷⁾	Adjusted EE EMF Revenue Requirement (10)=(8)-(9)	Total EE EMF Rate (cents/kWh) (11) = (10) / (1)
Residential	15 740 238 953	60.65%	\$ 58 531 465	\$0	\$ 15 578 065	\$ 7,267,354	\$ 1,016,925	\$ 82,393,808	\$ 83,295,916	\$ (902,108)	(0.006)
General Service	9 852 771 378	37.96%	\$0	\$ 49 737 883	\$ 9 751,257	\$ 5 536,262	\$ 636,555	\$ 65,661,956	\$ 53,649,216	\$ 12,012,740	0.122
Lighting	361 265 217	1.39%	\$0	\$0	\$ 357 543	\$ -	\$ 23,340	\$ 380,883	\$ 377,991	\$ 2,892	0.001
NC Retail	25 954 275 548	100.00%	\$ 58 531 465	\$ 49 737 883	\$ 25 686,864	\$ 12,803,616	\$ 1,676,820	\$ 148,436,648	\$ 137,323,123	\$ 11,113,524	

NOTES:

- (1) Rate Class Sales excluding "Opt-Out" sales are derived in Miller Exhibit 6
- (2) Rate Class Energy Allocation Factor is derived in Miller Exhibit 5, page 5, column (4)
- (3) Residential Program costs are allocated solely to the Residential rates in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (4) Non-residential Program costs are allocated solely to the General Service rates in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (5) DSDR Costs allocated using the Rate Class Energy Allocation Factor from column (2) in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (6) Non-DSDR A&G and Carrying Costs are allocated on the basis of Non-DSDR revenue requirements (excluding incentives and net lost revenues) assigned in preceding columns.
- (7) Amounts are derived in Miller Exhibit 2, page 7

Please note: Error may not occur due to rounding

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Demand-Side Management Experience Modification Factor Rate Derivation

NC Rate Class	Adjusted NC Rate Class kWh Sales ⁽¹⁾	Rate Class Demand Allocation Factor ⁽²⁾	DSM EMF Revenue Requirement					Less: Prior Period DSM Rate Adjustment ⁽⁶⁾	Adjusted DSM EMF Revenue Requirement (9)=(7)-(8)	Total DSM EMF Rate (cents/kWh) (10) = (9) / (1)
			EnergyWise Program Costs ⁽³⁾	CIG DR Program ⁽⁴⁾	Allocated A&G Costs ⁽⁵⁾	Allocated Carrying Costs ⁽⁵⁾	Total of Allocated Costs (7) = Σ (3 thru 6)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Residential	15,740,238,953	67.12%	\$12,886,943	\$ -	\$ 684,567	\$ 2,528,644	\$ 16,100,154	\$ 14,703,167	\$ 1,396,988	0.009
General Service	9,737,467,991	32.88%	\$ -	\$ 2,606,451	\$ 201,447	744,103	\$ 3,552,001	\$ 5,278,956	\$ (1,726,955)	(0.018)
Lighting	360,425,890	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
NC Retail	25,838,132,834	100%	\$12,886,943	\$ 2,606,451	\$ 886,014	\$ 3,272,747	\$ 19,652,155	\$ 19,982,122	\$ (329,967)	

NOTES:

- (1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.
- (2) Rate Class Demand Allocation Factor is derived in Miller Exhibit 5, page 6, column (5).
- (3) EnergyWise costs are directly assigned solely to the Residential Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (4) CIG DR costs are directly assigned solely to the General Service Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (5) A&G and Carrying Costs are allocated on the basis of revenue requirements (excluding incentives and net lost revenues) assigned in preceding columns.
- (6) Amounts are derived in Miller Exhibit 2, page 7.

Please note: Error may not be due to rounding.

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
EMF Period Revenue Requirement Summary - NC Level
January 2017 - December 2017

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	CEM	Insurance	A&G Expense	Capitalized O&M and A&G	Amortization of Capitalized O&M	Amortization of Capitalized A&G	Prior Period Amortization	DSDR Capital Costs	Income Taxes on DSDR Capital Costs	DSDR Property Taxes	DSDR Depreciation	Carrying Costs Net of Taxes	Income Taxes on Carrying Cost	Rev Reqmt Before PPI & NLR	Net Lost Revenue Recoupment	Program Performance Incentive	Rev Reqmt With PPI & NLR
				(Col 14)(15)				(18)	(19)	(20)	(21)	(22)	(23)	(Col 14)(15)	(25)	(26)	(Col 14)(15)(16)
NC DSM Program Expenses																	
1	1,214,690			1,214,690	418,130	-	1,211,354							1,629,584		233,850	1,863,435
2	12,829,153			12,829,153	1,040,945	-	6,846,043							7,926,978		4,959,965	12,886,943
3	1,451,287			1,451,287	211,729	-	321,354							709,083	49,698	19,765	743,016
4	13,209,230			13,209,230	1,670,804	-	8,379,751							10,359,646	49,698	5,184,051	15,493,394
5			724,598	724,598		240,539	644,481					2,302,515	970,232	4,158,761			4,158,761
6	13,209,230		724,598	13,933,828	1,670,804	240,539	9,024,232					2,302,515	970,232	14,418,407	49,698	5,184,051	19,652,155
NC EE Program Expenses																	
7	5,890,093			5,890,093	569,229	-	409,789							409,789		176,476	586,265
8	4,413,890			4,413,890	141,165	-	3,799,377							4,358,406	1,068,146	354,753	5,791,306
9	1,413,890			1,413,890	141,165	-	1,173,832							1,318,917	282,317	-	1,601,234
10	8,717,873			8,717,873	1,752,564	-	5,973,715							5,677,323	1,350,463	1,131,229	7,158,815
11	4,500			4,500	45	-	633,458							633,915	396,451	119,754	1,150,119
12	11,699,603			11,699,603	1,512,603	-	5,519,603							5,519,603	6,016,176	2,039	11,557,818
13	9,519,733			9,519,733	951,979	-	2,170,251							3,124,224	1,588,365	522,045	5,234,634
14						-	21,623							21,623	-	-	21,623
15	631,364			631,364	110,657	-	253,900							390,557	335,531	-	726,088
16	711,505			711,505	145,301	-	109,117							254,418	1,741,733	717,765	2,713,917
17	1,113,299			1,113,299	604,619	-	229,371							583,990	370,750	115,536	1,070,276
18	1,291,443			1,291,443	411,215	-	776,602							1,187,637	2,056,521	505,626	3,749,773
19	36,112,976			36,112,976	9,969,233	-	19,325,050							29,294,283	22,961,160	6,276,021	58,531,465
20	1,080,475			1,080,475	216,209	-	4,181,401							4,181,401			4,181,401
21	17,896,772			17,896,772	1,961,592	-	3,817,368							1,394,519	2,649,252	1,213,927	5,247,297
22						-								9,782,959	8,747,463	6,944,270	25,474,692
23						-											
24						-									8,952	7,194	16,146
25	7,168,664			7,168,664	1,389,555	-	4,522,520							6,912,075	5,825,104	2,221,389	14,958,568
26	16,616			16,616	5,039	-	39,860							45,399	577	-	45,976
27						-									(186,197)	-	(186,197)
28	13,174,551			13,174,551	2,775,719	-	11,398,832							22,316,352	17,035,151	10,386,380	49,737,883
29	13,174,551			13,174,551	2,775,719	-	11,398,832							22,316,352	17,035,151	10,386,380	49,737,883
30			2,768,836	2,768,836		922,179	2,162,244					6,683,696	2,816,397	12,603,616	39,996,311	16,662,401	108,269,348
31	13,174,551		2,768,836	15,943,387	2,775,719	922,179	13,561,076					6,683,696	2,816,397	14,414,251	39,996,311	16,662,401	121,072,963
NC DSDR Program Expenses																	
32	3,976,242	735,060		4,711,302	471,130	-	4,436,826	6,339,403	2,672,041	603,847	11,031,510			25,554,757	132,107		25,886,864
33						-						1,179,711	497,109	1,676,820			1,676,820
34	3,976,242	735,060		4,711,302	471,130	-	4,436,826	6,339,403	2,672,041	603,847	11,031,510	1,179,711	497,109	27,231,577	132,107		27,363,684
35	7,952,484	735,060	4,455,424	13,142,968	1,942,260	1,112,811	14,906,905	12,678,806	5,344,082	1,207,694	22,269,120	10,165,922	4,283,738	106,064,236	40,178,116	21,846,452	168,098,803

*All Non Residential programs are amortized over a 3 year period. The Residential Lighting Program, Multi Family EE and EE Education are recoverable over a 5 year period. My Home Energy Report is recoverable over a 1 year period. All other Residential EE programs are recoverable over 10 years.

DUKE ENERGY PROGRESS, LLC
 Docket No E-2 Sub 1174
 EMF Adjustment Summary
 January 2017 - December 2017

Line	Description	Residential				General Service				Lighting				Totals				
		DSM	DSDR	EE	Total	DSM	DSDR	EE	Total	DSM	DSDR	EE	Total	DSM	DSDR	EE	Total	
1	True Annual DSM, EE Rate Billing <small>(Amount: \$14,701,247)</small>	\$ 14,701,247	\$ 18,926,699	\$ 64,015,210	\$ 97,343,076	\$ 5,024,209	\$ 10,841,855	\$ 43,374,475	\$ 59,280,539	\$ -	\$ 378,309	\$ -	\$ 378,309	\$ 19,727,376	\$ 27,886,864	\$ 107,389,685	\$ 155,003,924	
2	True Uncollectible Allowance in Rates	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	N/A	
3	Over or Under Collection of Uncollectibles	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	N/A	
4	True up of Vintage 2015 PH ¹ <small>(Amount: \$174,301)</small>			174,301	174,301											174,301	174,301	
5	True up of Vintage 2016 PH ² <small>(Amount: \$66,218)</small>			212,573	212,573	66,218		9,162	75,380					66,218		221,735	287,953	
6	True up of Vintage 2015 Lost Revenue Through Year 2015 <small>(Amount: \$959,904)</small>			959,904	959,904											959,904	959,904	
7	True up of Vintage 2016 Lost Revenue Through Year 2015 <small>(Amount: \$1,172,129)</small>			1,345,437	1,345,437			\$ (173,308)	(173,308)							1,172,129	1,172,129	
8	Interest on Overcollections, Undercollections <small>(Amount: \$188,529)</small>			38,207	(38,207)	188,529		(442,967)	(254,439)			(318)		(318)	188,529	(318)	(481,175)	(292,964)
9	Net Adjustments to DSM, EE EMF Charge <small>(Amount: \$377,991)</small>	\$ 14,701,247	\$ 18,926,699	\$ 64,015,210	\$ 97,343,076	\$ 5,273,956	\$ 10,841,855	\$ 42,767,361	\$ 58,928,172	\$ -	\$ 377,991	\$ -	\$ 377,991	\$ 19,982,122	\$ 27,886,545	\$ 109,436,578	\$ 157,305,246	
		\$83,295,916 <small>To Miller Exhibit 2 page 4</small>				\$53,649,216 <small>To Miller Exhibit 2 page 4</small>				\$377,991 <small>To Miller Exhibit 2 page 4 & Miller Exhibit 2 page 5</small>				\$337,323,123 <small>To Miller Exhibit 2 page 4</small>				

Actual DSM/EE Rate Billing for test period (January 2017 through December 2017)
 The Company is not requesting an adjustment for uncollectibles in this proceeding.
 The Company is not requesting an adjustment for uncollectibles in this proceeding.
¹ See Evans Exhibit 1 page 1 for a detail list of Vintage 2015 programs impacted by EMSV true-ups
² See Evans Exhibit 1 page 3 for a detail list of Vintage 2016 programs impacted by EMSV true-ups
³ See Evans Exhibit 2 page 5 for a detail list of Vintage 2015 programs impacted by EMSV true-ups
⁴ See Evans Exhibit 2 page 5 for a detail list of Vintage 2016 programs impacted by EMSV true-ups
 Calculated interest obligation associated with test period (January 1, 2017 through December 31, 2017.)

Miller Exhibit 2 page 7 of 7

1A

Duke Energy Progress, LLC
 Docket No. E-2, Sub 1174
 Estimated Return Calculation - Residential EE & DSM Programs Vintage 2017

Month	Residential EE Costs Incurred	Residential DSM Costs Incurred	Residential DSM Program Costs Incurred	Total Program Costs Incurred	NC Residential Revenue Collected	NC Residential EE Collection %	EE Program Costs Revenue Collected	(Over)/Under Collection
2017 January	1,655,194	1,706,541	9,851,978	9,851,978	9,805,015	100.00%	(9,805,015)	-46,963
2017 February	1,315,593	1,356,027	7,826,252	7,826,252	7,790,936	100.00%	(7,790,936)	37,316
2017 March	1,275,197	1,314,596	7,589,073	7,589,073	7,552,897	100.00%	(7,552,897)	36,176
2017 April	1,023,707	1,095,170	6,091,428	6,091,428	6,062,391	100.00%	(6,062,391)	29,037
2017 May	1,126,019	1,160,648	6,700,343	6,700,343	6,668,403	100.00%	(6,668,403)	31,939
2017 June	1,346,563	1,377,642	7,953,036	7,953,036	7,915,125	100.00%	(7,915,125)	37,911
2017 July	1,665,909	1,737,725	10,031,766	10,031,766	9,983,946	100.00%	(9,983,946)	47,820
2017 August	1,600,433	1,649,643	9,521,277	9,521,277	9,477,881	100.00%	(9,477,881)	45,396
2017 September	1,434,294	1,483,921	8,566,246	8,566,246	8,525,910	100.00%	(8,525,910)	40,336
2017 October	1,145,039	1,180,331	6,813,396	6,813,396	6,780,918	100.00%	(6,780,918)	32,478
2017 November	1,275,942	1,326,009	6,402,236	6,402,236	6,371,718	100.00%	(6,371,718)	30,518
2017 December	1,420,118	1,461,765	8,409,936	8,409,936	8,409,936	100.00%	0	0
2017 Total	18,100,154	18,594,990	95,831,748	95,831,748	95,345,076	100.00%	(486,672)	486,672

Since DEP is under-collected on program costs, but over-collected on PPI and lost revenues, the Company is calculating a return due to customers on the net balance in total.

Note: Revenue white - 10 (data reports)
 Note: Program & Savings Costs allocated on an equal average basis based on revenues collected

Month	Cumulative Over/Under Recovery	Current Income Tax Rate	Months Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax Rate
2017 January	46,963	37.25%	17,424.39	17,404	29,558	0.005632	83	83	0.764964	109
2017 February	84,279	37.25%	13,829.30	31,234	53,045	0.005632	233	316	0.764964	413
2017 March	120,455	37.25%	13,406.77	44,640	75,814	0.005632	363	679	0.764964	887
2017 April	156,632	37.25%	10,761.04	55,401	94,090	0.005632	478	1,157	0.764964	1,513
2017 May	192,809	37.25%	11,635.75	67,036	114,193	0.005632	586	1,744	0.764964	2,279
2017 June	228,986	37.25%	14,049.74	81,085	138,054	0.005632	710	2,454	0.764964	3,208
2017 July	265,163	37.25%	17,223.00	99,010	158,152	0.005632	862	3,316	0.764964	4,335
2017 August	301,340	37.25%	16,823.71	115,834	176,724	0.005632	1,027	4,343	0.764964	5,678
2017 September	337,517	37.25%	15,133.91	130,968	212,427	0.005632	1,180	5,524	0.764964	7,221
2017 October	373,694	37.25%	17,016.46	148,004	242,869	0.005632	1,310	6,834	0.764964	8,934
2017 November	410,000	37.25%	11,310.11	159,314	262,077	0.005632	1,422	8,256	0.764964	10,792
2017 December	446,306	37.25%	13,928.25	169,242	287,430	0.005632	1,517	9,803	0.764964	12,815
2017 Total	4,866,672			1,892,242	3,874,430		9,803	19,424		25,392

Twelve months return on 2017 year end balance

25.392%

38,207

Duke Energy Progress, LLC
 Docket No. E-2, Sub 1174
 Estimated Return Calculation - Non-Residential EE & DSOR Program Vintage 2017

Month	Non-Residential EE Cash Collected	Non-Residential EE Cash Returned	Total Program Cash Returned	NC EE Non-Residential Revenue Collected	NC Non-Residential EE Program Collection %	Total EE Revenue Collected	NC DSOR Non-Residential Revenue Collected	NC Non-Residential DSOR Program Collection %	DSOR Program Costs Revenue Collected	Total EE & DSOR Revenue Collected	(Over)/Under Collection
2017 January	2,742,120	1,668,476	1,073,644	100.0000%	100.0000%	(1,468,476)	911,726	100.0000%	(921,726)	(2,390,202)	350,118
2017 February	2,617,774	2,462,503	155,271	100.0000%	100.0000%	(1,460,403)	758,696	100.0000%	(758,696)	(2,259,199)	363,575
2017 March	2,765,218	1,564,439	1,200,779	100.0000%	100.0000%	(1,564,439)	819,957	100.0000%	(819,957)	(2,364,816)	380,472
2017 April	2,742,842	1,554,532	1,188,310	100.0000%	100.0000%	(1,554,532)	768,248	100.0000%	(768,248)	(2,352,820)	388,061
2017 May	2,751,659	1,560,764	1,190,895	100.0000%	100.0000%	(1,560,764)	833,515	100.0000%	(833,515)	(2,288,313)	487,146
2017 June	2,838,590	1,742,560	1,096,030	100.0000%	100.0000%	(1,742,560)	970,644	100.0000%	(970,644)	(2,269,204)	489,386
2017 July	2,847,962	2,240,212	607,750	100.0000%	100.0000%	(2,240,212)	1,071,999	100.0000%	(1,071,999)	(3,122,277)	551,315
2017 August	2,847,962	2,240,212	607,750	100.0000%	100.0000%	(2,240,212)	1,071,999	100.0000%	(1,071,999)	(3,122,277)	551,315
2017 September	2,847,962	2,240,212	607,750	100.0000%	100.0000%	(2,240,212)	1,071,999	100.0000%	(1,071,999)	(3,122,277)	551,315
2017 October	2,847,962	2,240,212	607,750	100.0000%	100.0000%	(2,240,212)	1,071,999	100.0000%	(1,071,999)	(3,122,277)	551,315
2017 November	2,847,962	2,240,212	607,750	100.0000%	100.0000%	(2,240,212)	1,071,999	100.0000%	(1,071,999)	(3,122,277)	551,315
2017 December	2,847,962	2,240,212	607,750	100.0000%	100.0000%	(2,240,212)	1,071,999	100.0000%	(1,071,999)	(3,122,277)	551,315
Total	27,817,412	27,817,412	0	100.0000%	100.0000%	(27,817,412)	10,811,855	100.0000%	(10,811,855)	(17,005,557)	5,374,018

Note 1: Revenue source EEP cash reports
 Note 2: Program EEP cash collected in a weighted average based on revenues collected

Month	Cumulative Over/Under Revenue	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return Deferral	YTD After Tax Return on Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
2017 January	350,118	1.2500%	12,979	12,979	116,139	621	621	0.764964	811
2017 February	713,193	1.2500%	24,158	37,137	81,981	1,868	2,489	0.764964	3,253
2017 March	1,076,268	1.2500%	35,337	72,474	117,418	3,189	5,657	0.764964	7,395
2017 April	1,439,343	1.2500%	46,516	118,990	153,834	4,511	10,167	0.764964	13,317
2017 May	1,802,418	1.2500%	57,695	176,685	191,229	6,046	16,214	0.764964	21,221
2017 June	2,165,493	1.2500%	68,874	245,559	230,103	7,741	23,975	0.764964	31,341
2017 July	2,528,568	1.2500%	80,053	325,612	270,050	9,586	33,561	0.764964	43,673
2017 August	2,891,643	1.2500%	91,232	416,844	311,212	11,557	45,118	0.764964	58,980
2017 September	3,254,718	1.2500%	102,411	519,255	353,364	13,628	58,746	0.764964	76,796
2017 October	3,617,793	1.2500%	113,590	632,845	396,514	15,670	74,416	0.764964	97,280
2017 November	3,980,868	1.2500%	124,769	757,614	441,245	17,715	91,741	0.764964	119,918
2017 December	4,343,943	1.2500%	135,948	893,562	487,293	19,760	110,371	0.764964	144,154
Total	27,817,412		1,247,812	1,247,812	1,247,812	110,371	110,371		144,154

*After month return on 2017 year end balance

298,813

141,967

Since DEP is under-collected on program costs and undercollected in total, therefore the Company is calculating interest on the program cost piece of the balance.

1A

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
2017 Actual Revenues

Rate Period	DSM	DSDR	EE	Total
Residential	\$ 14,703,167	\$ 16,626,699	\$ 64,015,210	\$ 95,345,076
General Service	5,024,209	10,881,855	43,374,475	59,280,539
Lighting		378,309		378,309
Total	<u>\$ 19,727,376</u>	<u>\$ 27,886,864</u>	<u>\$ 107,389,685</u>	<u>\$ 155,003,924</u>
EMF				
Residential	\$ 54,363	\$ 889,280	\$ 19,513,373	\$ 20,457,015
General Service	4,759	569,682	4,887,581	5,462,023
Lighting		4,348	(161)	4,187
Total	<u>\$ 59,121</u>	<u>\$ 1,463,310</u>	<u>\$ 24,400,793</u>	<u>\$ 25,923,225</u>

1A

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Allocation Factor Summary through test year 2015

				DSM		EE		
				NC	SC	NC	SC	
A. Allocation Factors								
1	May-08	to	Apr-09	<i>Calendar 2007 Analysis</i> ¹	86.73%	13.27%	84.81%	15.19%
1	May-09	to	Apr-10	<i>Calendar 2008 Analysis</i> ¹	86.16%	13.84%	85.06%	14.94%
2	May-10	to	Apr-11	<i>Calendar 2009 Analysis</i> ²	85.89%	14.11%	85.41%	14.59%
3	May-11	to	Apr-12	<i>Calendar 2010 Analysis</i> ³	86.49%	13.51%	85.53%	14.47%
4	May-12	to	Apr-13	<i>Calendar 2011 Analysis</i> ⁴	86.63%	13.37%	85.92%	14.08%
5	May-13	to	Apr-14	<i>Calendar 2012 Analysis</i> ⁵	86.47%	13.53%	86.06%	13.94%
6	May-14	to	Apr-15	<i>Calendar 2013 Analysis</i> ⁶	85.68%	14.32%	85.57%	14.43%
7	May-15	to	Apr-16	<i>Calendar 2014 Analysis</i> ⁷	86.23%	13.77%	85.15%	14.85%
B. Custom Period Factors								
<i>Test Period</i> ⁴								
8	Apr-10	to	Mar-11	<i>Line 1 x 1/2 + Line 2 x 1/2</i>	85.91%	14.09%	85.38%	14.62%
<i>Prospective Period</i> ⁴								
9	Apr-11	to	Jul-11	<i>Line 2 x 1/3 + Line 3 x 2/3</i>	86.34%	13.66%	85.50%	14.50%
<i>Rate Period</i> ⁴								
10	Dec-11	to	Nov-12	<i>Line 3</i>	86.49%	13.51%	85.53%	14.47%
<i>Calendar Year 2010</i> ⁸								
11	Jan-10	to	Dec-10	<i>Line 1 x 1/3 + Line 2 x 2/3</i>	85.98%	14.02%	85.29%	14.71%
<i>Calendar Year 2011</i> ⁹								
12	Jan-11	to	Dec-11	<i>Line 2 x 1/3 + Line 3 x 2/3</i>	86.29%	13.71%	85.49%	14.51%
<i>Calendar Year 2012</i> ⁸								
13	Jan-12	to	Dec-12	<i>Line 3 x 1/3 + Line 4 x 2/3</i>	86.58%	13.42%	85.79%	14.21%
<i>Calendar Year 2013</i> ⁸								
14	Jan-13	to	Dec-13	<i>Line 4 x 1/3 + Line 5 x 2/3</i>	86.52%	13.48%	86.01%	13.99%
<i>Calendar Year 2014</i> ⁸								
15	Jan-14	to	Dec-14	<i>Line 5 x 1/3 + Line 6 x 2/3</i>	85.94%	14.06%	85.73%	14.27%
<i>Calendar Year 2015</i> ⁸								
16	Jan-15	to	Dec-15	<i>Line 6 x 1/3 + Line 7 x 2/3</i>	86.05%	13.95%	85.29%	14.71%

Notes:

- ¹ Allocation Factors values from Docket No. E-2, Sub 951
- ² Allocation Factors values from Docket No. E-2, Sub 977
- ³ Allocation Factors values from Docket No. E-2, Sub 1002
- ⁴ Allocation Factors values from Docket No. E-2, Sub 1019
- ⁵ Allocation Factors values from Docket No. E-2, Sub 1030
- ⁶ Allocation Factors values from Docket No. E-2, Sub 1044
- ⁷ Allocation Factors values from Docket No. E-2, Sub 1070
- ⁸ Employed in the allocation of Utility Cost Test (UCT) results for PPI determination

Duke Energy Progress, LLC
 Docket No. E-2, Sub 1174
 Allocation Factor For Year 2016
 Allocation Factors from 2016 Filed Cost of Service Study

		<u>MWh</u>			
Sales Allocator at Generation					
1	NC Retail MWh Sales Allocation	Company Records	38,844,804		
2	SC Retail MWh Sales Allocation	Company Records	<u>6,620,461</u>		
3	Total Retail	Line 1 + Line 2	45,465,264		
Allocation 1 to state based on kWh sales					
4	NC Retail	Line 1 / Line 3	85.4384204%		
Demand Allocators (kW)					
			<u>NC</u>	<u>SC</u>	<u>Total</u>
5	Residential	Company Records	3,530,456	484,305	4,014,761
6	Non Residential	Company Records	<u>4,003,521</u>	<u>724,998</u>	<u>4,728,519</u>
7	Total	Line 5 + Line 6	7,533,977	1,209,303	8,743,280
Allocation 2 to state based on peak demand					
8	NC Retail	Line 7, NC / Line 7 Total	86.1687719%		
Allocation 3 NC res vs non-res Peak Demand to retail system peak					
9	NC Residential	Line 5 NC / Line 7 Total	40.3790797%		
10	NC Non-residential	Line 6 NC / Line 7 Total	45.7896922%		
Allocation 4 NC res vs non-res Peak Demand					
11	NC Residential	Line 5 NC / Line 7 NC	46.8604563%		
12	NC Non-residential	Line 6 NC / Line 7 NC	53.1395437%		

Duke Energy Progress, LLC
Docket No. E-2, Sub 1174
Allocation Factor For Year 2017
Allocation Factors from 2017 Filed Cost of Service Study

		<u>MWh</u>			
Sales Allocator at Generation					
Line 1	NC Retail MWh Sales Allocation	Company Records	38,923,501		
Line 2	SC Retail MWh Sales Allocation	Company Records	6,596,650		
Line 3	Total Retail	Line 1 + Line 2	45,520,150		
Allocation 1 to state based on kWh sales					
Line 4	NC Retail	Line 1 / Line 3	85.5082864%		
Demand Allocators (kW)					
			<u>NC</u>	<u>SC</u>	<u>Total</u>
Line 5	Residential	Company Records	3,743,750	509,212	4,252,962
Line 6	Non Residential	Company Records	4,012,019	736,825	4,748,844
Line 7	Total	Line 5 + Line 6	7,755,769	1,246,037	9,001,806
Allocation 2 to state based on peak demand					
Line 8	NC Retail	Line 7, NC / Line 7 Total	86.1579245%		
Allocation 3 NC res vs non-res Peak Demand to retail system peak					
Line 9	NC Residential	Line 5 NC / Line 7 Total	41.5888790%		
Line 10	NC Non-residential	Line 6 NC / Line 7 Total	44.5690455%		
Allocation 4 NC res vs non-res Peak Demand					
Line 11	NC Residential	Line 5 NC / Line 7 NC	48.2705209%		
Line 12	NC Non-residential	Line 6 NC / Line 7 NC	51.7294791%		

NOTE: These allocation factors are used for Vintage 2017 based on the Cost of Service Study filed in May 2017.

Duke Energy Progress, LLC
 Docket No. E-2, Sub 1174
 Allocation Factor For Year 2018
 Estimated Allocation Factor For Year 2019
 Allocation Factors from 2018 Filed Cost of Service Study

		<u>MWh</u>			
Line	Sales Allocator at Generation				
1	NC Retail MWh Sales Allocation	Company Records	38,153,842		
2	SC Retail MWh Sales Allocation	Company Records	6,438,789		
3	Total Retail	Line 1 + Line 2	44,592,631		
Allocation 1 to state based on kWh sales					
4	NC Retail	Line 1 / Line 3	85.5608674%		
Demand Allocators (kW)					
			<u>NC</u>	<u>SC</u>	<u>Total</u>
5	Residential	Company Records	3,699,632	487,425	4,187,058
6	Non Residential	Company Records	3,915,717	698,002	4,613,719
7	Total	Line 5 + Line 6	7,615,350	1,185,427	8,800,777
Allocation 2 to state based on peak demand					
8	NC Retail	Line 7, NC / Line 7 Total	86.5304240%		
Allocation 3 NC res vs non-res Peak Demand to retail system peak					
9	NC Residential	Line 5 NC / Line 7 Total	42.0375642%		
10	NC Non-residential	Line 6 NC / Line 7 Total	44.4928598%		
Allocation 4 NC res vs non-res Peak Demand					
11	NC Residential	Line 5 NC / Line 7 NC	48.5812530%		
12	NC Non-residential	Line 6 NC / Line 7 NC	51.4187470%		

NOTE: These allocation factors are used for vintages 2018-2019 based on the most recently filed Cost of Service Study (May 2018)

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Energy Allocation Factors - Applicable to EE Program Costs

North Carolina Rate Class Energy Allocation Factors

<u>Rate Class</u>	Total NC Rate Class Sales (MWh) ⁽¹⁾ <u>(1)</u>	Opt-Out Sales ⁽²⁾ <u>(2)</u>	Adjusted NC Rate Class MWh Sales <u>(3) = (1) - (2)</u>	Rate Class Energy Allocation Factor <u>(4) = (3) / NC Total in Column 3</u>
Residential	15,740,239	-	15,740,239	60.65%
General Service	21,297,783	(11,445,011)	9,852,771	37.96%
Lighting	378,515	(17,250)	361,265	1.39%
NC Retail	37,416,537	(11,462,261)	25,954,276	100.00%

NOTES:

- (1) Total NC Rate Class Sales (MWh) are for the forecasted year ending December 2019.
(2) Opt-Out sales are provided in Miller Exhibit 6. Since sales are not forecasted by individual customer, historic opt-out sales are assumed to be unchanged during the rate recovery period.

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Demand Allocation Factors - Applicable to DSM Programs

North Carolina Rate Class Demand Allocation Factors

Rate Class	Total NC Rate Class Sales ⁽¹⁾ (1)	Sales Subject to Opt-Out ⁽²⁾ (2)	Rate Class Demand ⁽³⁾ (3)	Revised Rate Class Demand (4) = ((1 - 2) / 1) * 3	Rate Class Allocation Factor (5) = (4)/Total of Column 4
Residential	15,740,239	-	3,743,750	3,743,750	67.12%
General Service	21,297,783	(11,560,315)	4,012,019	1,834,318	32.88%
Lighting	378,515	(18,089)	0	0	0.00%
NC Retail	37,416,537	(11,578,404)	7,755,769	5,578,068	100.00%

NOTES:

- (1) Total NC Rate Class Sales (MWh) are for the forecasted year ended December 2019
- (2) Opt-Out sales are provided in Miller Exhibit 6. Since sales are not forecasted by individual customer, historic opt-out sales are assumed to be unchanged during the rate recovery period.
- (3) The Coincident Peak ("CP") demands are based on the 2017 CP occurring on July 13 during the hour ended at 1700 EDT.

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Determination of Lighting Allocation Factors

January through March 2017

		<u>Bulb %s</u>		<u>Allocation Factors</u>	
1	Residential	82.30%	<i>Per M&V</i>	89.17%	<i>Lines 1 / (1 + 2)</i>
2	General Service	10.00%	<i>Per M&V</i>	10.83%	<i>Lines 2 / (1 + 2)</i>
3	Leakage	7.70%	<i>Per M&V</i>	0.00%	<i>-NA-</i>
4	Totals	100.00%	Σ <i>Lines 1 thru 3</i>	100.00%	Σ <i>Lines 1 thru 3</i>

April through December 2017

		<u>Bulb %s</u>		<u>Allocation Factors</u>	
1	Residential	81.70%	<i>Per M&V</i>	89.19%	<i>Lines 1 / (1 + 2)</i>
2	General Service	9.90%	<i>Per M&V</i>	10.81%	<i>Lines 2 / (1 + 2)</i>
3	Leakage	8.40%	<i>Per M&V</i>	0.00%	<i>-NA-</i>
4	Totals	100.00%	Σ <i>Lines 1 thru 3</i>	100.00%	Σ <i>Lines 1 thru 3</i>

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Duke Energy Progress, LLC
Docket No. E-2, Sub 1174
Forecasted 2019 kWh Sales

	Spring 2018 Sales Forecast - kWh	Total 2019		
	North Carolina Retail:			
Line				
1	Residential	15,740,238,953		
2	Non-Residential	21,297,782,853		
3	Lighting	378,515,081		
4	Total Retail	<u>37,416,536,887</u>		
	Non-Residential	Gross kWh	Opt-outs	Net kWh
5	Energy Efficiency	21,297,782,853	(11,445,011,475)	9,852,771,378
6	DSM	21,297,782,853	(11,560,314,862)	9,737,467,991
7	Lighting - EE	378,515,081	(17,249,864)	361,265,217
8	Lighting - DSM	378,515,081	(18,089,191)	360,425,890

¹ Actual Opt-Out volumes for the twelve-months ending December 31, 2017

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Duke Energy Progress, LLC
 Docket No. E-2, Sub 1174
 Summary of 2019 DSM/EE Rates

	<u>Source:</u>	<u>cents/kWh</u> <u>Rate</u>	<u>Reg Fee</u>	<u>Billing Rate</u>
Residential Rate				
EMF Rate - DSM	Miller Exhibit 2, page 5	0.009	0.000	0.009
EMF Rate - EE	Miller Exhibit 2, page 4	-0.006	0.000	-0.006
Projected Rate - DSM	Miller Exhibit 2, page 2	0.120	0.000	0.120
Projected Rate - EE	Miller Exhibit 2, page 1	0.520	0.001	0.521
Total Residential Rate		0.643		0.644
General Service				
EE EMF Rate	Miller Exhibit 2, page 4	0.122	0.000	0.122
EE Projected Rate	Miller Exhibit 2, page 1	0.697	0.001	0.698
Total General Service EE Rate		0.819		0.820
DSM EMF Rate	Miller Exhibit 2, page 5	-0.018	0.000	-0.018
DSM Projected Rate	Miller Exhibit 2, page 2	0.063	0.000	0.063
Total General Service DSM Rate		0.045		0.045
Lighting EE Rate				
Lighting EE EMF Rate	Miller Exhibit 2, page 4	0.001	0.000	0.001
Lighting EE Projected Rate	Miller Exhibit 2, page 1	0.099	0.000	0.099
Total Lighting EE Rate		0.100		0.100

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DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Energy Efficiency Rate Derivation

NC Rate Class	Adjusted NC Rate Class kWh Sales ⁽¹⁾	Rate Class Energy Allocation Factor ⁽²⁾	EE Revenue Requirements						
			Residential Programs ⁽³⁾	CIG Programs ⁽⁴⁾	DSDR ⁽⁵⁾	Non-DSDR Allocated A&G and Carrying Costs ⁽⁶⁾	DSDR Allocated A&G and Carrying Costs ⁽⁷⁾	Total of Allocated Costs ^{(8) = Σ (3 thru 7)}	Total EE Rate ^{(9) = (8) / (1)}
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residential	15,740,238,953	60.65%	\$ 59,420,389	\$ -	\$ 14,597,379	\$ 6,829,356	\$ 977,130	\$ 81,824,254	0.520
General Service	9,852,771,378	37.96%	\$ -	\$ 53,311,105	\$ 9,137,386	\$ 5,609,117	\$ 611,645	\$ 68,669,252	0.697
Lighting	361,265,217	1.39%	\$ -	\$ -	\$ 335,035	\$ -	\$ 22,427	\$ 357,461	0.099
NC Retail	25,954,275,548	100%	\$ 59,420,389	\$ 53,311,105	\$ 24,069,799	\$ 12,438,473	\$ 1,611,202	\$ 150,850,968	

NOTES:

- (1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.
- (2) Rate Class Energy Allocation Factor is derived in Miller Exhibit 5, page 5, column (4).
- (3) Residential Program costs are allocated solely to the Residential Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (4) Non-Residential Program costs are allocated solely to the General Service Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (5) DSDR Costs allocated using the Rate Class Energy Allocation Factor from column (2) in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (6) Non-DSDR A&G and Carrying Costs are allocated on the basis of Non-DSDR revenue requirements (excluding incentives and net lost revenues).
- (7) DSDR A&G Costs and Carrying Costs are allocated using the Rate Class Energy Allocation Factor from column (2).

Please note: Exhibit may not foot due to rounding.

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DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Demand-Side Management Rate Derivation

NC Rate Class	Adjusted NC Rate Class kWh Sales ⁽¹⁾	Rate Class Demand Allocation Factor ⁽²⁾	DSM Revenue Requirements					Total of Allocated Costs (7) = Σ (3 thru 6)	Total DSM Rate (8) = (7) / (1)
			EnergyWise Program Costs ⁽³⁾	CIG DR Program ⁽⁴⁾	Allocated A&G Costs ⁽⁵⁾	Allocated Carrying Costs ⁽⁵⁾			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Residential	15,740,238,953	67.12%	\$15,819,687	\$ -	\$ 538,120	\$ 2,475,417	\$ 18,833,224	0.120	
General Service	9,737,467,991	32.88%	\$ -	\$ 4,841,927	\$ 222,164	\$ 1,021,980	\$ 6,086,071	0.063	
Lighting	360,425,890	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	-	
NC Retail	25,838,132,834	100.00%	\$15,819,687	\$ 4,841,927	\$ 760,284	\$ 3,497,397	\$ 24,919,295		

NOTES:

(1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.

(2) Rate Class Demand Allocation Factor is derived in Miller Exhibit 5, page 6, column (5).

(3) EnergyWise costs are directly assigned solely to the Residential Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(4) CIG DR Program costs are directly assigned solely to the General Service Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.

(5) A&G and Carrying Costs are allocated on the basis of revenue requirements (excluding incentives and net lost revenues).

Please note: Exhibit may not foot due to rounding.

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Rate Period Revenue Requirement Summary - NC Level
January 2019 - December 2019

		NORTH CAROLINA JURISDICTIONALLY ALLOCATED RETAIL COSTS ONLY																		
		O&M	Insurance	A&G Expense	Capitalized O&M and A&G	Amortization of Capitalized O&M	Amortization of Capitalized A&G	Prior Period Amortization	DSDR Capital Costs	Income Taxes on DSDR Capital Costs	DSDR Property Taxes	DSDR Depreciation	Carrying Costs Net of Taxes	Income Taxes on Carrying Cost	Rev Reqmt Before PPI & NLR	Net Lost Revenue Recoupment	Program Performance Incentive	Rev Reqmt With PPI & NLR		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
					ΣCols(1) thru(3)	((1)-(2))/10 or 5 or 3	(3)/3										ΣCols(5) thru(15)			ΣCols(16) thru(18)
NC DSM Program Expenses																				
1	CIG DR	Per Forecast	2,242,859	-	2,242,859	747,620	-	1,808,922												
2	EnergyWise	Per Forecast	11,585,804	-	11,585,804	1,258,580	-	8,523,255												
3	EnergyWise for Business	Per Forecast	2,030,607	-	2,030,607	676,869	-	763,752												
4	Total DSM	Σ Lines 1 thru 2	15,859,270	-	15,859,270	2,583,069	-	11,095,929												
5	DSM Assigned A&G and CCost	Per Forecast	-	794,570	794,570	-	264,857	495,427					2,859,534	637,863						
6	Total DSM and Assigned Costs	Σ Lines 4 thru 5	15,859,270	794,570	16,653,840	2,583,069	264,857	11,591,356					2,859,534	637,863	17,936,679	119,864	6,862,752	24,919,295		
NC EE Program Expenses																				
7	Res Home Advantage	Per Forecast	-	-	-	-	-	317,234							317,234	-	168,458	485,692		
8	Res Home Energy Improvem't	Per Forecast	3,222,042	-	3,222,042	322,204	-	4,395,337							4,717,541	570,884	331,825	5,620,250		
9	Neighborhood Energy Saver	Per Forecast	1,640,297	-	1,640,297	164,030	-	1,416,497							1,580,527	169,059	-	1,749,586		
10	Solar Hot Water Pilot	Per Forecast	-	-	-	-	-	31,026							31,026	-	-	31,026		
11	EE Lighting (Res)*	Per Forecast (allocated)	9,513,184	-	9,513,184	1,902,637	-	8,842,428							10,745,065	3,062,256	4,281,624	18,088,945		
12	Res Appliance Recycling	Per Forecast	-	-	-	-	-	681,344							681,344	3,265	120,467	805,076		
13	My Home Energy Report*	Per Forecast	6,457,601	-	6,457,601	6,457,601	-	-							6,457,601	6,927,982	(76,809)	13,308,774		
14	Residential New Construction	Per Forecast	10,255,599	-	10,255,599	1,025,560	-	4,161,785							5,187,345	1,488,436	904,849	7,580,629		
15	Multi-Family	Per Forecast	2,212,059	-	2,212,059	442,412	-	1,524,692							1,967,104	1,327,521	781,261	4,075,886		
16	Energy Education Program for Sch	Per Forecast	610,964	-	610,964	122,193	-	476,552							598,745	231,339	-	830,084		
17	Save Energy and Water Kit	Per Forecast	1,234,634	-	1,234,634	246,927	-	502,990							749,917	3,279,423	1,370,632	5,399,972		
18	Residential Energy Assessments	Per Forecast	921,529	-	921,529	184,306	-	696,796							881,102	404,975	158,392	1,444,469		
19	Home Depot CFL	Per Forecast	-	-	-	-	-	-							-	-	-	-		
20	Residential Found Revenue	Per Forecast	-	-	-	-	-	-							-	-	-	-		
21	Subtotal-Residential	Σ Lines 7 thru 20	36,067,909	-	36,067,909	10,867,870	-	23,045,681							33,914,551	17,465,139	8,040,699	59,420,389		
22	CIG Energy Efficiency	Per Forecast	-	-	-	-	-	3,841,812							3,841,812	-	-	3,841,812		
23	EE Lighting (General Service)*	Per Forecast (allocated)	1,153,016	-	1,153,016	230,603	-	1,073,488							1,304,091	864,376	1,486,980	3,655,446		
24	Energy Efficiency for Business	Per Forecast	-	-	-	-	-	5,965,591							5,965,591	7,935,713	-	13,901,304		
25	Smart Saver Prescriptive	Per Forecast	10,417,475	-	10,417,475	3,472,492	-	2,613,153							6,085,645	-	335,732	12,611,889		
26	Smart Saver Custom	Per Forecast	1,588,219	-	1,588,219	529,406	-	399,463							928,869	-	-	1,264,601		
27	Smart Saver Performance Incentiv	Per Forecast	-	-	-	-	-	-							-	212,540	54,602	267,143		
28	Small Business Energy Saver	Per Forecast	7,444,308	-	7,444,308	2,481,436	-	7,241,864							9,723,300	5,679,976	2,690,548	18,093,824		
29	Business Energy Report	Per Forecast	-	-	-	-	-	5,539							5,539	-	-	5,539		
30	General Service Found Revenue	Per Forecast	-	-	-	-	-	-							-	(330,453)	-	(330,453)		
	Subtotal-General Service	Σ Lines 22 thru 30	20,603,018	-	20,603,018	6,713,937	-	21,240,910							27,854,847	14,362,152	11,094,106	53,311,105		
31	Total of EE Programs	Σ Lines 21 + 30	56,670,927	-	56,670,927	17,581,807	-	44,187,591							61,769,398	31,827,291	19,134,804	112,731,494		
32	EE Assigned A&G and CCost	Per Forecast	-	3,544,357	3,544,357	-	1,181,452	2,076,601					7,506,074	1,674,346				12,438,473		
33	Total EE and Assigned Costs	Lines 31 + 32	56,670,927	3,544,357	60,215,284	17,581,807	1,181,452	46,264,192					7,506,074	1,674,346	74,207,871	31,827,291	19,134,804	125,169,967		
NC DSDR Program Expenses																				
34	DSDR Program	Per Forecast	4,409,208	666,199	5,075,407	507,541	-	4,938,575	6,323,991	1,410,664	603,872	10,285,156	-	-	24,069,799	-	-	24,069,799		
35	DSDR Assigned A&G and CCost	Per Forecast	-	-	-	-	-	-	-	-	-	-	1,317,347	293,855	1,611,202	-	-	1,611,202		
36	Total DSDR and Assigned Costs	Σ Lines 34 thru 35	4,409,208	666,199	5,075,407	507,541	-	4,938,575	6,323,991	1,410,664	603,872	10,285,156	1,317,347	293,855	25,681,001	-	-	25,681,001		
37	Rate Period Totals	Lines 6 + 33 + 36	76,939,405	666,199	81,944,531	20,672,417	1,446,309	62,794,123	6,323,991	1,410,664	603,872	10,285,156	11,682,955	2,606,064	117,825,551	31,947,155	25,997,556	175,770,263		

*All Non-Residential programs are amortized over a 3 year period. The Residential Lighting Program, Multi-Family EE, EE Education, Save Energy and Water Kit and Residential Energy Assessments are recoverable over a 5 year period. My Home Energy Report is recoverable over a 1 year period. All other Residential EE programs are recoverable over 10 years.

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Energy Efficiency Experience Modification Factor Rate Derivation

NC Rate Class	Adjusted NC Rate Class kWh Sales ⁽¹⁾	Rate Class Energy Allocation Factor ⁽²⁾	EE EMF Revenue Requirement								
			Residential Programs ⁽³⁾	CIG Programs ⁽⁴⁾	DSDR ⁽⁵⁾	Non-DSDR Allocated A&G and Carrying Costs ⁽⁶⁾	DSDR Allocated A&G and Carrying Costs ⁽⁵⁾	Total of Allocated Costs ^{(8) = Σ (3 thru 7)}	Less: Prior Period EE Rate Adjustment ⁽⁷⁾	Adjusted EE EMF Revenue Requirement ⁽¹⁰⁾⁼⁽⁸⁾⁻⁽⁹⁾	Total EE EMF Rate ^(cents/kWh) ^{(11) = (10) / (1)}
Residential	15,740,238,953	60.65%	\$ 58,531,465	\$0	\$ 15,578,065	\$ 7,267,354	\$ 1,016,925	\$ 82,393,808	\$ 83,295,916	\$ (902,108)	(0.006)
General Service	9,852,771,378	37.96%	\$0	\$49,704,414	\$ 9,751,257	\$ 5,536,262	\$ 636,555	\$ 65,628,487	\$ 53,649,216	\$ 11,979,271	0.122
Lighting	361,265,217	1.39%	\$0	\$0	\$ 357,543	\$ -	\$ 23,340	\$ 380,883	\$ 377,991	\$ 2,892	0.001
NC Retail	25,954,275,548	100.00%	\$ 58,531,465	\$49,704,414	\$ 25,686,864	\$ 12,803,616	\$ 1,676,820	\$148,403,179	\$137,323,123	\$ 11,080,055	

NOTES:

- (1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.
- (2) Rate Class Energy Allocation Factor is derived in Miller Exhibit 5, page 5, column (4).
- (3) Residential Program costs are allocated solely to the Residential rates in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (4) Non-residential Program costs are allocated solely to the General Service rates in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (5) DSDR Costs allocated using the Rate Class Energy Allocation Factor from column (2) in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (6) Non-DSDR A&G and Carrying Costs are allocated on the basis of Non-DSDR revenue requirements (excluding incentives and net lost revenues) assigned in preceding columns.
- (7) Amounts are derived in Miller Exhibit 2, page 7.

Please note: Exhibit may not foot due to rounding.

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
Demand-Side Management Experience Modification Factor Rate Derivation

NC Rate Class	Adjusted NC Rate Class kWh Sales ⁽¹⁾	Rate Class Demand Allocation Factor ⁽²⁾	DSM EMF Revenue Requirement							Adjusted DSM EMF Revenue Requirement (9)=(7)-(8)	Total DSM EMF Rate (cents/kWh) (10) = (9) / (1)
			EnergyWise Program Costs ⁽³⁾	CIG DR Program ⁽⁴⁾	Allocated A&G Costs ⁽⁵⁾	Allocated Carrying Costs ⁽⁶⁾	Total of Allocated Costs (7) = Σ (3 thru 6)	Less: Prior Period DSM Rate Adjustment ⁽⁸⁾			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Residential	15,740,238,953	67.12%	\$12,886,943	\$ -	\$ 684,567	\$ 2,528,644	\$ 16,100,154	\$ 14,703,167	\$ 1,396,988	0.009	
General Service	9,737,467,991	32.88%	\$ -	\$ 2,558,730	\$ 201,447	744,103	\$ 3,504,280	\$ 5,294,310	\$ (1,790,030)	(0.018)	
Lighting	360,425,890	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	
NC Retail	25,838,132,834	100%	\$12,886,943	\$ 2,558,730	\$ 886,014	\$ 3,272,747	\$ 19,604,434	\$ 19,997,476	\$ (393,042)		

NOTES:

- (1) Rate Class Sales, excluding "Opt-Out" sales, are derived in Miller Exhibit 6.
- (2) Rate Class Demand Allocation Factor is derived in Miller Exhibit 5, page 6, column (5).
- (3) EnergyWise costs are directly assigned solely to the Residential Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (4) CIG DR costs are directly assigned solely to the General Service Rate Class in compliance with Commission's Order in Docket No. E-2, Sub 931, dated 1/20/15.
- (5) A&G and Carrying Costs are allocated on the basis of revenue requirements (excluding incentives and net lost revenues) assigned in preceding columns.
- (6) Amounts are derived in Miller Exhibit 2, page 7.

Please note: Exhibit may not foot due to rounding.

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
EMF Period Revenue Requirement Summary - NC Level
January 2017 - December 2017

		O&M	Insurance	A&G Expense	Capitalized O&M and A&G	Amortization of Capitalized O&M	Amortization of Capitalized A&G	Prior Period Amortization	DSDR Capital Costs	Income Taxes on DSDR Capital Costs	DSDR Property Taxes	DSDR Depreciation	Carrying Costs Net of Taxes	Income Taxes on Carrying Cost	Rev Reqmt Before PPI & NLR	Net Lost Revenue Recoupment	Program Performance Incentive	Rev Reqmt With PPI & NLR
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
				ΣCols(1) thru(3)		((1)+(2))/10								ΣCols(14) thru(13)		ΣCols(16) thru(16)		
NC DSM Program Expenses																		
1	CIG DR	Per Books	1,254,690		1,254,690	418,230	-	1,211,354							1,629,584		239,850	1,869,435
2	EnergyWise	Per Books	10,809,353		10,809,353	1,080,935	-	6,846,043							7,926,978		4,959,965	12,886,943
3	EnergyWise for Business	Per Books	1,145,187		1,145,187	381,729	-	321,354							703,083	49,698	(57,486)	695,295
4	Total DSM	Σ Lines 1 thru 2	13,209,230		13,209,230	1,880,894	-	8,378,751							10,259,646	49,698	5,136,330	15,445,674
5	DSM Assigned A&G and CCost	Per Books	-	724,598	724,598	-	241,533	644,481					2,302,515	970,232	4,158,761			4,158,761
6	Total DSM and Assigned Costs	Σ Lines 4 thru 5	13,209,230	724,598	13,933,828	1,880,894	241,533	9,023,232					2,302,515	970,232	14,418,407	49,698	5,136,330	19,604,434
NC EE Program Expenses																		
7	Residential Home Advantage	Per Books	-		-	-	-	409,789							409,789		176,476	586,265
8	Home Energy Improvem't	Per Books	5,690,293		5,690,293	569,029	-	3,799,377							4,368,406	1,068,146	354,753	5,791,306
9	Neighborhood Energy Saver	Per Books	1,455,850		1,455,850	145,585	-	1,173,332							1,318,917	282,317	-	1,601,234
10	Solar Hot Water Pilot	Per Books	-		-	-	-	39,343							39,343	-	-	39,343
11	EE Lighting (Res)*	Per Books (allocated)	8,914,921		8,914,921	1,782,984	-	9,708,887							11,491,871	9,105,170	3,742,027	24,339,068
12	Appliance Recycling	Per Books	4,566		4,566	457	-	633,458							633,915	396,451	119,754	1,150,119
13	My Home Energy Report	Per Books	5,519,603		5,519,603	5,519,603	-	-							5,519,603	6,015,176	22,039	11,557,818
14	Residential New Construction	Per Books	9,539,733		9,539,733	953,973	-	2,170,251							3,124,224	1,588,365	522,045	5,234,634
15	Home Depot CFL	Per Books	-		-	-	-	21,623							21,623	-	-	21,623
16	Energy Education Program for Schools	Per Books	683,286		683,286	136,657	-	253,900							390,557	335,531	-	726,088
17	Save Energy & Water Kits	Per Books	726,505		726,505	145,301	-	109,117							254,418	1,741,733	717,765	2,713,917
18	Residential Energy Assessments	Per Books	1,523,096		1,523,096	304,619	-	229,371							533,990	370,750	115,536	1,020,276
19	Multi-Family	Per Books	2,055,123		2,055,123	411,025	-	776,602							1,187,627	2,056,521	505,626	3,749,773
20	Found Revenue	Per Books	-		-	-	-	-							-	-	-	-
21	Subtotal-Residential	Σ Lines 7 thru 20	36,112,976		36,112,976	9,969,233	-	19,325,050							29,294,283	22,961,160	6,276,021	58,531,465
22	CIG Energy Efficiency	Per Books	-		-	-	-	4,181,401							4,181,401			4,181,401
23	EE Lighting (Gen Svc)*	Per Books (allocated)	1,080,475		1,080,475	216,095	-	1,178,424							1,394,519	2,605,783	1,213,527	5,213,828
24	Non-Residential Energy Efficiency Program	Per Books	17,896,772		17,896,772	5,965,591	-	3,817,368							9,782,959	8,747,463	6,944,270	25,474,692
25	Smart Saver Prescriptive	Per Books	-		-	-	-	-							-	-	-	-
26	Smart Saver Custom	Per Books	-		-	-	-	-							-	-	-	-
27	Smart Saver Performance Incentive	Per Books	-		-	-	-	-							-	-	-	-
28	Small Business Energy Saver	Per Books	7,168,664		7,168,664	2,389,555	-	4,522,520							6,912,075	8,952	7,194	16,146
29	Business Energy Report	Per Books	16,616		16,616	5,539	-	39,860							45,399	5,825,104	2,221,389	14,958,568
30	Found Revenue	Per Books	-		-	-	-	-							(186,197)	577	-	45,976
30	Subtotal-General Service	Σ Lines 22 thru 29	26,162,527		26,162,527	8,576,779	-	13,739,573							22,316,352	17,001,682	10,386,380	49,704,414
31	Total of EE Programs	Lines 21 + 30	62,275,503		62,275,503	18,546,012	-	33,064,623							51,610,635	39,962,842	16,662,401	108,235,879
32	EE Assigned A&G and CCost	Per Books	-	2,763,836	2,763,836	-	921,279	2,382,244					6,683,696	2,816,397	12,803,616			12,803,616
33	Total EE and Assigned Costs	Lines 31 + 32	62,275,503	2,763,836	65,039,339	18,546,012	921,279	35,446,867					6,683,696	2,816,397	64,414,251	39,962,842	16,662,401	121,039,494
NC DSDR Program Expenses																		
34	DSDR Program	Per Books	3,976,242	735,060	4,711,302	471,130	-	4,436,826	6,339,403	2,672,041	603,847	11,031,510			25,554,757	132,107		25,686,864
35	DSDR Assigned A&G and CCost	Per Books	-	-	-	-	-	-					1,179,711	497,109	1,676,820			1,676,820
36	Total DSDR and Assigned Costs	Σ Lines 34 thru 35	3,976,242	735,060	4,711,302	471,130	-	4,436,826	6,339,403	2,672,041	603,847	11,031,510	1,179,711	497,109	27,231,577	132,107		27,363,684
37	Test Period Totals	Lines 6 + 33 + 36	79,460,975	735,060	80,196,035	20,898,037	1,162,811	48,906,925	6,339,403	2,672,041	603,847	11,031,510	10,165,922	4,283,738	106,064,236	40,144,647	21,798,731	168,007,613

*All Non-Residential programs are amortized over a 3 year period. The Residential Lighting Program, Multi-Family EE and EE Education are recoverable over a 5 year period. My Home Energy Report is recoverable over a 1 year period. All other Residential EE programs are recoverable over 10 years.

Please note: Exhibit may not foot due to rounding.

DUKE ENERGY PROGRESS, LLC
Docket No. E-2, Sub 1174
EMF Adjustment Summary
January 2017 - December 2017

Line	Description	Residential				General Service				Lighting				Totals			
		DSM	DSDR	EE	Total	DSM	DSDR	EE	Total	DSM	DSDR	EE	Total	DSM	DSDR	EE	Total
1	Test Period DSM/EE Rate Billings ¹ <i>Amounts from Miller Exhibit 4</i>	\$ 14,703,167	\$ 16,626,699	\$ 64,015,210	\$ 95,345,076	\$ 5,024,209	\$ 10,881,855	\$ 43,374,475	\$ 59,280,539	\$ -	\$ 378,309	\$ -	\$ 378,309	\$ 19,727,376	\$ 27,886,864	\$ 107,389,685	\$ 155,003,924
2	Less: Uncollectible Allowance in Rates ²	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	N/A
3	Over or (Under) collection of Uncollectibles ³	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	N/A
4	True up of Vintage 2015 PPI ⁴ <i>Amounts from Evans Exhibit 1 page 2</i>	-	-	174,301	174,301	-	-	-	-	-	-	-	-	-	-	174,301	174,301
5	True up of Vintage 2016 PPI ⁵ <i>Amounts from Evans Exhibit 1 page 3</i>	-	-	212,573	212,573	74,686	-	9,162	83,848	-	-	-	-	74,686	-	221,735	295,421
6	True up of Vintage 2015 Lost Revenue through Year 2015 ⁶ <i>Amounts from Evans Exhibit 2 page 3-4</i>	-	-	959,904	959,904	-	-	-	-	-	-	-	-	-	-	959,904	959,904
7	True up of Vintage 2016 Lost Revenue through Year 2015 ⁷ <i>Amounts from Evans Exhibit 2 page 3-4</i>	-	-	1,345,437	1,345,437	-	-	\$ (173,308)	(173,308)	-	-	-	-	-	-	1,172,129	1,172,129
8	Interest on Overcollections/(Undercollections) ⁸ <i>Amounts from Miller Exhibit 3</i>	-	-	(38,207)	(38,207)	195,415	-	(442,967)	(247,553)	-	(318)	-	(318)	195,415	(318)	(481,175)	(286,079)
9	Net Adjustments to DSM/EE EMF Clause <i>Lines 1 through 8</i>	\$ 14,703,167	\$ 16,626,699	\$ 66,669,217	\$ 97,999,083	\$ 5,294,310	\$ 10,881,855	\$ 42,767,361	\$ 58,943,526	\$ -	\$ 377,991	\$ -	\$ 377,991	\$ 19,997,476	\$ 27,886,545	\$ 109,436,578	\$ 157,320,600
		<i>Miller Exhibit 2 page 5</i>				<i>To Miller Exhibit 2 page 5</i>				<i>To Miller Exhibit 2 page 4 & Miller Exhibit 2 page 5</i>				<i>To Miller Exhibit 2 page 4</i>			
		\$83,295,916				\$53,649,216								\$137,323,123			
		<i>To Miller Exhibit 2 page 4</i>				<i>To Miller Exhibit 2 page 4</i>								<i>To Miller Exhibit 2 page 4</i>			

¹ Actual DSM/EE Rate billings for test period (January 2017 through December 2017).
² The Company is not requesting an adjustment for uncollectibles in this proceeding.
³ The Company is not requesting an adjustment for uncollectibles in this proceeding.
⁴ See Evans Exhibit 1 page 1 for a detail list of Vintage 2015 programs impacted by EM&V true-ups
⁵ See Evans Exhibit 1 page 3 for a detail list of Vintage 2016 programs impacted by EM&V true-ups
⁶ See Evans Exhibit 2 page 5 for a detail list of Vintage 2015 programs impacted by EM&V true-ups
⁷ See Evans Exhibit 2 page 5 for a detail list of Vintage 2016 programs impacted by EM&V true-ups
⁸ Calculated interest obligation associated with test period (January 1, 2017 through December 31, 2017).

Please note: Exhibit may not foot due to rounding.

Date Energy Progress, LLC
Docket No. E-2, Sub 1174
Estimated Return Calculation - Non-Residential EE & DSDR Programs Vintage 2017

2017	Non-Residential EE Costs Incurred	Non-Residential DSDR Costs Incurred	Total Program Costs Incurred	NC EE Non-Residential Revenue Collected	NC Non-Residential EE Program Collection %	Total EE Revenue Collected	Residential Program Collection %	DSDR Program Costs Revenue Collected	Total EE & DSDR Revenue Collected	(Over)/Under Collection
2017	1,860,441	879,873	2,740,320	1,468,476	100.0000%	(1,458,476)	921,276	100.0000%	(1,290,202)	350,118
2017	1,590,339	752,434	2,612,774	1,568,503	100.0000%	(1,460,503)	798,866	100.0000%	(1,259,159)	353,575
2017	1,982,588	782,300	2,765,318	1,564,889	100.0000%	(1,564,889)	819,957	100.0000%	(1,259,159)	350,472
2017	2,007,474	733,407	2,740,881	1,584,532	100.0000%	(1,584,532)	768,288	100.0000%	(1,259,159)	388,061
2017	2,408,114	845,345	3,253,459	1,900,764	100.0000%	(1,900,764)	885,549	100.0000%	(1,259,159)	487,146
2017	2,532,014	926,576	3,458,590	1,998,580	100.0000%	(1,998,580)	970,644	100.0000%	(1,259,159)	489,386
2017	2,848,324	1,025,238	3,873,562	2,248,228	100.0000%	(2,248,228)	1,073,999	100.0000%	(1,259,159)	551,335
2017	2,889,731	3,898,463	6,788,194	2,280,912	100.0000%	(2,280,912)	1,055,393	100.0000%	(1,259,159)	560,858
2017	3,113,717	1,011,080	4,124,797	2,457,708	100.0000%	(2,457,708)	1,055,393	100.0000%	(1,259,159)	607,923
2017	2,784,276	898,283	3,682,559	2,297,674	100.0000%	(2,297,674)	941,005	100.0000%	(1,259,159)	543,979
2017	2,022,576	760,934	2,783,510	1,598,482	100.0000%	(1,598,482)	796,181	100.0000%	(1,259,159)	389,976
2017	1,553,021	754,372	2,307,393	1,228,825	100.0000%	(1,228,825)	790,250	100.0000%	(1,259,159)	281,318
2017	27,852,514	10,387,812	38,240,326	21,984,523	100.0000%	(21,984,523)	10,881,855	100.0000%	(12,866,378)	5,374,048

Note 1: Revenue source - CIM CVA reports
Note 2: Program & Carrying Costs allocated on a weighted average basis based on revenues collected.

2017	Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return 6.76%	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate 0.764964	Gross up of Return to Pretax	(Over)/Under Collection
2017	350,118	37.0599%	129,753	129,753	220,364	0.005632	621	621	0.764964	811	
2017	703,693	37.0599%	131,035	260,788	442,905	0.005632	1,868	2,488	0.764964	3,253	
2017	1,084,165	37.0599%	141,003	401,790	682,374	0.005632	3,189	5,657	0.764964	7,395	
2017	1,472,226	37.0599%	143,815	545,605	926,511	0.005632	4,531	10,187	0.764964	13,317	
2017	1,939,372	37.0599%	173,124	718,729	1,220,643	0.005632	6,046	16,234	0.764964	21,221	
2017	2,428,738	37.0599%	181,366	900,095	1,528,663	0.005632	7,741	23,975	0.764964	31,341	
2017	2,980,093	37.0599%	204,324	1,104,419	1,875,673	0.005632	9,586	33,641	0.764964	43,873	
2017	3,540,951	37.0599%	207,853	1,312,273	2,228,678	0.005632	11,557	45,718	0.764964	56,580	
2017	4,108,974	37.0599%	225,295	1,537,568	2,611,305	0.005632	13,628	58,746	0.764964	76,796	
2017	4,692,735	37.0599%	201,561	1,738,129	2,951,673	0.005632	15,670	74,416	0.764964	97,280	
2017	5,082,729	37.0599%	144,525	1,883,654	3,139,075	0.005632	17,325	91,741	0.764964	119,928	
2017	5,374,048	37.0599%	107,942	1,991,617	3,382,431	0.005632	18,532	110,273	0.764964	144,254	
Twelve months return on 2017 Year End Balance											298,813
Total return on Non-Residential EE Programs											442,957

Since DEP is under-collected on program costs and undercollected in total, therefore the Company is calculating interest on the program cost piece of the balance.

1A

Duke Energy Progress, LLC
 Docket No. 6-2, Sub 1174
 Calculation of % of Lost Revenues Included in Base Rates

Residential EE Sales Impacts and Resulting Overstatement of Sales Values

	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Total
1 Incremental Savings 11-16 to 10-17	10,866	13,543	8,309	6,138	9,545	7,438	7,611	5,642	8,931	9,098	9,215	13,160	109,517 ¹
2 NC Incremental Savings 11-16 to 10-17 (Allocation)	9,301	11,571	7,105	5,249	8,162	6,560	6,508	4,825	7,637	7,779	7,880	11,253	93,629 ²
3 Savings Impacts (MWh) in Updated Test Period	388	775	775	775	775	775	775	775	775	775	775	775	8,914
4 Nov-16		482	964	964	964	964	964	964	964	964	964	964	10,125
5 Dec-16		256	592	592	592	592	592	592	592	592	592	592	5,625
6 Jan-17			437	437	437	437	437	437	437	437	437	437	3,718
7 Feb-17				340	265	265	265	265	265	265	265	265	5,101
8 Mar-17					201	201	201	201	201	201	201	201	3,445
9 Apr-17													2,583
10 May-17													1,809
11 Jun-17													2,227
12 Jul-17													1,671
13 Aug-17													657
14 Sep-17													469
15 Oct-17													
16 Total of Savings Impacts (MWh) in Updated Test Period	388	1,257	2,035	2,550	3,109	3,714	4,250	4,722	5,242	5,884	6,536	7,334	47,021

17 Understatement of Lost Revenue (MWh) in Test Period (Line 2 - Line 16)
 18 Percentage of Understated Lost Revenue (MWh) (Line 17 / Line 2)

45,628
49.8%

Notes:

- ¹ Incremental EE Impacts (MWh) (MyEEER Program Impacts are not recognized)
- ² Allocated Incremental EE Impacts (MWh) - NC Only

Non Residential EE Sales Impacts and Resulting Overstatement of Sales Values

	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Total
1 Incremental Savings 1-16 to 12-16	7,054	11,357	17,847	6,782	6,339	6,683	9,113	13,402	8,748	9,307	11,076	12,229	121,938 ¹
2 NC Incremental Savings 1-16 to 12-16 (Allocation)	6,027	9,703	15,248	5,795	7,125	5,710	7,785	11,450	7,475	7,952	9,463	10,448	104,182 ²
3 Savings Impacts (MWh) in Updated Test Period	251	502	502	502	502	502	502	502	502	502	502	502	5,776
4 Jan-16		404	809	809	809	809	809	809	809	809	809	809	8,490
5 Feb-16		635	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	12,072
6 Mar-16			241	483	483	483	483	483	483	483	483	483	4,105
7 Apr-16				238	238	238	238	238	238	238	238	238	4,053
8 May-16													3,093
9 Jun-16													3,569
10 Jul-16													4,294
11 Aug-16													2,180
12 Sep-16													1,657
13 Oct-16													1,183
14 Nov-16													435
15 Dec-16													
16 Total of Savings Impacts (MWh) in Updated Test Period	251	907	1,946	2,823	- - 3,361	3,896	4,458	5,260	6,048	6,691	7,417	8,246	51,305

17 Understatement of Lost Revenue (MWh) in Test Period (Line 2 - Line 16)
 18 Percentage of Understated Lost Revenue (MWh) (Line 17 / Line 2)

52,876
50.8%

Notes:

- ¹ Incremental EE Impacts (MWh) (BSEP Program Impacts are not recognized)
- ² Allocated Incremental EE Impacts (MWh) - NC Only

1A

Duke Energy Progress
 Evans Exhibit 1, page 1
 Vintage 2015 True Up - January 1, 2015 to December 31, 2015
 Docket Number E-2, Sub 1374
 Load Impacts and Estimated Revenue Requirements by Program

	A	B	C	D =(A-B)*C	E =(B*D)	F	G	H =G (from page 2)		
	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs	Total Cost	Shared Savings %	Incentive	Unadjusted Rev Requirement**	NC Retail kWh Sales Allocation Factor	NC Residential Unadjusted Revenue Requirement**	Adjusted Revenue Requirement (EMF)
Residential Programs										
EE Programs										
Appliance Recycling Program	566	4,407,053	\$ 1,508,567	\$ 1,220,465	13.00%	\$ 37,453	\$ 1,257,919	85.2900000%	E1 * F3	\$ -
Energy Education Program for Schools	1,101	2,642,999	\$ 1,576,241	\$ 703,689	0.00%	\$ -	\$ 703,689	85.2900000%	E2 * F2	\$ -
Energy Efficient Lighting	8,839	61,303,976	\$ 15,910,710	\$ 14,616,116	13.00%	\$ 2,768,295	\$ 17,384,431	85.2900000%	E3 * F3	\$ -
Home Energy Improvement Program	1,911	6,086,957	\$ 6,858,804	\$ 5,298,232	13.00%	\$ 202,874	\$ 5,501,106	85.2900000%	E4 * F4	\$ -
Multi-Family	2,112	17,549,005	\$ 9,816,135	\$ 2,615,745	13.00%	\$ 936,051	\$ 3,551,795	85.2900000%	E5 * F5	\$ (21,570)
Neighborhood Energy Saver	315	2,067,494	\$ 1,134,813	\$ 1,586,061	0.00%	\$ -	\$ 1,586,061	85.2900000%	E6 * F6	\$ -
Residential New Construction	2,828	6,807,792	\$ 22,061,218	\$ 7,447,258	13.00%	\$ 602,415	\$ 8,049,672	85.2900000%	E8 * F8	\$ (31,782)
Save Energy and Water Kit	-	-	\$ -	\$ -	13.00%	\$ -	\$ -	85.2900000%	E10 * F10	\$ -
Residential Home Advantage	-	-	\$ -	\$ -	13.00%	\$ -	\$ -	85.2900000%		\$ -
Total for Residential Conservation Programs	17,673	101,025,275	\$ 68,866,289	\$ 31,487,585		\$ 4,547,088	\$ 38,034,673			\$ (53,353)
My Home Energy Report	37,141	105,857,368	\$ 5,791,217	\$ 5,808,941	13.00%	\$ -	\$ 5,808,941	85.2900000%	E11 * F11	\$ 227,654
Total Residential Conservation and Behavioral Programs	34,814	206,882,643	\$ 74,677,506	\$ 36,296,526		\$ 4,547,088	\$ 43,843,614			\$ 174,301
EnergyWise										
EnergyWise	28,015	-	\$ 32,617,641	\$ 3,205,545	8.00%	\$ 2,161,058	\$ 7,398,513	85.046667%		\$ -
Total Residential	62,879	206,882,643	\$ 107,295,146	\$ 44,502,071		\$ 6,708,055	\$ 51,242,176			\$ 174,301
Non-Residential Programs										
EE Programs										
Business Energy Report	-	-	\$ -	\$ 74,374	13.00%	\$ -	\$ 74,374	85.2900000%	E13 * F13	\$ -
Energy Efficiency for Business	4,829	57,365,602	\$ 29,902,372	\$ 8,226,453	13.00%	\$ 3,077,869	\$ 9,304,322	85.2900000%	E14 * F14	\$ -
Energy Efficient Lighting	4,172	19,250,609	\$ 11,551,470	\$ 1,775,958	13.00%	\$ 1,270,817	\$ 3,046,775	85.2900000%	E16 * F16	\$ -
Small Business Energy Saver	6,829	42,318,074	\$ 25,239,036	\$ 9,780,196	13.00%	\$ 2,009,649	\$ 11,789,845	85.2900000%	E17 * F17	\$ -
Total for Non-Residential Conservation Programs	15,830	118,934,285	\$ 66,692,877	\$ 17,836,981		\$ 6,358,335	\$ 24,215,316			\$ -
EnergyWise for Business	-	-	\$ -	\$ 65,456	8.00%	\$ -	\$ 65,456	85.046667%	E19 * F19	\$ -
Commercial, Industrial, & Governmental Demand Response	894	-	\$ 3,025,439	\$ 569,448	8.00%	\$ 36,480	\$ 605,224	85.046667%	E20 * F20	\$ -
Total for Non-Residential DSM Programs	894	-	\$ 3,025,439	\$ 634,900		\$ 36,480	\$ 671,380	85.046667%		\$ -
Total Non-Residential	16,725	118,934,285	\$ 67,718,316	\$ 18,471,881		\$ 6,394,815	\$ 24,886,696			\$ -
Total All Programs	79,554	325,816,928	\$ 175,013,463	\$ 62,973,952		\$ 13,134,870	\$ 76,128,873			\$ 174,301
(1) My Home Energy Report impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintages										
(2) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak										
DDR	315,673	41,880,428		7,899,427			\$ 7,899,427			
Total with DDR	395,226	367,805,357	\$ 175,013,463	\$ 70,993,380		\$ 13,134,870	\$ 84,128,290			\$ 174,301

	A	B	C	D	E	F	G	H
	System MW Reduction - Summer Peak	System MW of Avoided Costs	Shared Savings %	Incentive	Unallocated New Requirement*	NC Retail MW Sales Allocation Factor	NC Residential (Total) Unallocated Requirement**	NC Residential Adjusted Requirement
				\$(/MWh)	\$(B/D)	NC Retail (MW Sales Allocation Factor) (D)	NC Residential (Total) Unallocated Requirement**	NC Residential Adjusted Requirement
Residential Programs								
11 EE Programs								
1 Appliances Recycling Program	27	\$ 76,377	11.75%	\$ 23,069	\$ (111,560)	85.4344000%	\$ (93,637)	\$
2 Energy Education Programs for Schools	2,071	\$ 1,691,087	0.00%	\$	\$ 17,697	85.4344000%	\$ 707,000	\$
3 Energy Efficient Lighting	6,006	\$ 4,149,479	11.75%	\$ 2,187,481	\$ 17,739,665	85.4344000%	\$ 35,139,401	\$
4 Energy Efficient Appliances	1,469	\$ 1,445,820	11.75%	\$ 678,250	\$ 1,428,377	85.4344000%	\$ 3,135,791	\$
5 Smart Thermostat Program	1,469	\$ 1,445,820	11.75%	\$ 678,250	\$ 1,428,377	85.4344000%	\$ 3,135,791	\$
6 Neighborhood Energy Saver	209	\$ 1,491,091	0.00%	\$	\$ 2,052,335	85.4344000%	\$ 1,735,654	\$ (12,221)
7 Residential Energy Assessments	692	\$ 4,144,847	11.75%	\$ 2,711,145	\$ 1,887,090	85.4344000%	\$ 1,443,111	\$
8 Residential Home Connections	4,701	\$ 10,953,146	11.75%	\$ 1,370,099	\$ 20,778,313	85.4344000%	\$ 5,202,313	\$ 1,847
9 Smart Energy and Smart ICC	5,914	\$ 17,974,857	11.75%	\$ 1,592,880	\$ 2,275,119	85.4344000%	\$ 1,800,382	\$ (104,416)
10								
11 Total for Residential Conservation Programs	22,110	\$ 21,214,679	11.75%	\$ 6,100,728	\$ 48,252,412	85.4344000%	\$ 27,552,762	\$ (112,276)
12 My Home Energy Report	16,907	\$ 107,971,181	11.75%	\$ 182,028	\$ 6,081,111	85.4344000%	\$ 5,196,677	\$ 211,832
13 Total for Residential Conservation and Advanced Programs	39,017	\$ 209,847,659	11.75%	\$ 6,282,756	\$ 50,333,523	85.4344000%	\$ 47,769,740	\$ 212,571
14 EnergyWise	14,059	\$ 70,814,171	11.75%	\$ 751,624	\$ 14,403,811	86.1877175%	\$ 6,221,959	\$
15 Total Residential	79,277	\$ 202,812,053	11.75%	\$ 7,034,350	\$ 64,737,336	86.1877175%	\$ 48,972,299	\$ 212,571
Non-Residential Programs								
EE Programs								
13 Business Energy Report	740	\$ 4,546,814	11.75%	\$	\$ 60,516	85.4344000%	\$ 58,339	\$
14 Energy Efficiency for Business	10,701	\$ 7,154,709	11.75%	\$ 3,952,711	\$ 28,115,021	85.4344000%	\$ 15,472,188	\$ 272
15 Small Business Energy Saver	8,676	\$ 45,292,264	11.75%	\$ 2,729,183	\$ 12,115,852	85.4344000%	\$ 10,333,341	\$ 8,820
16 Total for Non-Residential Conservation Programs	22,417	\$ 57,000,787	11.75%	\$ 2,781,755	\$ 14,448,350	85.4344000%	\$ 28,465,327	\$ 9,182
20 EnergyWise for Business	1,059	\$ 238,096	11.75%	\$ (102,779)	\$ 1,001,015	86.1877175%	\$ 7,057,953	\$ 66,218
21 Commercial, Industrial, & Governmental Demand Response	(3,180)	\$ (10,626,121)	11.75%	\$ (102,779)	\$	86.1877175%	\$	\$
22 Total for Non-Residential DSM Programs	(1,121)	\$ (10,388,025)	11.75%	\$ (102,779)	\$ 1,001,015	86.1877175%	\$ 7,057,953	\$ 66,218
23 Total Non Residential	18,149	\$ 19,272,172	11.75%	\$ 7,458,976	\$ 14,449,365	86.1877175%	\$ 13,463,280	\$ 75,300
24 Total All Programs	91,227	\$ 401,120,835	11.75%	\$ 11,492,283	\$ 86,654,529	86.1877175%	\$ 84,413,959	\$ 219,783
(1) My Home Energy Report in part reflect cumulative compliance of residential and non-residential programs for all customers from prior programs								
(2) Total System DSM Programs allocated to residential and non-residential based on contribution to retail system peak								
24 DSM	28,377	\$ 31,944,088	11.75%	\$ 21,492,283	\$ 7,944,728	86.1877175%	\$ 64,413,959	\$ 219,783
25 Total with DSM	122,155	\$ 372,064,923	11.75%	\$ 21,492,283	\$ 108,629,257	86.1877175%	\$ 84,413,959	\$ 219,783

* (B/D)
 ** (from page 2)

Duke Energy Progress
 Evans Exhibit 1, page 8
 Voltage 2017 True Up - January 1, 2017 to December 31, 2017
 District Number E-2, Sub 1174
 Load Impacts and Estimated Revenue Requirements by Program

	A	B	C	D	E	F	G	H			
				=(A-B)*C	=(B-D)			*(from page 2)			
	System kWh Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs	Total Cost	Shared Savings %	Incentive	Unadjusted Rev Requirement ⁽¹⁾	NC Retail kWh Sales Allocation Factor	NC Residential Unadjusted Revenue Requirement ⁽¹⁾	NC Residential Adjusted Revenue Requirement	
Residential Programs											
EE Programs											
1 Appliance Recycling Program	-	-	\$ -	\$ 5,588	11.75%	\$ (654)	\$ 4,930	85.5082864%	E1 * F1	\$ 4,215	\$ 119,754
2 Energy Education Program for Schools	936	2,313,765	\$ 3,376,442	\$ 815,991	0.00%	\$ -	\$ 815,991	85.5082864%	E2 * F2	\$ 714,841	\$ -
3 Energy Efficient Lighting	4,314	29,913,877	\$ 29,337,282	\$ 10,904,279	11.75%	\$ 2,165,878	\$ 19,070,357	85.5082864%	E3 * F3	\$ 11,176,067	\$ 3,742,027
4 Home Energy Improvement Program	1,975	7,197,887	\$ 8,314,056	\$ 4,913,461	11.75%	\$ (76,071)	\$ 8,853,392	85.5082864%	E4 * F4	\$ 8,887,581	\$ 354,753
5 Multi-Family	2,182	16,150,507	\$ 10,237,157	\$ 2,514,411	11.75%	\$ 907,422	\$ 3,431,836	85.5082864%	E5 * F5	\$ 2,935,913	\$ 505,676
6 Neighborhood Energy Saver	335	2,200,240	\$ 3,137,741	\$ 1,781,211	0.00%	\$ -	\$ 1,781,211	85.5082864%	E6 * F6	\$ 1,523,083	\$ -
7 Residential Energy Assessments	910	3,447,736	\$ 4,303,959	\$ 1,863,486	11.75%	\$ 285,756	\$ 2,150,241	85.5082864%	E7 * F7	\$ 1,838,634	\$ 115,536
8 Residential New Construction	8,022	11,996,035	\$ 24,581,226	\$ 11,871,724	11.75%	\$ 1,516,867	\$ 18,168,590	85.5082864%	E8 * F8	\$ 11,277,338	\$ 522,045
9 Save Energy and Water Kit	8,377	25,021,451	\$ 17,187,186	\$ 848,869	11.75%	\$ 1,915,052	\$ 2,803,921	85.5082864%	E9 * F9	\$ 2,397,585	\$ 717,765
10 Residential Home Advantage	-	-	\$ -	\$ -	11.75%	\$ -	\$ -	85.5082864%		\$ -	\$ 376,478
11 Total for Residential Conservation Programs	25,121	102,441,597	\$ 94,455,049	\$ 37,427,021		\$ 6,715,244	\$ 44,142,269		\$ 37,745,297	\$ 6,333,982	
12 My Home Energy Report	19,984	117,851,515	\$ 6,972,509	\$ 6,733,153	11.75%	\$ 25,774	\$ 6,778,929	85.5082864%	E11 * F11	\$ 5,796,545	\$ 27,039
13 Total Residential Conservation and Behavioral Programs	45,085	220,293,112	\$ 101,427,558	\$ 44,160,174		\$ 6,741,017	\$ 50,921,196		\$ 43,841,842	\$ 6,276,021	
NC Residential Peak Demand Allocation Factor											
14 EnergyWise	33,428	-	\$ 62,985,950	\$ 6,502,032	11.75%	\$ 6,634,512	\$ 11,186,144	84.1579245%	48.2705207%	\$ 6,727,116	\$ 4,959,065
15 Total Residential	78,513	220,293,112	\$ 164,413,519	\$ 50,682,206		\$ 13,375,534	\$ 64,057,740		\$ 50,264,156	\$ 12,215,886	
Non-Residential Programs											
EE Programs											
16 Business Energy Report	-	-	\$ 797	\$ 20,330		\$ -	\$ 20,330	85.5082864%	E13 * F13	\$ 17,384	\$ -
17 Energy Efficiency for Business	16,958	103,163,354	\$ 78,970,008	\$ 21,749,807	11.75%	\$ 6,723,374	\$ 28,479,180	85.5082864%	E14 * F14	\$ 24,346,929	\$ 6,944,270
18 Energy Efficient Lighting	2,024	7,877,874	\$ 9,338,110	\$ 3,214,943	11.75%	\$ 975,098	\$ 2,250,041	85.5082864%	E16 * F16	\$ 1,928,972	\$ 1,233,527
19 Non-Res Small Sewer Performance	58	435,108	\$ 335,899	\$ 147,140	11.75%	\$ 22,177	\$ 159,337	85.5082864%	E17 * F17	\$ 144,787	\$ 7,194
20 Small Business Energy Saver	9,600	48,048,115	\$ 29,279,207	\$ 8,770,755	11.75%	\$ 2,409,741	\$ 11,180,499	85.5082864%	E18 * F18	\$ 9,560,753	\$ 2,221,389
21 Total for Non-Residential Conservation Programs	28,640	159,660,452	\$ 117,783,970	\$ 32,012,995		\$ 10,080,392	\$ 42,093,187		\$ 35,991,335	\$ 10,286,180	
22 EnergyWise for Business	6,461	983,712	\$ 1,300,199	\$ 1,190,540	11.75%	\$ (10,616)	\$ 1,379,911	85.1579245%	E19 * F19	\$ 8,469,855	\$ (9,765)
23 Commercial, Industrial, & Governmental Demand Response	1,969	-	\$ 3,551,967	\$ 1,893,650	11.75%	\$ 253,603	\$ 1,647,157	86.1579245%	E20 * F20	\$ 1,419,239	\$ 233,850
24 Total for Non-Residential DSM Programs	8,430	983,712	\$ 4,852,166	\$ 2,784,199		\$ 242,988	\$ 3,027,168	86.1579245%	NC Allocation Factor (2)	\$ 7,889,094	\$ 224,086
25 Total Non-Residential	37,070	160,644,163	\$ 122,636,136	\$ 34,797,195		\$ 10,323,378	\$ 45,377,672	51.7294791%		\$ 43,882,428	\$ 10,610,446
26 Total All Programs	115,583	380,737,275	\$ 287,029,694	\$ 85,479,401		\$ 23,698,911	\$ 109,178,812		\$ 94,146,585	\$ 21,846,452	
⁽¹⁾ My Home Energy Report impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintages											
⁽²⁾ Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak											
24 DSDR	934,505	35,918,085	\$ -	\$ 31,146,179		\$ -	\$ 11,146,179				
25 Total with DSDR	450,088	416,155,960	\$ 287,029,654	\$ 96,625,580		\$ 23,698,911	\$ 120,324,991		\$ 94,146,585	\$ 21,846,452	

Duke Energy Progress
 Exhibit 1, page 7
 Vintage 2019 Estimate - January 1, 2019 to December 31, 2019
 Docket No. E-2, Sub 1174
 Load Impacts and Estimated Revenue Requirements by Program

	A	B	C	D	E	F	G	H	I			
				=(A-B)*C	=(D+E)				*(I from page 2)			
	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs	Total Cost	Shared Savings %	Incentive	Unadjusted Rev Requirement ⁽¹⁾	NC Retail kWh Sales Allocation Factor	NC Allocation Factor (2)	NC Residential Unadjusted Revenue Requirement ⁽¹⁾	NC Residential Adjusted Revenue Requirement ⁽¹⁾	
Residential Programs												
EE Programs												
1 Appliance Recycling Program	-	-	-	-	11.75%	\$ -	\$ -	85.5608674%		E1 * F1	\$ -	\$ 120,467
2 Energy Education Program for Schools	980	2,314,528	1,158,100	751,793	0.00%	\$ -	\$ 751,793	85.5608674%		E2 * F2	\$ 644,952	\$ -
3 Energy Efficient Lighting	4,110	26,911,977	19,928,859	11,791,233	11.75%	\$ 957,348	\$ 12,748,581	85.5608674%		E3 * F3	\$ 10,899,223	\$ 4,281,624
4 Home Energy Improvement	1,111	4,183,859	1,427,425	3,853,960	11.75%	\$ (65,500)	\$ 3,919,569	85.5608674%		E4 * F4	\$ 3,353,618	\$ 311,825
5 Multi-Family	2,131	15,206,372	7,751,024	2,738,159	11.75%	\$ 589,235	\$ 3,327,564	85.5608674%		E5 * F5	\$ 2,847,093	\$ 781,261
6 Neighborhood Energy Saver	326	2,135,101	850,811	2,024,200	0.00%	\$ -	\$ 2,024,200	85.5608674%		E6 * F6	\$ 1,735,346	\$ -
7 Residential Energy Assessments	428	2,565,216	1,656,182	1,134,481	11.75%	\$ 60,825	\$ 1,195,306	85.5608674%		E7 * F7	\$ 1,024,337	\$ 158,392
8 Residential New Construction	7,101	16,446,576	23,483,512	12,691,451	11.75%	\$ 1,268,079	\$ 13,959,430	85.5608674%		E8 * F8	\$ 11,943,809	\$ 904,849
9 Save Energy and Water Kit	8,915	80,940,131	17,934,660	3,527,511	11.75%	\$ 1,927,840	\$ 3,455,351	85.5608674%		E9 * F9	\$ 2,958,428	\$ 1,370,632
11 Total for Residential Conservation Programs	25,101	98,723,759	76,222,731	36,643,956		\$ 4,737,818	\$ 41,381,774	85.5608674%		E10 * F10	\$ 35,406,606	\$ 8,117,368
12 My Home Energy Report (H)	70,008	119,373,483	7,230,046	7,994,059	11.75%	\$ (89,277)	\$ 7,904,782	85.5608674%		E11 * F11	\$ 6,782,977	\$ (76,809)
13 Total Residential Conservation and Behavioral Programs	45,109	217,997,222	\$ 83,452,777	\$ 44,638,015		\$ 4,648,046	\$ 49,286,062				\$ 42,169,583	\$ 8,040,699
NC Residential Peak Demand Allocation Factor												
14 EnergyWise [®] Home	27,116	-	48,815,458	5,238,465	11.75%	\$ 5,096,796	\$ 10,335,287	86.5304240%	46.5823530%	(E13+E23)*F13*G13	\$ 8,743,070	\$ 6,137,852
15 Total Residential	72,225	217,997,222	\$ 137,068,211	\$ 49,876,481		\$ 9,744,843	\$ 59,621,121				\$ 50,410,653	\$ 14,178,551
Non-Residential Programs												
EE Programs												
16 Energy Efficient Lighting	1,702	6,572,618	6,244,853	1,427,906	11.75%	\$ 565,991	\$ 1,991,897	85.5608674%		E15 * F15	\$ 1,705,996	\$ 1,486,980
17 Non-Residential Smart Saver Performance (Custom)	1,584	13,879,078	6,791,089	2,719,960	11.75%	\$ 419,608	\$ 3,139,567	85.5608674%		E16 * F16	\$ 2,648,241	\$ 335,732
18 Non-Residential Smart Saver Performance (Prescriptive)	2,237	46,476,009	26,084,485	11,408,405	11.75%	\$ 1,274,837	\$ 3,132,842	85.5608674%		E17 * F17	\$ 11,216,574	\$ 6,526,244
19 Non-Residential Smart Saver Performance Incentive	751	6,576,526	2,981,012	845,910	11.75%	\$ 250,974	\$ 1,094,793	85.5608674%		E18 * F18	\$ 938,418	\$ 56,402
20 Small Business Energy Saver	8,947	48,011,147	23,392,278	9,294,966	11.75%	\$ 1,538,934	\$ 10,833,900	85.5608674%		E19 * F19	\$ 9,292,578	\$ 2,600,548
21 Total for Non-Residential Conservation Programs	20,321	121,513,336	\$ 63,993,697	\$ 25,697,147		\$ 4,499,845	\$ 30,156,992				\$ 25,836,808	\$ 12,694,106
NC Non-Residential Peak Demand Allocation Factor												
22 EnergyWise [®] for Business	8,864	1,536,378	1,694,324	2,474,808	11.75%	\$ (91,965)	\$ 2,384,843				\$ 2,244,257	\$ (84,581)
23 Commercial Industrial Governmental Demand Response	7,357	-	12,595,010	6,123,487	11.75%	\$ 760,475	\$ 6,883,957				\$ 6,478,150	\$ 809,756
24 Total for Non-Residential DSM Programs	16,241	1,536,378	\$ 14,289,334	\$ 8,607,290		\$ 668,510	\$ 9,268,800	86.5304240%	51.4187470%	(E13+E23)*F13*G13	\$ 8,722,407	\$ 774,900
25 Total Non-Residential	16,568	173,049,913	\$ 78,283,031	\$ 34,297,417		\$ 5,168,354	\$ 19,465,791				\$ 34,559,215	\$ 11,819,005
26 Total All Programs	108,789	443,047,115	\$ 210,551,662	\$ 86,173,818		\$ 14,913,197	\$ 99,087,114				\$ 84,969,868	\$ 25,997,556
DSDR												
1 DSDR	352,416	43,664,336		\$ 15,425,418	N/A	\$ -	\$ 15,425,418					
Total All Programs with DSDR	461,204	184,713,471	\$ 210,551,662	\$ 99,199,318		\$ 14,913,197	\$ 114,512,581				\$ 84,969,868	\$ 25,997,556

(1) My Home Energy Report impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintages.
 (2) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak.

Program	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	JJ	JK	JL	JM	JN	JO	JP	JQ	JR	JS	JT	JU	JV	JW	JX	JY	JZ	KA	KB	KC	KD	KE	KF	KG	KH	KI	KJ	KK	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TT	TU	TV	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZQ	ZR	ZS	ZT	ZU	ZV	ZW	ZX	ZY	ZZ	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	JJ	JK	JL	JM	JN	JO	JP	JQ	JR	JS	JT	JU	JV	JW	JX	JY	JZ	KA	KB	KC	KD	KE	KF	KG	KH	KI	KJ	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR
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Line	Residential	2014	2015	2016(a)	2017(a)	2018	2019	Total
1	Appliance Recycling Program	\$ 120,909	\$ 238,215	\$ 248,008	\$ 248,008	\$ 46,165	\$ -	\$ 654,131
2	Energy Efficient Lighting	\$ 71,968	\$ 120,888	\$ 124,841	\$ 24,481	\$ -	\$ -	\$ 322,178
3	Energy Efficient Lighting for Schools	\$ 1,667,868	\$ 3,332,858	\$ 3,441,107	\$ 538,645	\$ 6,919,838	\$ -	\$ 15,900,116
4	Home Energy Improvement Program	\$ 170,038	\$ 347,916	\$ 352,288	\$ 65,008	\$ 942,260	\$ -	\$ 1,978,510
5	Multi-Family	\$ 428,290	\$ 909,897	\$ 938,865	\$ 182,264	\$ 2,462,260	\$ -	\$ 4,821,516
6	Neighborhood Energy Report	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Neighborhood Energy Saver	\$ 4,024,242	\$ 4,024,242	\$ 4,024,242	\$ 19,265	\$ 4,024,242	\$ -	\$ 16,116,013
8	Neighborhood Energy Saver Program	\$ 54,534	\$ 89,993	\$ 92,937	\$ 19,265	\$ 222,729	\$ -	\$ 500,458
9	Save Energy and Water Kit	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	Residential New Construction	\$ 292,450	\$ 380,785	\$ 403,570	\$ 94,943	\$ 1,101,749	\$ -	\$ 2,273,507
11	Save Energy and Water Kit	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Total Local Revenues	\$ 6,917,845	\$ 5,429,790	\$ 5,607,428	\$ 924,793	\$ 16,753,634	\$ -	\$ 29,203,890
13	Net Lost Residential Revenues	\$ -	\$ 6,791,845	\$ 5,429,790	\$ 5,607,428	\$ 924,793	\$ -	\$ 18,753,854
14	Energy Efficiency for Business	\$ 1,366,578	\$ 2,353,829	\$ 2,443,707	\$ 374,892	\$ 6,588,006	\$ -	\$ 13,167,012
15	Small Business Energy Saver	\$ 420,420	\$ 840,840	\$ 870,379	\$ 126,026	\$ 2,272,890	\$ -	\$ 4,530,555
16	EnergyWise for Business	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	Total Local Revenues	\$ 2,544,090	\$ 4,003,589	\$ 3,091,200	\$ 815,910	\$ 13,354,649	\$ -	\$ 23,809,438
18	Fund Non Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Net Lost Non Residential Revenues	\$ -	\$ 2,544,090	\$ 4,003,589	\$ 5,091,260	\$ 815,910	\$ -	\$ 12,454,849
20	DSMR	\$ 420,831	\$ 145,979	\$ -	\$ -	\$ -	\$ -	\$ 566,810
21	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
22	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
24	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
25	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
26	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
28	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
29	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
32	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
33	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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58	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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61	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
62	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
64	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
65	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
66	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
67	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
68	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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70	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
71	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
72	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
73	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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82	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
83	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
84	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
85	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
86	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
87	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
88	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
89	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
90	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
91	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
92	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
93	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
94	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
95	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
96	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
97	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
98	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
99	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
100	DSMR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Line	Residential	Vintage 2017					Total
		2014	2015	2016(a)	2017(a)	2018	
1	Appliance Recycling Program				\$ -	\$ -	\$ -
2	Energy Education Program for Schools				\$ 75,158	\$ 122,660	\$ 122,862
3	Energy Efficient Lighting				\$ 649,785	\$ 1,541,746	\$ 1,544,287
4	Home Energy Improvement Program				\$ 235,278	\$ 420,443	\$ 421,135
5	Multi-Family				\$ 458,691	\$ 900,109	\$ 901,592
6	My Home Energy Report				\$ 6,016,176	\$ -	\$ -
7	Neighborhood Energy Saver				\$ 42,581	\$ 89,418	\$ 89,565
8	Residential Energy Assessments				\$ 147,827	\$ 278,204	\$ 278,662
9	Residential New Construction				\$ 425,229	\$ 839,368	\$ 840,769
10	Save Energy and Water Kit				\$ 754,565	\$ 1,340,146	\$ 1,342,354
11	Total Lost Revenues	\$ -	\$ -	\$ -	\$ 8,805,290	\$ 5,532,112	\$ 5,541,227
12	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Net Lost Residential Revenues	\$ -	\$ -	\$ -	\$ 8,805,290	\$ 5,532,112	\$ 5,541,227

Line	Non-Residential	Vintage 2017					Total
		2014	2015	2016(a)	2017(a)	2018	
14	Business Energy Report				\$ 577	\$ -	\$ -
15	Energy Efficiency for Business				\$ 2,392,469	\$ 4,469,059	\$ 4,466,854
16	Energy Efficient Lighting				\$ 173,636	\$ 406,847	\$ 407,517
17	Small Business Energy Saver				\$ 1,079,154	\$ 1,987,679	\$ 1,986,908
18	Non-Res SmartSaver Performance				\$ 8,952	\$ 21,025	\$ 21,017
19	EnergyWise for Business				\$ 29,985	\$ 46,791	\$ 46,773
20	Total Lost Revenues	\$ -	\$ -	\$ -	\$ 3,684,753	\$ 6,931,401	\$ 6,929,068
21	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ (72,644)	\$ (106,296)	\$ (106,296)
21	Net Lost Non-Residential Revenues	\$ -	\$ -	\$ -	\$ 3,612,109	\$ 6,825,105	\$ 6,822,772

Line	DSDR	2014	2015	2016(a)	2017(a)	2018	2019	Total
22	DSDR	\$ -	\$ -	\$ -	\$ 65,125	\$ 2,329	\$ -	\$ 67,453

Line	Residential	Vintage 2018					Total	
		2014	2015	2016(a)	2017	2018 (a)		2019
1	Appliance Recycling Program					\$ 59,966	\$ -	\$ 59,966
2	Energy Education Program for Schools					\$ 39,410	\$ 99,626	\$ 139,037
3	Energy Efficient Lighting					\$ 616,478	\$ 1,172,842	\$ 1,789,321
4	Home Energy Improvement Program					\$ 74,905	\$ 193,400	\$ 268,305
5	My Home Energy Report					\$ 7,382,388	\$ -	\$ 7,382,388
6	Neighborhood Energy Saver					\$ 55,190	\$ 103,639	\$ 158,829
7	Multi Family Energy Efficiency					\$ 379,046	\$ 769,220	\$ 1,148,266
8	Residential Energy Assessments					\$ 77,398	\$ 140,525	\$ 217,923
9	Residential New Construction					\$ 439,985	\$ 886,107	\$ 1,326,092
10	Save Energy and Water Kit					\$ 591,120	\$ 1,485,300	\$ 2,086,420
11	Total Lost Revenues	\$ -	\$ -	\$ -	\$ -	\$ 9,715,699	\$ 4,862,660	\$ 14,578,359
12	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Net Lost Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ 9,715,699	\$ 4,862,660	\$ 14,578,359

Line	Non-Residential	Vintage 2018					Total	
		2014	2015	2016(a)	2017	2018 (a)		2019
14	Business Energy Reports					\$ -	\$ -	\$ -
15	Energy Efficiency for Business					\$ 832,065	\$ 1,771,404	\$ 2,603,469
16	Energy Efficient Lighting					\$ 163,369	\$ 250,052	\$ 414,021
17	Non-Residential Smart Saver Performance Incentive					\$ -	\$ 71,032	\$ 71,032
18	Small Business Energy Saver					\$ 1,166,751	\$ 2,190,937	\$ 3,363,688
19	EnergyWise for Business					\$ 47,865	\$ 34,270	\$ 82,144
20	Total Lost Revenues	\$ -	\$ -	\$ -	\$ -	\$ 2,210,049	\$ 4,324,304	\$ 6,534,354
21	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ (78,327)	\$ (144,767)	\$ (223,094)
22	Net Lost Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ 2,131,722	\$ 4,179,537	\$ 6,311,260

(a) Lost revenues were estimated by applying forecasted lost revenue rates for residential and non-residential customers to state specific forecasted program participation

Line	Residential	Vintage 2019					Total	
		2014	2015	2016(a)	2017	2018 (a)		2019
1	Appliance Recycling Program					\$ -	\$ -	\$ -
2	Energy Education Program for Schools					\$ -	\$ 45,488	\$ 45,488
3	Energy Efficient Lighting					\$ -	\$ 680,301	\$ 680,301
4	Home Energy Improvement Program					\$ -	\$ 109,046	\$ 109,046
5	My Home Energy Report					\$ -	\$ 6,365,499	\$ 6,365,499
6	Neighborhood Energy Saver					\$ -	\$ 54,545	\$ 54,545
7	Multi Family Energy Efficiency					\$ -	\$ 456,925	\$ 456,925
8	Residential Energy Assessments					\$ -	\$ 77,701	\$ 77,701
9	Residential New Construction					\$ -	\$ 47,875	\$ 47,875
10	Save Energy and Water Kit					\$ -	\$ 912,388	\$ 912,388
11	Total Lost Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,750,758	\$ 8,750,758
12	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Net Lost Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,750,758	\$ 8,750,758

Line	Non-Residential	Vintage 2019					Total	
		2014	2015	2016(a)	2017	2018 (a)		2019
14	Business Energy Reports					\$ -	\$ -	\$ -
15	Energy Efficiency for Business					\$ -	\$ 1,003,105	\$ 1,003,105
16	Energy Efficient Lighting					\$ -	\$ 174,071	\$ 174,071
17	Non-Residential Smart Saver Performance Incentive					\$ -	\$ 120,492	\$ 120,492
18	Small Business Energy Saver					\$ -	\$ 960,827	\$ 960,827
19	EnergyWise for Business					\$ -	\$ 32,780	\$ 32,780
20	Total Lost Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,291,275	\$ 2,291,275
21	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (79,189)	\$ (79,189)
22	Net Lost Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,212,086	\$ 2,212,086

Duke Energy Programs
 For the Period January 1, 2015 - December 31, 2015
 Document Number E-2, Sub 1174
 North Carolina Net Load Revenue True Up for Vespers 2015 - 2018

Beneficial	Average 2015 True Up Load Revenue kWh \$			
	2015	2016(a)	2017(b)	2018
1	173,269 \$	238,216 \$	246,329 \$	46,185 \$
2	665,352 \$	121,896 \$	74,841 \$	24,481 \$
3	117,336 \$	3,171,792 \$	3 \$	595,645 \$
4	425,258 \$	859,842 \$	455,288 \$	63,209 \$
5	2,024,242 \$	269,871 \$	333,965 \$	182,204 \$
6	54,534 \$	89,923 \$	16,937 \$	15,266 \$
7	252,452 \$	392,755 \$	423,670 \$	64,643 \$
8	6,791,845 \$	5,429,790 \$	5,407,416 \$	924,793 \$
9	6,791,845 \$	5,429,790 \$	5,407,416 \$	924,793 \$
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Duke Energy Progress
 For the Period January 1, 2015 - December 31, 2016
 District Number E-2, Sub 1174
 North Carolina Net Lost Revenue True Up for Variances 2015 - 2016

Line	Residential	Variance 2015 Variance Lost Revenue kWh \$				
		2015	2016(a)	2017(a)	2018	Total
1	Appliance Recycling Program	\$ -	\$ -	\$ 18,528	\$ 46,185	\$ 64,713
2	Energy Education Program for Schools	\$ 8,729	\$ 14,741	\$ 23,574	\$ 24,481	\$ 71,525
3	Energy Efficient Lighting	\$ -	\$ -	\$ (797,366)	\$ 536,645	\$ (260,721)
4	Home Energy Improvement Program	\$ -	\$ -	\$ 28,255	\$ 65,009	\$ 93,264
5	Multi-family	\$ 111,158	\$ 82,078	\$ 92,297	\$ 182,264	\$ 368,375
6	My Home Energy Report	\$ 995,862	\$ -	\$ -	\$ -	\$ 995,862
7	Neighborhood Energy Saver	\$ -	\$ -	\$ 19,587	\$ 15,265	\$ 34,852
8	Residential New Construction	\$ 59,904	\$ 61,770	\$ 59,519	\$ 64,943	\$ 246,137
9	Save Energy and Water Kit	\$ -	\$ -	\$ -	\$ -	\$ -
10	Lost Residential Revenues	\$ (974,894)	\$ 14,493	\$ (525,507)	\$ 924,793	\$ (560,617)
11	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
12	Net Lost Residential Revenues	\$ (974,894)	\$ 14,493	\$ (525,507)	\$ 924,793	\$ (560,617)

Line	Non-Residential	Variance 2015 Variance Lost Revenue kWh \$				
		2015	2016(a)	2017(a)	2018	Total
13	Energy Efficiency for Business	\$ -	\$ -	\$ 214,000	\$ 374,092	\$ 588,092
14	Energy Efficient Lighting	\$ -	\$ -	\$ 42,587	\$ 128,008	\$ 170,595
15	Small Business Energy Saver	\$ -	\$ -	\$ 54,963	\$ 315,792	\$ 370,755
16	EnergyWise for Business	\$ -	\$ -	\$ 69	\$ -	\$ 69
17	Net Lost Non-Residential Revenues	\$ 0	\$ 0	\$ (373,771)	\$ 815,910	\$ 442,139
18	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
19	Net Lost Non-Residential Revenues	\$ -	\$ -	\$ (373,771)	\$ 815,910	\$ 442,139

Line	DSOH	2015	2016(a)	2017(a)	2018	Total
20	DSOH	\$ -	\$ -	\$ -	\$ -	\$ -

Line	Residential	Variance 2016 Variance Lost Revenue kWh \$				
		2015	2016(a)	2017(a)	2018	Total
1	Appliance Recycling Program	\$ -	\$ -	\$ 19,440	\$ 2,515	\$ 21,955
2	Energy Education Program for Schools	\$ -	\$ 224	\$ 18,520	\$ 27,593	\$ 46,337
3	Energy Efficient Lighting	\$ -	\$ -	\$ (36,360)	\$ 432,565	\$ 396,205
4	Home Energy Improvement Program	\$ -	\$ 41	\$ 247,344	\$ 75,625	\$ 323,010
5	My Home Energy Report	\$ -	\$ 151,516	\$ -	\$ 134,484	\$ 285,999
6	Neighborhood Energy Saver	\$ -	\$ -	\$ 21,026	\$ -	\$ 21,026
7	Multi-family	\$ -	\$ 28,548	\$ 122,503	\$ 21,513	\$ 172,564
8	Residential Energy Assessments	\$ -	\$ -	\$ 61,398	\$ 45,550	\$ 106,948
9	Residential New Construction	\$ -	\$ 3,469	\$ 234,020	\$ 136,975	\$ 374,464
10	Save Energy and Water Kit	\$ -	\$ 30,275	\$ 365,510	\$ 201,709	\$ 597,559
11	Lost Residential Revenues	\$ -	\$ (1,345,437)	\$ 842,543	\$ 1,078,628	\$ 595,755
12	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
13	Net Lost Residential Revenues	\$ -	\$ (1,345,437)	\$ 842,543	\$ 1,078,628	\$ 595,755

Line	Non-Residential	Variance 2016 Variance Lost Revenue kWh \$				
		2015	2016(a)	2017(a)	2018	Total
14	Business Energy Audits	\$ -	\$ 191,245	\$ -	\$ -	\$ 191,245
15	Energy Efficiency for Business	\$ -	\$ 96	\$ 206,407	\$ 532,371	\$ 830,119
16	Energy Efficient Lighting	\$ -	\$ -	\$ (33,486)	\$ 97,458	\$ 63,972
17	Small Business Energy Saver	\$ -	\$ 6,366	\$ 563,568	\$ 428,932	\$ 1,000,232
18	EnergyWise for Business	\$ -	\$ 576	\$ 360	\$ 4,023	\$ 5,025
19	Net Lost Non-Residential Revenues	\$ 0	\$ 173,300	\$ 1,089,209	\$ 1,064,824	\$ 2,327,333
20	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ (113,552)	\$ (113,552)
21	Net Lost Non-Residential Revenues	\$ -	\$ 173,300	\$ 1,089,209	\$ 951,272	\$ 2,213,781

Line	DSOH	2015	2016(a)	2017(a)	2018	Total
22	DSOH	\$ -	\$ -	\$ -	\$ -	\$ -

A

**Duke Energy Progress
Actual Program Costs for Vintage Years 2013 - 2017
Docket Number E-2 Sub 1174**

		Carolinan System - 12 Months Ended 12/31/2013	Carolinan System - 12 Months Ended 12/31/2014	Carolinan System - 12 Months Ended 12/31/2015	Carolinan System - 12 Months Ended 12/31/2016	Carolinan System - 12 Months Ended 12/31/2017
1	Appliance Recycling Program	\$ 1,473,097	\$ 1,158,732	\$ 1,220,465	\$ (137,009)	\$ 5,586
2	Home Energy Improvement Program	\$ 5,419,581	\$ 4,815,836	\$ 5,298,232	\$ 6,013,170	\$ 6,961,463
3	Residential Lighting Program	\$ 8,235,185	\$ 19,568,417	\$ 14,616,136	\$ 15,552,184	\$ 10,904,279
4	Neighborhood Energy Saver Program	\$ 2,051,973	\$ 1,731,995	\$ 1,586,061	\$ 2,052,535	\$ 1,781,211
5	Residential New Construction	\$ 2,348,349	\$ 6,463,903	\$ 7,447,258	\$ 9,405,615	\$ 11,671,724
6	Residential Energy Efficient Benchmarking	\$ 591,861	\$ 171,840	\$ -	\$ -	\$ -
7	Residential Home Advantage	\$ 67,613	\$ -	\$ -	\$ -	\$ -
8	Energy Education Program for Schools	\$ -	\$ -	\$ 703,689	\$ 827,497	\$ 835,991
9	Multi-Family	\$ -	\$ -	\$ 2,615,745	\$ 2,045,220	\$ 2,514,413
10	My Home Energy Report	\$ -	\$ 69,946	\$ 5,808,941	\$ 5,890,093	\$ 6,753,153
11	Residential Energy Assessments	\$ -	\$ -	\$ -	\$ 1,417,924	\$ 1,863,486
12	Save Energy and Water Kit	\$ -	\$ -	\$ -	\$ 674,538	\$ 888,869
13	Business Energy Report	\$ -	\$ -	\$ 74,374	\$ 69,516	\$ 20,330
14	Energy Efficiency for Business	\$ 8,474,007	\$ 7,247,613	\$ 6,226,453	\$ 14,159,310	\$ 21,749,807
15	Energy Efficient Lighting	\$ 1,000,191	\$ 2,376,651	\$ 1,775,958	\$ 1,889,694	\$ 1,324,943
16	Non-Res SmartSaver Performance	\$ -	\$ -	\$ -	\$ -	\$ 147,160
17	Small Business Energy Saver	\$ 3,345,513	\$ 10,108,948	\$ 9,780,196	\$ 9,336,274	\$ 8,770,755
18	EnergyWise	\$ 9,709,664	\$ 9,898,623	\$ 12,212,851	\$ 13,633,666	\$ 13,125,314
19	EnergyWise for Business	\$ -	\$ -	\$ 65,456	\$ 1,112,815	\$ 1,390,549
20	CIG DR	\$ 1,353,172	\$ 1,388,074	\$ 1,899,146	\$ 1,615,703	\$ 1,523,514
21	Total Energy Efficiency & Demand Side Program Co	\$ 44,020,203	\$ 65,000,579	\$ 71,330,980	\$ 85,558,746	\$ 92,232,546

22	NC Allocation Factor for EE programs	Miller Exhibit 5 Pg 1 thr	86.01%	85.73%	85.20%	85.44%	85.51%
23	NC Allocation Factor for DSM programs	Miller Exhibit 5 Pg 1 thr	86.52%	85.94%	86.05%	86.17%	86.10%

		Carolinan System - 12 Months Ended 12/31/2013	NC Allocated - 12 Months Ended 12/31/2014	NC Allocated - 12 Months Ended 12/31/2015 (1)	NC Allocated - 12 Months Ended 12/31/2016 (1)	NC Allocated - 12 Months Ended 12/31/2017 (1)
24	Appliance Recycling Program	Line 1 Line 21 \$ 1,267,059.70	\$ 991,419.25	\$ 1,040,934.99	\$ (117,058.52)	\$ 4,776.58
25	Home Energy Improvement Program	Line 2 Line 21 \$ 4,661,562.08	\$ 4,128,777.34	\$ 4,518,861.95	\$ 5,117,552.41	\$ 5,952,627.50
26	Residential Lighting Program	Line 3 Line 21 \$ 7,083,556.97	\$ 16,776,656.40	\$ 12,466,102.61	\$ 13,281,540.35	\$ 9,324,062.29
27	Neighborhood Energy Saver Program	Line 4 Line 21 \$ 1,764,970.77	\$ 1,884,436.87	\$ 1,752,751.01	\$ 1,751,651.64	\$ 1,521,082.68
28	Residential New Construction	Line 5 Line 21 \$ 2,019,892.95	\$ 5,541,719.25	\$ 6,151,766.01	\$ 8,046,089.10	\$ 9,980,291.02
29	Residential Energy Efficient Benchmarking	Line 6 Line 21 \$ 501,079.89	\$ 147,324.46	\$ -	\$ -	\$ -
30	Residential Home Advantage	Line 7 Line 21 \$ 58,154.12	\$ -	\$ -	\$ -	\$ -
31	Energy Education Program for Schools	Line 8 Line 21 \$ -	\$ -	\$ 680,176.12	\$ 797,000.01	\$ 714,841.32
32	Multi-Family	Line 9 Line 21 \$ -	\$ -	\$ 2,240,968.51	\$ 1,747,405.44	\$ 2,150,011.71
33	My Home Energy Report	Line 10 Line 21 \$ -	\$ 69,946.69	\$ 4,754,445.77	\$ 5,012,402.60	\$ 5,774,505.65
34	Residential Energy Assessments	Line 11 Line 21 \$ -	\$ -	\$ -	\$ 1,211,452.08	\$ 1,598,434.59
35	Save Energy and Water Kit	Line 12 Line 21 \$ -	\$ -	\$ -	\$ 576,314.67	\$ 760,056.35
36	Business Energy Report	Line 13 Line 21 \$ -	\$ -	\$ 64,333.37	\$ 59,393.25	\$ 17,081.70
37	Energy Efficiency for Business	Line 14 Line 21 \$ 7,245,768.80	\$ 6,211,620.54	\$ 5,110,541.74	\$ 12,097,430.82	\$ 18,592,886.97
38	Energy Efficient Lighting	Line 15 Line 21 \$ 860,797.81	\$ 2,017,582.02	\$ 1,514,714.78	\$ 1,614,524.95	\$ 1,132,935.88
39	Non-Res SmartSaver Performance	Line 16 Line 21 \$ -	\$ -	\$ -	\$ -	\$ 125,814.21
40	Small Business Energy Saver	Line 17 Line 21 \$ 2,877,586.82	\$ 8,666,738.11	\$ 8,141,529.15	\$ 7,376,765.21	\$ 7,499,222.22
41	EnergyWise	Line 18 Line 22 \$ 8,401,125.03	\$ 8,507,206.67	\$ 10,508,750.77	\$ 11,747,967.62	\$ 11,808,498.16
42	EnergyWise for Business	Line 19 Line 22 \$ -	\$ -	\$ 65,456.00	\$ 958,898.92	\$ 1,198,064.36
43	CIG DR	Line 20 Line 22 \$ 1,170,899.99	\$ 1,192,957.92	\$ 1,644,152.92	\$ 1,592,232.92	\$ 1,112,628.92
44	Total Energy Efficiency & Demand Side Program Co	Sum (Lines 21-19)	\$ 58,750,865	\$ 60,845,452	\$ 71,219,542	\$ 78,970,888

(1) NC Allocations are based on annual weighted average which are employed in the allocation of utility cost (see 2017 results for PPI determination). This differs from the allocation used in Miller Exhibit 2, which allocates actual costs by month.

1A

Evans Exhibit 4

Duke Energy Progress, LLC
 January - December 2017 Actuals
 January 2018 - December 2019 Estimates
 Docket Number E-2, Sub 1174
 North Carolina Found Revenues

	Actual/Reported KWH		Estimated KWH	
	2016	2017	2018	2019
Economic Development	40,751,172	217,748,650	-	-
Lighting				
Residential	21,158	18,164	18,164	18,164
Non Residential (Regulated)	328,140	304,084	304,084	304,084
MV to LED Credit - Residential (Regulated)	(460,649)	(456,768)	(107,448)	(77,014)
MV to LED Credit - Non-Residential (Regulated)	(105,415)	(105,982)	(24,931)	(17,869)
Total KWH	40,534,406	217,508,148	189,869	227,365
Total KWH Included	(216,766)	(240,502)	189,869	227,365
Total KWH Included (net of Free Riders 15%)	(184,251)	(204,427)	161,389	193,260
Annualized Found Revenue - Non Residential	\$ 113,553	\$ 106,296	\$ 144,604	\$ 146,565
Annualized Found Revenue - Residential	\$ (279,063)	\$ (297,693)	\$ (57,423)	\$ (59,570)
	2016	2017	2018	2019
Vintage 2015 - Non Res	\$ -	-	-	-
Vintage 2016 - Non Res	\$ 68,561	113,553	113,553	44,992
Vintage 2017 - Non Res		\$ 72,644	106,296	106,296
Vintage 2018 - Non Res			\$ 78,327	144,767
Vintage 2019 - Non Res				\$ 79,389
Net Negative Found Revenues to Zero*	-	-	-	-
Subtotal - Non Res	\$ 68,561	\$ 186,197	\$ 298,176	\$ 375,444
Vintage 2015 - Res	\$ -	-	-	-
Vintage 2016 - Res	\$ (150,940)	(279,063)	(279,063)	(128,123)
Vintage 2017 - Res		\$ (160,772)	(297,693)	(297,693)
Vintage 2018 - Res			\$ (31,104)	(57,601)
Vintage 2019 - Res				\$ (32,267)
Net Negative Found Revenues to Zero*	150,940	439,836	607,860	515,684
Subtotal - Residential	\$ -	\$ -	\$ -	\$ -
Total Found Revenues	\$ 68,561	\$ 186,197	\$ 298,176	\$ 375,444

* Eliminates the inclusion of total negative found revenues at the Residential level

1A

Duke Energy Progress
System Event Based Demand Response January 1, 2017 - December 31, 2017
Docket Number E-2, Sub 1174

Date	State	Program Name	Event Trigger	Customers Notified /Switches Dispatched	MW Reduction
1/8/2017	NC and SC	DSDR	Capacity Needs	-NA-	183
1/9/2017	NC	DEP EnergyWise Home	Economic Event	9,215/12,947	11.6
1/9/2017	NC and SC	DSDR	Capacity Needs	-NA-	200
3/16/2017	NC and SC	DSDR	Capacity Needs	-NA-	112
6/14/2017	NC and SC	EnergyWise Business	M&V / Economic Event	1872	2.4
7/13/2017	NC and SC	DEP DRA	Tariff - Minimum Event	19 Customers / 67 Sites	19
7/13/2017	NC and SC	EnergyWise Business	M&V / Economic Event	1915	2.9
7/21/2017	NC and SC	DEP DRA	Tariff - Minimum Event	19 Customers / 67 Sites	20
7/21/2017	NC and SC	EnergyWise Business	M&V / Economic Event	1838	2.3
8/17/2017	NC and SC	EnergyWise Business	M&V / Economic Event	1897	2.4
8/18/2017	NC and SC	DEP DRA	Tariff - Minimum Event	20 Customers / 70 Sites	22
8/18/2017	NC and SC	DSDR	Capacity Needs	-NA-	92
8/21/2017	NC and SC	DEP EnergyWise Home	Economic Event	159,244/205,016	120.5
8/22/2017	NC and SC	EnergyWise Business	M&V / Economic Event	1896	2.4
10/9/2017	NC and SC	DSDR	Capacity Needs	-NA-	144
10/11/2017	NC and SC	DSDR	Capacity Needs	-NA-	218
10/12/2017	NC and SC	DSDR	Capacity Needs	-NA-	247
10/23/2017	NC and SC	DSDR	Capacity Needs	-NA-	63

Notes:

- 'Customers Notified' is the number of participants notified to participate in the event
- 'Switches Dispatched' values represent the monthly active switch counts
- 'MW Reduction' values are based on the average across all hours of the event

Appliance Recycling Program

1A

P. 1 of 53
filed in docket

A. Description

The Appliance Recycling Program ("Program") promoted the removal and responsible disposal of operating refrigerators and freezers from Duke Energy Progress (DEP) LLC's (the "Company") residential customers. The refrigerator or freezer must have a capacity of at least 10 cubic feet but not more than 30 cubic feet. The Program recycled approximately 95% of the material from the harvested appliances.

Audience

Eligible Program participants include the Company's residential customers who own operating refrigerators and freezers used in individually metered residences. Currently, this Program is closed to new participants.

B & C. Impacts, Participants and Expenses

2017 Year End Results	Annual Forecast	Actual	Variations
Savings (MWH)	3,979	0	-3,979
Savings (MW)	0.53	0.00	-0.53
Participants		0	
2017 Program Expenses		\$5,591	

D. Qualitative Analysis

Highlights

No highlights to report.

Issues

No issues to report

Potential Changes

No changes at this time.

E. Marketing Strategy

No Marketing efforts were conducted.

F. Evaluation, Measurement and Verification

No evaluation activities are planned in 2017.

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Duke Energy Progress
 Estimate - January 1, 2019 - December 31, 2019
 Docket Number E-2, Sub 1174
 Projected Program/Portfolio Cost Effectiveness - Vintage 2019

Program	UCT	TRC	RIM	PCT
Residential Programs				
• Appliance Recycling Program				
• Energy Education Program for Schools	1.62	2.24	0.63	
• Energy Efficient Lighting	1.79	2.58	0.61	8.39
• Home Energy Improvement	0.91	0.57	0.41	1.73
• Multi-Family	3.00	5.58	0.50	
• Neighborhood Energy Saver	0.46	1.55	0.28	
• Residential Energy Assessments	1.54	1.71	0.49	
• Residential New Construction	1.96	1.03	0.72	2.30
• Save Energy and Water Kit	12.43	27.29	0.70	
• Residential Home Advantage				
• My Home Energy Report	0.96	0.96	0.41	
• EnergyWise Home	9.28	58.30	9.28	
Residential Total	2.79	2.70	0.77	11.17
Non-Residential Programs				
• Energy Efficient Lighting	4.63	7.98	0.95	16.31
• Non-Residential Smart Saver	2.45	1.07	0.77	1.99
• Non-Residential Smart Saver Performance Incentive	3.75	0.92	0.75	2.18
• Small Business Energy Saver	2.57	1.60	0.70	3.71
• EnergyWise ® for Business	0.72	1.07	0.59	
• Commercial Industrial Governmental Demand Response	2.06	33.28	2.06	
Non-Residential Total	2.41	1.56	0.84	3.04
Overall Portfolio total	2.63	2.12	0.84	4.76

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Duke Energy Progress
Changes to DSM/EE Cost Recovery Vintage 2017 True Up January 1, 2017 - December 31, 2017
Changes from Prior Filing Due to Application of M&V and Participation
System kWh and kW Impacts for Free Riders of the Plant

Residential Programs

Program Name	Filed in Decret E-2, Sub 1145		Filed in Decret E-2, Sub 1145		Overall Variance		E-2 Sub 1145	E-2 Sub 1145	Delta	Variance due to Change in Impacts and Measure Mix		Variance due to Change in Participation		Sum of Variances	
	kWh	kW	kWh	kW	kWh	kW	System Participation	Participation		kWh	kW	kWh	kW	kWh	kW
Advanced Metering Program	4,312,891	553	4,312,891	553	-4,312,891	(553)	7,000	-	(7,000)	-	-	(4,181,891)	(553)	(4,181,891)	(553)
Energy Education Program for Schools	1,997,741	194	2,333,763	894	336,022	700	8,800	9,104	304	287,011	791	69,018	7	856,024	798
Energy Efficient Lighting	42,814,713	1,149	29,322,477	4,324	12,904,842	(1,455)	2,007,668	2,247,642	240,013	(18,023,238)	(2,592)	5,118,397	737	(12,904,841)	(1,855)
Home Energy Improvement Program	2,492,184	664	2,195,967	573	4,685,832	991	7,853	18,222	18,869	(15,295,557)	(1,536)	6,395,357	2,526	4,685,800	991
Neighborhood Energy Saver	1,734,973	875	2,200,240	813	4,652,296	938	4,500	4,873	373	321,456	5	143,810	25	465,266	31
Next2 Mutual Utility	10,444,071	1,124	10,280,507	1,025	5,708,435	1,164	201,070	197,637	96,765	680,272	675	5,026,163	493	5,706,435	1,168
Residential Energy Assessments	1,312,260	524	1,544,734	510	2,815,678	386	25,875	34,290	12,715	746,297	124	1,569,379	262	2,815,678	386
Residential Home Construction	10,274,711	4,362	10,990,239	4,222	3,921,314	1,960	4,750	6,712,077	9,727,327	(20,627,679,497)	(8,930,854)	20,691,600,811	8,932,513	3,921,314	1,660
Save Energy and Reduce Air	15,996,820	1,254	15,222,432	817	9,354,512	7,123	116,437	463,154	147,417	2,055,839	6,538	7,298,692	584	9,354,511	7,123
SmartHome Energy Advantage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
My Home Energy Report	131,914,899	34,790	117,852,111	13,964	14,062,788	(16,427)	682,300	794,734	113,434	(38,329,368)	(22,477)	22,264,003	6,050	(16,065,364)	(16,427)
EnergyWise Home	22,239	-	13,424	-	11,589	-	12,066	17,760	6,694	-	(1,943)	-	-	-	11,389
Residential Programs Total	124,490,181	73,821	122,293,112	70,913	(4,197,070)	4,712	8,276,521	13,633,432	10,356,911	(20,681,470,625)	(8,951,268)	20,675,303,795	8,955,978	(6,167,070)	4,710

Non-Residential Programs

Program Name	Filed in Decret E-2, Sub 1145		Filed in Decret E-2, Sub 1145		Overall Variance		E-2 Sub 1145	E-2 Sub 1145	Delta	Variance due to Change in Impacts and Measure Mix		Variance due to Change in Participation		Sum of Variances	
	kWh	kW	kWh	kW	kWh	kW	System Participation	Participation		kWh	kW	kWh	kW	kWh	kW
Business Energy Reports	1,878,490	632	1,878,490	632	-1,878,490	(632)	11,643	412	(12,243)	(146,070)	(24)	(3,732,420)	(608)	(3,878,490)	(632)
Energy Efficiency for Business	11,492,969	12,087	12,123,194	14,954	39,421,385	6,877	155,544	1,732,235	1,636,691	(630,781,155)	(99,269)	670,182,540	106,140	39,421,385	6,871
Energy Efficient Lighting	20,582,590	4,233	17,874,716	3,224	12,674,716	(1,209)	243,862	277,500	28,638	(15,068,281)	(2,706)	2,413,565	497	(12,674,716)	(2,209)
Non-Res SmartControl Performance	-	-	435,128	53	435,128	53	-	-	1	-	-	435,108	58	435,108	58
Small Business Energy Saver	15,280,961	1,726	14,568,111	1,607	12,763,157	2,873	36,100,000	(4,204,550)	4,104,550	8,751,726	2,109	4,011,426	765	12,763,157	2,873
EnergyWise for Business	964,255	5,294	843,712	4,461	11,643	1,425	1,896	1,664	(232)	118,125	2,041	(120,768)	(617)	11,643	1,425
Commercial Industrial Governmental Demand Mgt	14,714	-	14,714	-	(12,745)	-	24,000	1,873	(12,127)	-	-	-	-	-	(12,745)
Non-Residential Programs Total	54,249,309	41,425	50,644,193	37,272	34,253,797	(4,359)	36,526,985	42,279,263	5,746,278	(637,145,655)	(97,649)	673,199,452	93,490	36,053,797	(4,359)

Discretionary System Operator Response

SOA	49,114,829	112,027	49,114,829	112,027	(13,808,145)	22,463	-	-	-	N/A	N/A	-	-	N/A	N/A
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Total Residential and Non-Residential Programs	183,739,490	115,246	172,937,305	108,244	19,045,792	22,839	39,653,506	55,908,695	16,103,189	(21,318,616,460)	(9,049,117)	21,348,503,187	9,049,468	29,886,727	350
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NOTE: The actual per unit impacts are reflective of the following M&V reports:

Program Name As Filed	Decret	Report Reference	Effective Date
SmartHome Energy Advantage	E-2 Sub 1145	M&V Report for the SmartHome Energy Advantage Program, 2016	8/5/2017
Small Business Energy Saver	E-2 Sub 1145	M&V Report for the Small Business Energy Saver Program, Duke Energy Progress and Duke Energy Carolinas	3/1/2016
Energy Efficiency for Business	E-2 Sub 1145	M&V Report for the Energy Efficiency for Business Program, Duke Energy Progress and Duke Energy Carolinas	1/1/2016
EnergyWise for Business	E-2 Sub 1145	M&V Report for the EnergyWise for Business Program, Duke Energy Progress and Duke Energy Carolinas	1/1/2016
Non-Res SmartControl Performance	E-2 Sub 1145	2014 M&V Report for the Duke Energy Progress Commercial, Industrial and Governmental Demand Response Automation (DRA) Program	6/19/2017
Small Business Energy Saver	E-2 Sub 1145	M&V Report for the Small Business Energy Saver Program, Duke Energy Progress and Duke Energy Carolinas	1/1/2015
EnergyWise for Business	E-2 Sub 1145	M&V Report for the EnergyWise for Business Program, Duke Energy Progress and Duke Energy Carolinas	7/6/2017
EnergyWise Home	E-2 Sub 1145	M&V Report for the EnergyWise Home Program, Duke Energy Progress and Duke Energy Carolinas	1/1/2015
SmartHome Energy Advantage	E-2 Sub 1145	M&V Report for the SmartHome Energy Advantage Program, Duke Energy Progress and Duke Energy Carolinas	2/1/2015
SmartHome Energy Advantage	E-2 Sub 1145	M&V Report for the SmartHome Energy Advantage Program, Duke Energy Progress and Duke Energy Carolinas	11/1/2015
Non-Res SmartControl Performance	E-2 Sub 1145	Duke Energy Carolinas & Duke Energy Progress Non-Residential Protective Program Evaluation Report	11/1/2015
EnergyWise Home	E-2 Sub 1145	M&V Report for the EnergyWise Home Program, Duke Energy Progress and Duke Energy Carolinas	4/1/2017

DE Progress DSM Opt-Out at December 31, 2016
 North Carolina (excludes outdoor lighting)

Customer's Name	DSM
3141 PROPERTIES LLC	1
333 VENTURES LLC	2
3700 GLENWOOD LLC	1
4208 SIX FORKS ROAD LLC	2
81ST REGIONAL SUPPT COMMAND	1
A STUCKI COMPANY	1
ADVANCED PLASTIC EXTRUSION LLC	2
AG PROVISION LLC	3
AJINOMOTO USA INC	3
ALAMAC AMERICAN KNITS LLC	2
ALBANY ROAD-WYCLIFF LLC	2
ALCAMI CAROLINAS CORPORATION	6
ALL TRUSS LLC	1
ALLEN HARIM FOODS LLC	1
ALPLA INC	1
AMCOR FLEXIBLES INC	1
AMCOR RIGID PLASTICS USA LLC	1
AMERICAN AIRLINES GROUP INC	1
AMERICAN GROWLER INC	2
AMERICAN SKIN COMPANY INC	1
AMERICAN TEL & TEL CO	1
AMERICHEM INC	3
AMISUB OF NORTH CAROLINA INC	1
ANGUS BARN LTD	6
ANSON MACHINE WORKS	4
APAC TENNESSEE INC	3
APEX OIL CO INC/TERMINALS DIVI	5
APEX TOOL GROUP LLC	1
ARAUCO PANELS USA LLC	4
ARCADIA DAIRY FARMS INC	2
ARCHER DANIELS MIDLAND CO	1
ARCLIN USA INC	6
ARDAGH GLASS INC	4
ARDEN CORPORATION	4
ASHEBORO CITY OF	3
ASHEBORO ELASTICS CORP	3
ASHEVILLE BUNCOMBE TECH	22
ASHEVILLE CITY OF	8
ASHEVILLE DYING AND FINISHING	2
ASHEVILLE WASTE PAPER CO INC	5
ASTON PARK HEALTH CARE CENTER	1
AT & T MOBILITY	3
ATEX TECHNOLOGIES INC	2
ATLANTIC CORP OF WILM INC	7
ATLANTIC VENEER CORP	3

DE Progress DSM Opt-Out at December 31, 2016

North Carolina (excludes outdoor lighting)

AUSTIN QUALITY FOODS INC	2
AUX KITCHEN LLC	1
B J CONSEW INC	1
B V HEDRICK GRAVEL & SAND CO	9
BAILEY FARMS INC	1
BALCRANK CORPORATION	1
BALDOR ELECTRIC CO	1
BARHAM FARMS INC	1
BARNES FARMING CORPORATION	8
BARTLETT MILLING CO	2
BB&T	2
BELK INC	7
BELLSOUTH TELECOMMUNICATIONS	12
BELT CONCEPTS OF AMERICA	1
BI-LO LLC	2
BILTMORE BAPTIST CHURCH	1
BILTMORE FARMS HOTEL GRP LLC	3
BILTMORE FOREST CNTRY CLUB INC	5
BJ'S WHOLESALE CLUB INC	8
BJT, INC	1
BLACK MTN CENTER	6
BLUE RIDGE PAPER PRODUCTS INC	29
BOISE CASCADE WOOD PRDCTS LLC	7
BOLIVIA LUMBER CO LLC	2
BONSAL AMERICAN INC	1
BORG WARNER TURBO SYSTEMS INC	2
BORGWARNER THERMAL SYSTEMS INC	1
BP SOLUTIONS GROUP INC	2
BRAIFORM ENTERPRISES INC	1
BRIER CREEK OFF #6 LLC	1
BRIER CREEK OFFICE # 1 LLC	1
BRIER CREEK OFFICE # 2 LLC	1
BRIER CREEK OFFICE # 5 LLC	1
BRIER CREEK OFFICE #4 LLC	1
BRM PARTNERS II LLC	1
BRM PARTNERS LLC	1
BROMLEY PLASTICS CORPORATION	1
BROOKS HOWELL RETIREMENT HOME	3
BROOKWOOD FARMS INC	5
BRUNSWICK CO	1
BRUNSWICK CO UTILITIES	1
BRUNSWICK COUNTY SCHOOLS	18
BSH HOME APPLIANCES	6
BUNCOMBE CO BD OF EDUCATION	2
BUNCOMBE COUNTY	2
BURCAM CAPITAL II LLC	1

DE Progress DSM Opt-Out at December 31, 2016

North Carolina (excludes outdoor lighting)

BURLINGTON INDUSTRIES LLC	2
BUSINESS TELECOM INC	2
BUTLER MFG CO	5
CAMP DAVIS INDUSTRIAL PARK INC	6
CAMPBELL SOUP SUPPLY CO LLC	4
CAMPBELL UNIVERSITY	40
CAN AM SOUTH LLC	2
CANTON SAWMILL LLC	7
CAPE FEAR ACADEMY	2
CAPE FEAR COMMUNITY COLLEGE	13
CAPE FEAR COUNTRY CLUB	7
CAPE FEAR PUBLIC UTILITY AUTH	6
CAPEL INC	6
CAPITAL FUNDS INC	3
CAPITOL BROADCASTING CO	13
CARGILL INC	1
CARLIE C OPERATION CENTER INC	10
CAROLINA APPAREL GROUP INC	1
CAROLINA BAY OF WILMINGTON LLC	5
CAROLINA BEACH TOWN OF	1
CAROLINA COUNTRY CLUB	3
CAROLINA CRATE & PALLET INC	3
CAROLINA CUSTOM FINISHING LLC	1
CAROLINA DAIRY LLC	2
CAROLINA EGG CO INC	1
CAROLINA ELECTRONIC ASSEMBLERS	1
CAROLINA ICE INC	4
CAROLINA INNOVATIVE FOOD INGRE	3
CAROLINA PRESERVE BY DEL WEBB	4
CAROLINA TECHNICAL PLASTICS	3
CARQUEST OF SRONCE	2
CARTERET COMMUNITY COLLEGE	18
CARTERET GENERAL HOSPITAL	3
CARY TOWN OF	13
CARY VENTURE LTD PRTNRSHIP	14
CASCADES HOLDING US INC	4
CASCADES MOULDED PULP	1
CASE FARMS	8
CATALENT PHARMA SOLUTIONS LLC	16
CATERPILLAR INC	10
CECIL BUDD TIRE COMPANY LLC	3
CERTAINTEED CORPORATION	4
CERTAINTEED GYPSUM NC INC	3
CERTAINTEED INC	1
CFVH - BLADEN HEALTHCARE	11
CHATHAM CO	1

DE Progress DSM Opt-Out at December 31, 2016

North Carolina (excludes outdoor lighting)

CHATHAM CO BOARD OF EDUCATION	12
CHATHAM HOSPITAL INC	3
CHERRY HOSPITAL	21
CITY OF HENDERSON	2
CITY OF RALEIGH PARKS REC DEPT	11
CLIFFORD W ESTES CO INC	3
CLINTON CITY BD OF ED	8
CLINTON CITY OF	3
CLOVERLEAF COLD STORAGE CO	1
CMC CORPORATION	4
CMS FOOD SOLUTIONS INC	1
COAST LAMP MANUFACTORY	2
COASTAL CAR COMM COLL RES BLD	1
COASTAL CAROLINA COMM COLLEGE	13
COASTAL FEDERAL CREDIT UNION	1
COATINGS AND ADHESIVES CORP	7
COBB VANTRESS INC	1
COKER FEED MILL INC	1
COLONIAL CARTON CO	1
COLUMBUS COUNTY SCHOOLS	11
COLUMBUS REG HEALTHCARE SYSTEM	3
COMFORT TECH INC	1
COMPUTER DESIGN INC	1
CONESTOGA WOOD SPECIALTIES	2
CONSOLIDATED METCO INC	2
CONVEYOR TECHNOLOGIES OF SANFO	4
COOPER-STANDARD AUTOMOTIVE INC	2
CORE-MARK DISTRIBUTORS INC	2
CORNELIA NIXON DAVIS INC	4
CORNELIA NIXON DAVIS NURSING	1
CORNING INC	3
CORTEK	4
COSTCO	4
COTTLE STRAWBERRY NURSERY INC	8
COTY US LLC	5
COUNCIL TOOL CO INC	4
COUNTRY CLUB OF LANDFALL	17
COUNTY OF WAYNE	1
COURTYARD BY MARRIOTT	3
CPI USA NORTH CAROLINA LLC	1
CRABTREE PARTNERS LLC	1
CRAVEN CO BD OF ED	14
CRAVEN CO JUSTICE CENTER	2
CRAWFORD KNITTING INC	1
CROP PRODUCTION SERVICES INC	1
CROSS CANVAS COMPANY INC	3

DE Progress DSM Opt-Out at December 31, 2016

North Carolina (excludes outdoor lighting)

CRUMPLER PLASTIC PIPE INC	4
CSX TRANSPORTATION	2
CTC FURNITURE DISTRIBUTORS INC	1
DAK AMERICAS LLC	3
DALIAH PLASTICS CORP	4
DAY INTERNATIONAL INC	2
DCI INC	1
DEERFIELD EPISCOPAL RETIREMENT	18
DENNISON, WYNDHAM V	1
DEPT OF HEALTH & HUMAN RESOURC	34
DESCO INDUSTRIES INC	4
DEVIL DOG MFG CO INC	2
DEWEY DEVELOPMENT INC	2
DH RESEARCH TRIANGLE, LLC	1
DIXIE PIPELINE COMPANY	4
DRPFC I LLC	5
DUKE UNIV HEALTH SYSTEM INC	26
DUKE UNIVERSITY MARINE LAB	1
DUNN CITY OF	2
DUPLIN GENERAL HOSP	1
DUPONT E I DE NEMRS	1
DYNAPAR CORP	3
E CAROLINA METAL TREATING INC	2
EAGLE SPORTSWEAR LLC	5
EARTH FARE INC	4
EATON CORPORATION	6
EDWARDS BROTHERS INC	2
EDWARDS WOOD PRODUCTS INC	6
ELAND INDUSTRIES INC	1
ELASTIC THERAPY INC	3
ELECTRO SWITCH CORPORATION	1
ELEMENTIS CHROMIUM INC	4
ELKAY SOUTHERN PLANT 2	1
ELKINS SAWMILL INC	3
EMC CORPORATION	4
EMERGEORTHO PA	1
ENERGIZER BATTERY MANUFACTURIN	1
ENTERCO LLC	1
ENVIVA PELLETS SAMPSON LLC	1
ENVIVA PORT OF WILMINGTON, LLC	4
EOS ACQUISITION I LLC	1
ERICO INC	1
EVERGREEN PACKAGING INC	4
EXPRESS FOOD GROUP LLC	1
EXTREME NETWORKS INC	1
FAYETTEVILLE TECH COMM COLL	2

DE Progress DSM Opt-Out at December 31, 2016

North Carolina (excludes outdoor lighting)

FCC (NC) LLC	1
FENNER DRIVES	1
FIRST BAPTIST CH OF ASHE INC	1
FIRST CITIZENS BANK	1
FIRST CITIZENS BANK & TRUST CO	5
FIRSTHEALTH FAMILY CARE CTR	1
FIRSTHEALTH OF THE CAROLINAS	20
FLETCHER BUSINESS PARK LLC	1
FLETCHER HOSPITALITY, LLC	1
FLOCO FOODS INC	2
FLOWSERVE US INC	1
FLYING J INC	1
FOOD LION LLC	166
FORTRON INDUSTRIES LLC	1
FOUNTAIN POWER BOATS INC	5
FOUR SEASONS MNGMT SVCS INC	6
FRANK THEATRES PARKSIDE COMMON	1
FRANKLIN BAKING COMPANY LLC	7
FRANKLIN COUNTY SCHOOLS	5
FRATERNITY/SORORITY LIFE	8
FRESH BUY INC	2
FRONTIER SPINNING MILLS	1
FUJIFILM DIOSYNTH BIOTEC USA	1
FUQUAY-VARINA TOWN OF	1
GALE FORCE SPORTS & ENTERTAIN	13
GALLOWAY RIDGE INC	17
GENERAL ELECTRIC CO	2
GENERAL INDUSTRIES INC	5
GENERAL PARTS DIST LLC	1
GENERAL SHALE BRICK INC	8
GENERAL TIMBER INC	4
GEORGIA PACIFIC CORP	2
GEORGIA PACIFIC WOOD PROD LLC	1
GH CRESCENT GREEN INC	1
GIBRALTAR PACKAGING GROUP INC	4
GILDAN YARNS LLC	1
GIVENS ESTATES INC	12
GIVENS HIGHLAND FARMS LLC	11
GKN DRIVELINE N AMERICA INC	4
GLAXOSMITHKLINE	6
GLEN RAVEN MILLS INC	1
GLENWOOD ASSET MANAGEMENT LLC	1
GLENWOOD HOSPITALITY ASSOC LLC	1
GLENWOOD PLACE VENTURES LLC	1
GLOBAL PACKAGING INC	1
GOLDSBORO CITY OF	2

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GOLDSBORO HOUSING AUTHORITY	3
GOLDSBORO MILLING CO	13
GRANITE FALLS SWIM/ATHL CLUB	2
GREATER ASHEVILLE REG AIRPORT	1
GREDE II LLC	3
GRIFOLS THERAPEUTICS INC	6
H & H FURNITURE MFG INC	3
HALIFAX MEDIA HOLDINGS LLC	4
HANESBRANDS INC	2
HANSON AGGREGATES SE LLC	33
HANSON BRICK EAST LLC	1
HAPPY JACK INC	1
HARDEN ROAD ASSOCIATES	1
HARGER LIGHTNING & GROUNDING	1
HARNETT CO BD OF ED	23
HARNETT CO PUBLIC UTIL	6
HARNETT CO SHERIFF OFFICE	1
HARNETT HEALTH SYSTEM INC	19
HARRIS PRINTING CO INC	3
HARRIS TEETER INC	31
HASTY PLYWOOD CO	3
HAVELOCK CITY OF	1
HAYWOOD COUNTY LOCAL GOV	1
HAYWOOD REGIONAL MEDICAL CNTR	6
HEATMASTERS LLC	3
HERAEUS QUARTZTECH AMERICA LLC	1
HEXION INC	2
HIGHWOODS JOINT VENTURE	1
HIGHWOODS REALTY LP	27
HJH ASSOCIATES	1
HOG SLAT INC	3
HOLLY SPRINGS TOWN OF	1
HOME CARE PRODUCTS LLC	1
HOME DEPOT USA INC	9
HOPE COMMUNITY CHURH OF NC INC	1
HORNWOOD INC	3
HOUSE OF RAEFORD FARMS INC	11
HOUSING AUTH CITY OF RALEIGH	2
HUGHES FURNITURE INDUSTRIE INC	1
HULSING HOTELS INC	13
HUVEPHARMA INC	1
HYDRO TUBE ENTERPRISES INC	1
IAC TROY LLC	1
INGERSOLL-RAND	1
INGLES MARKETS INC	86
INN ON BILTMORE ESTATE INC	1

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INNOVATIVE LAMINATIONS CO	1
INTERNATIONAL BROADCAST BUREAU	1
INTERNATIONAL PAPER COMPANY	5
INVISTA S A R L	1
J & D WOOD INC	3
J P TAYLOR COMPANY LLC	4
J&J SNACK FOODS HANDHELDS CORP	2
JACKSONVILLE CITY OF	3
JACOB HOLM IND AMERICA INC	1
JOHN DEERE TURF CARE INC	3
JOHN O STEVENSON INC.	2
JOHNSTON CO BOARD OF EDUCATION	78
JOHNSTON CO PUBLIC UTILITIES	2
JOHNSTON MEM HOSPITAL AUTH	1
JORDAN LUMBER & SUPPLY INC	15
JOVC FOOD CORP INC	1
K MART CORP	7
KAYSER-ROTH HOSIERY INC	4
KENNAMETAL INC	2
KESSLER ASHEVILLE LLC	1
K-FLEX USA LLC	3
KILELEE, KATHRYN	1
KINGS HOLDINGS 4,LLC	3
KINGSLAND REALTY LLC	1
KLAUSSNER FURN IND INC	24
KOOPMAN DAIRIES INC	4
KORDSA INC	1
KROGER COMPANY	9
KRYOCAL, LLC	3
LAKE JUNALUSKA ASSEMBLY INC	51
LANCER INC	4
LAZAR INDUSTRIES LLC	4
LEAR CORPORATION	2
LEE BRICK & TILE COMPANY	7
LEE COUNTY COURT HOUSE	2
LEE IRON & METAL CO	3
LENOVO INTERNATIONAL	1
LEWIS SAUSAGE CO INC	1
LIBERTY HEALTHCARE SERVICES	1
LIFEWAY CHRISTIAN RESOURCES OF	43
LINAMAR NORTH CAROLINA INC	4
LINPRINT CO	1
LOCAL GOVERNMENT FED CREDIT UN	1
LOUISBURG COLLEGE INC	12
LOUISE WELLS CAMERON ART MUSEU	4
LOUISIANA PACIFIC CORP	3

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LOW & BONAR INC	1
LOWES COMPANIES INC	34
LOWES FOODS LLC	26
LUMBERTON CELLULOSE LLC	4
M ADLER'S SON, INC	1
MAGNETI MARELLI USA INC	4
MANHATTEN AMERICAN	1
MANOR CARE OF PINEHURST INC	1
MANUFACTURING METHODS, LLC	1
MARS PETCARE US, INC	7
MARTIN MARIETTA MATERIALS INC	58
MAS US HOLDINGS INC	6
MATTHEWS & MATTHEWS INC	1
MAY FURNITURE INC	3
MCDOWELL LUMBER CO INC	11
MCGILL ENVIRONMENTAL SYS OF NC	1
MCLAMBS ABATTOIR AND MEATS INC	1
MCMURRAY FABRICS INC	7
MEASUREMENTS GROUP INC	4
MEDICAL ACTION INDUSTRIES INC	1
MEDICAL SPECIALTIES INC	1
MEMORIAL MISSION HOSPITAL INC	1
MEREDITH COLLEGE	6
MERTEK SOLUTIONS INC	1
METAL-CAD & STEEL FRAMING	1
METCHEM, LLC	1
METROPOLITAN SEWAGE DISTRICT	5
MHG ASHEVILLE AL LP	1
MICROSPACE COMM CORP	1
MILKCO INC	4
MINE SAFETY APPL CO INC	1
MISSION HEALTH SYSTEM INC	16
MISSION ST JOSEPH HEALTH SYS	1
MISSION ST JOSEPH HOSPITAL	1
MITCHELL CO BD OF ED	2
MMIC-TL INC PARTNERS LLC	1
MOEN INC	4
MONTGOMERY COUNTY OF	2
MOORE COUNTY	3
MOORE COUNTY SCHOOLS	18
MOORE MACHINE COMPANY	5
MOORE'S INLET LIMITED PRTRNSHP	1
MOUNTAIN PRODUCTS BRIDGEWE LLC	1
MOUNTAIRE FARMS INC	21
MT OLIVE PICKLE CO	11
MULE CITY SPEC FEED INC	2

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MURPHY BROWN LLC	1
N C TELEVISION INC	1
N RALEIGH CHRISTIAN ACADEMY	2
N RALEIGH MEDICAL REALTY LLC	1
NASH BRICK CO INC	2
NASH COMMUNITY COLLEGE	8
NASH COUNTY	1
NASH COUNTY MANAGERS OFFICE	1
NASH ROCKY MOUNT BD OF ED	23
NATIONAL FOAM INC	2
NATIONAL SPINNING CO INC	6
NATIONAL WIPER ALLIANCE INC	1
NATURAL BLEND VEG DEHYDR LLC	1
NATURES EARTH PELLETS INC LLC	3
NC AQUARIUM	3
NC DEPT OF AGRICULTURE	3
NC FARM BUREAU FEDERATION	1
NC STATE FAIRGROUNDS	5
NC STATE PORTS AUTH	3
NC STATE PORTS AUTHORITY	4
NC STATE UNIVERSITY	146
NC STATE VETERANS HOME	2
NC WILDLIFE COMMISSION	1
NESBITT ASHEVILLE VENTURE LLC	2
NEW BELGIUM BREWING CO INC	1
NEW HANOVER CO BD OF ED	47
NEW HANOVER REGIONAL MED CTR	32
NG PURVIS FARMS INC	3
NHC PROPERTY MANAGEMENT	3
NOBLE OIL SERVICES	4
NOMACO INC	3
NOMACORC LLC	3
NORCRAFT COMPANIES LP	2
NORTH CAROLINA MFG CO INC	1
NORTH HILLS TOWER II LLC	3
NOVARTIS VACCINES & DIAGNOSTIC	1
NOVIPAX LLC	4
NOVO NORDISK PHARMACUTICAL INC	4
NOVOZYMES NORTH AMERICA INC	6
NYPRO ASHEVILLE INC	2
OFFICE OF INFOR TECH SVCS	4
OHM HOTELS RTP, LLC	1
OLDCASTLE LAWN & GARDEN INC	5
OLIVER RUBBER COMPANY	2
OMNI GROVE PARK LLC	21
ONSLow CO BD OF COMM	2

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North Carolina (excludes outdoor lighting)

ONslow CO BD OF EDUC	4
ONslow MEMORIAL HOSPITAL AUTH	2
ONslow WATER AND SEWER AUTH	5
ORACLE AMERICA, INC	2
OWENS & MINOR	1
OXFORD CITY OF	1
P G & C INC	2
PACTIV LLC	1
PAK A SAK FOOD STORES	1
PALLET EXPRESS, INC	5
PALZIV NORTH AMERICA INC	1
PARADIGM ANALYTICAL	1
PARK COMMUNICATIONS LLC	2
PARK N SHOP FOOD MART INC	6
PARKDALE AMERICA LLC	2
PARRISH & RONE INC	1
PCS PHOSPHATE CO INC	3
PEAK 10 INC	3
PENDER CO BD OF ED	17
PENDER MEMORIAL HOSPITAL INC	7
PENICK VILLAGE IN	2
PENICK VILLAGE INC	10
PENTAIR VALVES &CONTROLS US LP	3
PENTAIR WATER POOL AND SPA INC	10
PEPSI BOTTLING VENTURES LLC	4
PEPSI COLA BOTTLING CO	1
PEPSI COLA OF WILMINGTON	2
PERDUE FARMS INC	23
PERSON CO BD OF ED	2
PETROLEUM TANK CO	2
PFIZER INC	10
PFRS CROSSROADS CORP	4
PH HS LLC	1
PHOENIX LTD PARTNERSHIP	1
PIEDMONT NATURAL GAS	1
PIEDMONT NATURAL GAS CO	1
PILGRIMS PRIDE CORPORATION	6
PILKINGTON	1
PINEHURST LLC	84
PIONEER HI BRED INC	4
PLASTEK IND INC (PA) NC	3
PLASTICARD PRODUCTS INC	1
POLYMER GROUP INC	3
POLYZEN INC	1
PORT CITY COMMUNITY CHURCH	3
PR II WADE PARK LLC	3

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PRAXAIR INC	2
PRC NC LLC	2
PRECISION HYDRAULIC CYL INC	1
PRECISIONAIRE INC	3
PREMIERE FIBERS INC	4
PRESTAGE AGENERGY OF NC LLC	2
PRESTAGE FARMS INC	36
PRESTIGE FABRICATORS INC	3
PRESTON TAYLOR FOOD INC	1
PRINTLOGIC LLC	2
PRO PALLET SOUTH INC	1
PSNC ENERGY	1
PUBLIC SCHOOLS OF ROBESON CO	1
PUBLIX NORTH CAROLINA LP	3
QUALCOMM INC	1
QUALITY CHEMICAL LABORATRS LLC	2
QUALITY TEXTILE SERVICES INC	1
RAEFORD CITY OF	1
RAILROAD FRICTION PRODUCT CORP	4
RALEIGH CITY OF	6
RALEIGH FITNESS & WELLNESS	1
RALEIGH HOTEL OPERATOR INC	1
RALEIGH PRECISION PRODUCTS INC	1
RANDOLPH COUNTY	9
RAVEN ANTENNA SYSTEMS INC	1
RC CREATIONS, LLC	2
RD AMERICA LLC	1
RDU AIRPORT AUTHORITY	6
RED HAT INC	1
RED WOLF COMPANY, LLC	1
REDDY ICE CORP	2
REGAL CINEMAS	3
REGAL ENTERTAINMENT GROUP	4
RESINART EAST INC	1
REVLON CONSUMER PRODUCTS CORP	3
REX HEALTH CARE INC	14
REX MOB PARTNERS LLC	1
RHEINFELDEN AMERICAS LLC	1
RICHMOND COUNTY	1
RICHMOND COUNTY BOARD OF COMM	2
RICHMOND COUNTY SCHOOLS	2
RICHMOND SPECIALTY YARNS LLC	2
RIDGECREST CONFERENCE CENTER	1
ROBESON COUNTY DSS	1
ROCKINGHAM CITY OF	1
RODECO CO	2

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ROSTRA PRECISION CT INC	2
ROYAL TEXTILE MILLS INC	1
RUBY'S PROPERTIES II LLC	1
S AND J HOLDINGS LLC	1
S B SMITH & SON INC	3
S B SMITH & SON INC	1
S T WOOTEN CORPORATION	17
SAGE & EVANS INC	1
SAMPSON REGIONAL MEDICAL CTR	3
SANDHILLS COMM COLLEGE	12
SANFORD CITY OF	4
SANFORD LEE CO BD OF ED	39
SANFORD MILLING CO INC	2
SAPONA MFG CO INC	2
SAS INSTITUTE INC	43
SCHINDLER ELEVATOR CORP	2
SCOTLAND CONTAINER INC	2
SCOTLAND MANUFACTURING	1
SEARS ROEBUCK & CO	4
SENTRY FURNITURE LLC	1
SEPARATION TECHNOLOGIES LLC	2
SIGMA PHI EPSILON	1
SILAR LABORATORIES, INC.	1
SILER CITY TOWN OF	2
SILVER LINE PLASTICS CORP	11
SINCLAIR BROADCAST GROUP INC	1
SIX FORKS OFFICE, LLC	3
SKYLAND BEER DIST	3
SMITHFIELD PACKING CO INC	6
SMOKY MOUNTAIN MACHINING INC	3
SNEEDEN, NORMAN E	2
SNUG HARBOR MANAGEMENT LLC	1
SONOCO PRODUCTS CO	1
SOUTH RIVER EMC COMM ASST CORP	1
SOUTHCO INC OF NC	1
SOUTHEASTERN REGIONAL MED CTR	4
SOUTHERN BAG CORP	1
SOUTHERN FABRICATORS INC	4
SOUTHERN PINES TOWN OF	2
SOUTHERN PRODUCE DIST INC	8
SOUTHERN PRODUCTS & SILICA CO	6
SOUTHERN STATES CHEMICAL INC	3
SPANSET INC	1
SPECGX LLC	13
SPIRIT AEROSYSTEMS INC	2
SPORTS FACTORY LLC	3

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SPX FLOW TECHNOLOGY SYSTEMS	1
ST ANDREWS PRESBYTERIAN COLL	1
ST. DAVIDS SCHOOL	7
STAN JOHNSON & ASSOCIATES LLC	2
STANADYNE INC	2
STARPET INC	6
STATIC CONTROL COMP INC	11
STEEL & PIPE CORP	2
STEVEN ROBERTS ORIGINAL	2
STI POLYMER INC	1
SUN LIFE ASSURANCE CO OF CANAD	1
SUNBRIDGE REGENCY NC INC	2
SUNRISE SENIOR LIVING	1
SUPERIOR MODULAR PRODUCT INC	1
SUPERIOR PLASTICS EXTRUSION	1
SUPERTEX, INC	4
SURGERY CENTER OF PINEHURST	1
SURTRONICS	2
SVT VENTURES LP	10
SYRACUSE PLASTIC OF NC INC	1
TALBERT BUILDING SUPPLY INC	3
TARGET STORES	18
TCDC PARTNERSHIP, LLC	2
TE CONNECTIVITY CORPORATION	2
THE ATRIUM AT BLUE RIDGE, LLC	1
THE BILTMORE COMPANY	2
THE CHEESECAKE FACTORY	1
THE CHEMOURS COMPANY FC, LLC	7
THE COUNTRY CLUB OF NC INC	1
THE CYPRESS OF RALEIGH	7
THE HARRELSON BUILDING INC	1
THE NEWS REPORTER CO INC	1
THE QUARTZ CORP USA	17
THE UMSTEAD	1
THEO DAVIS SONS INC	1
THERMAL METAL TREATING INC	2
THIRD & GRACE LLC	2
THIRD STREET SCREEN PRNTNGINC	2
TIERPOINT LLC	3
TIPPER TIE INC	3
TOP TOBACCO CO	3
TOWN SQUARE WEST LLC	7
TRAM LUMBER LLC	3
TRAMWAY VENEERS INC	1
TRANS CAROLINA PRODUCTS LLC	1
TREEHOUSE FOODS INC	6

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TRIANGLE AQUATIC CENTER	1
TRIANGLE BRICK CO	6
TRIANGLE TOWN CENTER, LLC	22
TRINITY MANUFACTURING INC	5
TROPHY ON MAYWOOD LLC	1
TROY LUMBER CO	17
TROY POLYMER INC	1
TUCSON CARY, LLC	1
TURN BULL LUMBER COMPANY	1
TYCO ELECTRONICS	1
TYSON FOODS INC	3
U S REIF 4700 FALLS NC LLC	1
UCHIYAMA MANUF AMERICA LLC	3
UNC AT ASHEVILLE	8
UNC INSTITUTE OF MARINE SCI	3
UNC PUBLIC TV OF NC	1
UNCW	26
UNILEVER MANUFACTURING US INC	6
UNILIN NORTH AMERICA LLC	4
UNILIN US MDF	3
UNIMIN CORPORATION	49
UNISON ENGINE COMPONENTS INC	3
UNITED STATES COLD STORAGE INC	6
UNIVERSAL HEALTHCARE N RAL INC	1
UNIVERSAL LEAF NORTH AMERICA	2
UNIVERSITY OF NC AT PEMBROKE	16
UNIVERSITY RESEARCH UNIT	1
US ARMY	1
US ARMY FORT BRAGG	3
US DEPT OF AIR FORCE	1
US FLUE CURED TOBACCO GROWERS	1
US MARINE CORP	1
US MARINE CORPS	1
US POST OFFICE	3
US VETERANS ADMIN HOSPITAL	3
USS NC BATTLESHIP COMM	2
UWHARRIE FRAME MFG LLC	2
UWHARRIE LUMBER CO	3
VALLEY PROTEINS INC	15
VANGUARD CULINARY GROUP LTD	1
VENEER TECHNOLOGIES INC	7
VENTURE CENTER LLC	4
VERTEX RAILCAR CORPORATION	2
VICTAULIC CO OF AMERICA	2
VILLARI BROS FOODS LLC	1
VONDREHLE CORP	6

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VULCAN CONST MATERIALS LP	21
W N WILDER CO INC	1
WADESBORO IGA INC	1
WAKE CO HOSP SYSTEM INC	4
WAKE COUNTY BOARD OF EDUCATION	207
WAKE COUNTY GENERAL SERVICES	16
WAKE STONE CORP	17
WAKEMED PROPERTY SERVICES	13
WAL MART PDC #6091	4
WALMART STORES INC	76
WARP TECHNOLOGIES INC	1
WARREN CO BD OF ED	5
WAYNE BAILEY INC	2
WAYNE CO PUBLIC SCHOOLS	1
WAYNE COMMUNITY COLLEGE	1
WAYNE COUNTY	4
WAYNE MEMORIAL HOSPITAL INC	9
WAYNESVILLE TOWN OF	1
WELLS FARGO BANK NA	2
WEST CRAVEN HIGH SCHOOL	3
WEST CRAVEN MIDDLE SCHOOL	1
WEST FRASER INC	5
WESTERN NC HEALTHCARE INNO III	1
WESTERN NC HEALTHCARE INNO LLC	1
WEYERHAEUSER NR COMPANY	5
WHITEVILLE FABRICS LLC	4
WILLIAM BARNET & SON INC	5
WILLIAMS PROPERTY GROUP INC	1
WILMINGTON CITY OF	2
WILMINGTON HOTEL ASSOC CORP	2
WILMINGTON INTL AIRPORT	2
WILMINGTON MACHINERY INC	1
WILSONART INTERNATIONAL	4
WNC PALLET & FOREST PRDCTS INC	5
WRDC LLC	1
WRIGHT FOODS INC	2
WRIGHT MACHINE & TOOL CO INC	1
YALE INDUSTRIAL PRODUCTS INC	1
YAMCO LLC	1
YMCA OF WESTERN NORTH CAROLINA	2
Total	4,099

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Customer's Name	EE
1922 SKIBO CROSS CREEK LLC	1
3141 PROPERTIES LLC	1
333 VENTURES LLC	2
3700 GLENWOOD LLC	1
4208 SIX FORKS ROAD LLC	2
5400 RALEIGH CRABTREE KKC	1
81ST REGIONAL SUPPT COMMAND	1
A STUCKI COMPANY	1
ADVANCED PLASTIC EXTRUSION LLC	2
AG PROVISION LLC	3
AIR SYSTEM COMPONENTS INC	1
AJINOMOTO USA INC	3
ALAMAC AMERICAN KNITS LLC	2
ALBANY ROAD-WYCLIFF LLC	2
ALCAMI CAROLINAS CORPORATION	6
ALL TRUSS LLC	1
ALLEN HARIM FOODS LLC	1
ALPLA INC	1
AMCOR FLEXIBLES INC	1
AMCOR RIGID PLASTICS USA LLC	1
AMERICAN AIRLINES GROUP INC	1
AMERICAN GROWLER INC	2
AMERICAN SKIN COMPANY INC	1
AMERICAN TEL & TEL CO	1
AMERICHEM INC	3
AMISUB OF NORTH CAROLINA INC	1
ANGUS BARN LTD	6
ANSON COUNTY WATER DEPT	1
ANSON COUNTY WTR SYSTEM	1
ANSON MACHINE WORKS	4
APAC TENNESSEE INC	3
APEX OIL CO INC/TERMINALS DIVI	5
APEX TOOL GROUP LLC	2
ARAUCO PANELS USA LLC	4
ARCADIA DAIRY FARMS INC	2
ARCHER DANIELS MIDLAND CO	1
ARCLIN USA INC	6
ARDAGH GLASS INC	4
ARDEN CORPORATION	4
ASHEBORO CITY OF	3
ASHEBORO ELASTICS CORP	3
ASHEVILLE BUNCOMBE TECH	22
ASHEVILLE CITY OF	8
ASHEVILLE DYING AND FINISHING	2

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ASHEVILLE WASTE PAPER CO INC	5
ASTON PARK HEALTH CARE CENTER	1
AT & T MOBILITY	3
ATEX TECHNOLOGIES INC	2
ATLANTIC CORP OF WILM INC	7
ATLANTIC VENEER CORP	3
AUSTIN QUALITY FOODS INC	2
AUX KITCHEN LLC	1
B J CONSEW INC	1
B V HEDRICK GRAVEL & SAND CO	9
BAILEY FARMS INC	1
BALCRANK CORPORATION	1
BALDOR ELECTRIC CO	1
BARHAM FARMS INC	1
BARNES FARMING CORPORATION	8
BARTLETT MILLING CO	2
BB&T	3
BELK INC	7
BELLSOUTH TELECOMMUNICATIONS	12
BELT CONCEPTS OF AMERICA	1
BI-LO LLC	2
BILTMORE BAPTIST CHURCH	1
BILTMORE FARMS HOTEL GRP LLC	3
BILTMORE FOREST CNTRY CLUB INC	5
BJ'S WHOLESALE CLUB INC	8
BJT, INC	1
BLACK MTN CENTER	6
BLUE RIDGE PAPER PRODUCTS INC	29
BOISE CASCADE WOOD PRDCTS LLC	7
BOLIVIA LUMBER CO LLC	2
BONSAL AMERICAN INC	1
BORG WARNER TURBO SYSTEMS INC	2
BORGWARNER THERMAL SYSTEMS INC	1
BP SOLUTIONS GROUP INC	2
BRAIFORM ENTERPRISES INC	1
BRIER CREEK OFF #6 LLC	1
BRIER CREEK OFFICE # 1 LLC	1
BRIER CREEK OFFICE # 2 LLC	1
BRIER CREEK OFFICE # 5 LLC	1
BRIER CREEK OFFICE #4 LLC	1
BRM PARTNERS II LLC	1
BRM PARTNERS LLC	1
BROMLEY PLASTICS CORPORATION	1
BROOKS HOWELL RETIREMENT HOME	3
BROOKWOOD FARMS INC	5

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BRUNSWICK CO	1
BRUNSWICK CO UTILITIES	1
BRUNSWICK COUNTY SCHOOLS	18
BSH HOME APPLIANCES	6
BURCAM CAPITAL II LLC	1
BURLINGTON INDUSTRIES LLC	2
BUSINESS TELECOM INC	2
BUTLER MFG CO	5
CAMP DAVIS INDUSTRIAL PARK INC	6
CAMPBELL SOUP SUPPLY CO LLC	4
CAMPBELL UNIVERSITY	40
CAN AM SOUTH LLC	2
CANTON SAWMILL LLC	7
CAPE FEAR ACADEMY	2
CAPE FEAR COMMUNITY COLLEGE	13
CAPE FEAR COUNTRY CLUB	7
CAPE FEAR PUBLIC UTILITY AUTH	6
CAPEL INC	6
CAPITAL FUNDS INC	3
CAPITOL BROADCASTING CO	13
CARGILL INC	1
CARLIE C OPERATION CENTER INC	8
CAROLINA APPAREL GROUP INC	1
CAROLINA BAY OF WILMINGTON LLC	5
CAROLINA BEACH TOWN OF	1
CAROLINA COUNTRY CLUB	3
CAROLINA CRATE & PALLET INC	3
CAROLINA CUSTOM FINISHING LLC	1
CAROLINA DAIRY LLC	2
CAROLINA EGG CO INC	1
CAROLINA ELECTRONIC ASSEMBLERS	1
CAROLINA ICE INC	4
CAROLINA INNOVATIVE FOOD INGRE	3
CAROLINA PRESERVE BY DEL WEBB	13
CAROLINA TECHNICAL PLASTICS	3
CARQUEST OF SRONCE	2
CARTERET COMMUNITY COLLEGE	18
CARTERET GENERAL HOSPITAL	3
CARY TOWN OF	13
CARY VENTURE LTD PRTRNSHIP	14
CASCADES HOLDING US INC	4
CASCADES MOULDED PULP	1
CASE FARMS	8
CATALENT PHARMA SOLUTIONS LLC	17
CATERPILLAR INC	9

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CECIL BUDD TIRE COMPANY LLC	3
CERTAINEED CORPORATION	4
CERTAINEED GYPSUM NC INC	3
CERTAINEED INC	1
CFVH - BLADEN HEALTHCARE	11
CHATHAM CO	1
CHATHAM CO BOARD OF EDUCATION	12
CHATHAM HOSPITAL INC	3
CHERRY HOSPITAL	21
CITY OF HENDERSON	2
CITY OF RALEIGH PARKS REC DEPT	11
CLIFFORD W ESTES CO INC	3
CLINTON CITY BD OF ED	8
CLINTON CITY OF	3
CLOVERLEAF COLD STORAGE CO	1
CMC CORPORATION	4
CMS FOOD SOLUTIONS INC	1
COAST LAMP MANUFACTORY	2
COASTAL CAR COMM COLL RES BLD	1
COASTAL CAROLINA COMM COLLEGE	13
COASTAL FEDERAL CREDIT UNION	1
COATINGS AND ADHESIVES CORP	7
COBB VANTRESS INC	1
COKER FEED MILL INC	1
COLONIAL CARTON CO	1
COLUMBUS COUNTY SCHOOLS	11
COLUMBUS REG HEALTHCARE SYSTEM	3
COMFORT TECH INC	1
COMPUTER DESIGN INC	1
CONESTOGA WOOD SPECIALTIES	2
CONSOLIDATED METCO INC	2
CONVEYOR TECHNOLOGIES OF SANFO	4
COOPER-STANDARD AUTOMOTIVE INC	2
CORE-MARK DISTRIBUTORS INC	2
CORNELIA NIXON DAVIS INC	5
CORNELIA NIXON DAVIS NURSING	1
CORNING INC	3
CORTEK	4
COSTCO	4
COTTLE STRAWBERRY NURSERY INC	8
COTY US LLC	5
COUNCIL TOOL CO INC	4
COUNTRY CLUB OF LANDFALL	17
COUNTY OF WAYNE	1
COURTYARD BY MARRIOTT	3

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North Carolina (excludes outdoor lighting)

CPI USA NORTH CAROLINA LLC	1
CRABTREE PARTNERS LLC	1
CRAVEN CO BD OF ED	14
CRAVEN CO JUSTICE CENTER	2
CRAWFORD KNITTING INC	1
CROP PRODUCTION SERVICES INC	1
CROSS CANVAS COMPANY INC	3
CRUMPLER PLASTIC PIPE INC	4
CSX TRANSPORTATION	2
CTC FURNITURE DISTRIBUTORS INC	1
DAK AMERICAS LLC	3
DALIAH PLASTICS CORP	4
DATA CHAMBERS LLC	1
DAY INTERNATIONAL INC	2
DCI INC	1
DEERFIELD EPISCOPAL RETIREMENT	18
DENNISON, WYNDHAM V	1
DEPT OF HEALTH & HUMAN RESOURC	34
DESCO INDUSTRIES INC	4
DEVIL DOG MFG CO INC	2
DEWEY DEVELOPMENT INC	2
DH RESEARCH TRIANGLE, LLC	1
DIXIE PIPELINE COMPANY	4
DRPFC I LLC	5
DUKE UNIV HEALTH SYSTEM INC	26
DUKE UNIVERSITY MARINE LAB	1
DUNN CITY OF	2
DUPLIN GENERAL HOSP	3
DUPONT E I DE NEMRS	10
DYNAPAR CORP	3
E CAROLINA METAL TREATING INC	2
EAGLE SPORTSWEAR LLC	4
EARTH FARE INC	3
EATON CORPORATION	6
EDWARDS BROTHERS INC	2
EDWARDS WOOD PRODUCTS INC	6
ELAND INDUSTRIES INC	1
ELASTIC THERAPY INC	3
ELECTRO SWITCH CORPORATION	1
ELEMENTIS CHROMIUM INC	4
ELKAY SOUTHERN PLANT 2	1
ELKINS SAWMILL INC	3
EMC CORPORATION	4
EMERGEOR THO PA	1
ENERGIZER BATTERY MANUFACTURIN	1

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

ENTERCO LLC	1
ENVIVA PELLETS SAMPSON LLC	1
ENVIVA PORT OF WILMINGTON, LLC	4
EOS ACQUISITION I LLC	1
ERICO INC	1
EVERGREEN PACKAGING INC	4
EXPRESS FOOD GROUP LLC	1
EXTREME NETWORKS INC	1
FAYETTEVILLE TECH COMM COLL	2
FCC (NC) LLC	1
FENNER DRIVES	1
FIRST BAPTIST CH OF ASHE INC	1
FIRST CITIZENS BANK	1
FIRST CITIZENS BANK & TRUST CO	5
FIRSTHEALTH FAMILY CARE CTR	2
FIRSTHEALTH OF THE CAROLINAS	39
FLETCHER HOSPITALITY, LLC	1
FLOCO FOODS INC	2
FLOWSERVE US INC	1
FLYING J INC	1
FOOD LION LLC	180
FORTRON INDUSTRIES LLC	1
FOUNTAIN POWER BOATS INC	5
FOUR SEASONS MGNT SVCS INC	1
FOUR SEASONS MNGMT SVCS INC	6
FRANK THEATRES PARKSIDE COMMON	1
FRANKLIN BAKING COMPANY LLC	7
FRANKLIN COUNTY SCHOOLS	5
FRATERNITY/SORORITY LIFE	8
FRESH BUY INC	2
FRONTIER SPINNING MILLS	1
FUJIFILM DIOSYNTH BIOTEC USA	1
FUQUAY-VARINA TOWN OF	1
FURNITURE FAIR INC	3
GALE FORCE SPORTS & ENTERTAIN	13
GALLOWAY RIDGE INC	17
GENERAL ELECTRIC CO	2
GENERAL INDUSTRIES INC	5
GENERAL PARTS DIST LLC	1
GENERAL SHALE BRICK INC	8
GENERAL TIMBER INC	4
GEORGIA PACIFIC CORP	2
GEORGIA PACIFIC WOOD PROD LLC	1
GH CRESCENT GREEN INC	1
GIBRALTAR PACKAGING GROUP INC	4

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

GILDAN YARNS LLC	1
GIVENS ESTATES INC	12
GIVENS HIGHLAND FARMS LLC	11
GKN DRIVELINE N AMERICA INC	4
GLAXOSMITHKLINE	6
GLEN RAVEN MILLS INC	1
GLENWOOD ASSET MANAGEMENT LLC	1
GLENWOOD HOSPITALITY ASSOC LLC	1
GLENWOOD PLACE VENTURES LLC	1
GLOBAL PACKAGING INC	1
GOLDSBORO CITY OF	2
GOLDSBORO HOUSING AUTHORITY	3
GOLDSBORO MILLING CO	13
GRANITE FALLS SWIM/ATHL CLUB	2
GREATER ASHEVILLE REG AIRPORT	1
GREDE II LLC	3
GRIFOLS THERAPEUTICS INC	6
H & H FURNITURE MFG INC	3
HALIFAX MEDIA HOLDINGS LLC	4
HANESBRANDS INC	2
HANSON AGGREGATES SE LLC	33
HANSON BRICK EAST LLC	1
HAPPY JACK INC	1
HARDEN ROAD ASSOCIATES	1
HARGER LIGHTNING & GROUNDING	1
HARNETT CO BD OF ED	24
HARNETT CO PUBLIC UTIL	6
HARNETT CO SHERIFF OFFICE	1
HARNETT HEALTH SYSTEM INC	19
HARRIS PRINTING CO INC	3
HARRIS TEETER INC	31
HASTY PLYWOOD CO	3
HAVELOCK CITY OF	1
HAYWOOD COUNTY LOCAL GOV	1
HAYWOOD REGIONAL MEDICAL CNTR	6
HCL AMERICA INC	1
HEATMASTERS LLC	3
HERAEUS QUARTZTECH AMERICA LLC	1
HEXION INC	2
HIGHWOODS JOINT VENTURE	1
HIGHWOODS REALTY LP	27
HJH ASSOCIATES	1
HOG SLAT INC	3
HOLLY SPRINGS TOWN OF	1
HOME CARE PRODUCTS LLC	1

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

HOME DEPOT USA INC	9
HOPE COMMUNITY CHURH OF NC INC	2
HORNWOOD INC	3
HOUSE OF RAEFORD FARMS INC	11
HOUSING AUTH CITY OF RALEIGH	2
HUGHES FURNITURE INDUSTRIE INC	1
HULSING HOTELS INC	13
HUVEPHARMA INC	1
HYDRO TUBE ENTERPRISES INC	1
IAC TROY LLC	1
IMMEDION LLC	3
INGERSOLL-RAND	1
INGLES MARKETS INC	86
INN ON BILTMORE ESTATE INC	1
INNOVATIVE LAMINATIONS CO	1
INTERNATIONAL BROADCAST BUREAU	1
INTERNATIONAL PAPER COMPANY	6
INVISTA S A R L	1
J & D WOOD INC	3
J A MCNEILL & SONS	1
J C HOWARD FARMS LLC	7
J P TAYLOR COMPANY LLC	4
J&J SNACK FOODS HANDHELDS CORP	2
JACKSONVILLE CITY OF	4
JACOB HOLM IND AMERICA INC	1
JOHN DEERE TURF CARE INC	3
JOHN O STEVENSON INC.	2
JOHNSTON CO BOARD OF EDUCATION	80
JOHNSTON CO PUBLIC UTILITIES	2
JOHNSTON MEM HOSPITAL AUTH	1
JORDAN LUMBER & SUPPLY INC	15
JOVC FOOD CORP INC	1
K MART CORP	8
KAYSER-ROTH HOSIERY INC	4
KENNAMETAL INC	2
KESSLER ASHEVILLE LLC	1
K-FLEX USA LLC	3
KILELEE, KATHRYN	1
KINGS HOLDINGS 4,LLC	3
KINGSLAND REALTY LLC	1
KLAUSSNER FURN IND INC	24
KOOPMAN DAIRIES INC	4
KORDSA INC	1
KROGER COMPANY	9
KRYOCAL, LLC	3

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

LAKE JUNALUSKA ASSEMBLY INC	51
LANCER INC	4
LAZAR INDUSTRIES LLC	4
LEAR CORPORATION	2
LEE BRICK & TILE COMPANY	7
LEE COUNTY COURT HOUSE	1
LEE IRON & METAL CO	5
LENOVO INTERNATIONAL	1
LEWIS SAUSAGE CO INC	1
LIBERTY COMMONS WARREN CO LLC	1
LIBERTY HEALTHCARE SERVICES	3
LIFEWAY CHRISTIAN RESOURCES OF	43
LINAMAR NORTH CAROLINA INC	4
LINPRINT CO	1
LOCAL GOVERNMENT FED CREDIT UN	1
LORD CORPORATION	2
LOUISBURG COLLEGE INC	12
LOUISE WELLS CAMERON ART MUSEU	4
LOUISIANA PACIFIC CORP	3
LOW & BONAR INC	1
LOWER CAPE FEAR WATER & SEWER	1
LOWES COMPANIES INC	25
LOWES FOODS LLC	26
LUMBERTON CELLULOSE LLC	4
M ADLER'S SON, INC	1
MAGNETI MARELLI USA INC	4
MANHATTEN AMERICAN	1
MANOR CARE OF PINEHURST INC	1
MANUFACTURING METHODS, LLC	1
MARS PETCARE US, INC	7
MARTIN MARIETTA MATERIALS INC	58
MAS US HOLDINGS INC	6
MATTHEWS & MATTHEWS INC	1
MAY FURNITURE INC	3
MCDOWELL LUMBER CO INC	11
MCGILL ENVIRONMENTAL SYS OF NC	1
MCLAMBS ABATTOIR AND MEATS INC	1
MCMURRAY FABRICS INC	7
MEASUREMENTS GROUP INC	4
MEDICAL ACTION INDUSTRIES INC	1
MEDICAL SPECIALTIES INC	1
MEMORIAL MISSION HOSPITAL INC	1
MEREDITH COLLEGE	6
MERTEK SOLUTIONS INC	1
METAL-CAD & STEEL FRAMING	1

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

METCHEM, LLC	1
METHODIST UNIVERSITY	3
METROPOLITAN SEWAGE DISTRICT	5
MHG ASHEVILLE AL LP	1
MICROSPACE COMM CORP	1
MINE SAFETY APPL CO INC	1
MISSION HEALTH SYSTEM INC	16
MISSION ST JOSEPH HEALTH SYS	1
MISSION ST JOSEPH HOSPITAL	1
MITCHELL CO BD OF ED	2
MMIC-TL INC PARTNERS LLC	1
MOEN INC	4
MONTGOMERY COUNTY OF	2
MOORE COUNTY	3
MOORE COUNTY SCHOOLS	18
MOORE MACHINE COMPANY	5
MOORE'S INLET LIMITED PRTRNSHP	1
MOUNTAIN PRODUCTS BRIDGEWE LLC	1
MOUNTAIRE FARMS INC	21
MT OLIVE PICKLE CO	17
MULE CITY SPEC FEED INC	2
MURPHY BROWN LLC	1
N C TELEVISION INC	1
N RALEIGH MEDICAL REALTY LLC	1
NASH BRICK CO INC	2
NASH COMMUNITY COLLEGE	8
NASH COUNTY	1
NASH COUNTY MANAGERS OFFICE	1
NASH ROCKY MOUNT BD OF ED	23
NATIONAL FOAM INC	2
NATIONAL SPINNING CO INC	5
NATIONAL WIPER ALLIANCE INC	1
NATURAL BLEND VEG DEHYDR LLC	1
NATURES EARTH PELLETS INC LLC	3
NC DEPT OF AGRICULTURE	3
NC FARM BUREAU FEDERATION	1
NC STATE FAIRGROUNDS	5
NC STATE PORTS AUTH	12
NC STATE PORTS AUTHORITY	17
NC STATE UNIVERSITY	146
NC STATE VETERANS HOME	2
NC WILDLIFE COMMISSION	1
NESBITT ASHEVILLE VENTURE LLC	2
NEW BELGIUM BREWING CO INC	1
NEW HANOVER CO BD OF ED	20

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

NEW HANOVER REGIONAL MED CTR	32
NG PURVIS FARMS INC	3
NHC PROPERTY MANAGEMENT	1
NOBLE OIL SERVICES	4
NOMACO INC	3
NOMACORC LLC	3
NORCRAFT COMPANIES LP	2
NORTH CAROLINA MFG CO INC	1
NORTH HILLS TOWER II LLC	3
NOVARTIS VACCINES & DIAGNOSTIC	1
NOVIPAX LLC	4
NOVO NORDISK PHARMACUTICAL INC	4
NOVOZYMES NORTH AMERICA INC	6
NYPRO ASHEVILLE INC	2
OFFICE OF INFOR TECH SVCS	4
OHM HOTELS RTP, LLC	1
OLDCASTLE LAWN & GARDEN INC	5
OLIVER RUBBER COMPANY	2
OMNI GROVE PARK LLC	21
ONSLow CO BD OF COMM	2
ONSLow CO BD OF EDUC	4
ONSLow MEMORIAL HOSPITAL AUTH	2
ONSLow WATER AND SEWER AUTH	5
ORACLE AMERICA, INC	2
OWENS & MINOR	1
P G & C INC	2
PACTIV LLC	1
PAK A SAK FOOD STORES	1
PALLET EXPRESS, INC	4
PALZIV NORTH AMERICA INC	1
PARADIGM ANALYTICAL	1
PARK COMMUNICATIONS LLC	2
PARK N SHOP FOOD MART INC	6
PARKDALE AMERICA LLC	2
PARRISH & RONE INC	1
PCS PHOSPHATE CO INC	3
PEAK 10 INC	3
PENDER CO BD OF ED	17
PENDER MEMORIAL HOSPITAL INC	7
PENICK VILLAGE IN	2
PENICK VILLAGE INC	10
PENTAIR VALVES & CONTROLS US LP	3
PENTAIR WATER POOL AND SPA INC	10
PEPSI BOTTLING VENTURES LLC	4
PEPSI COLA BOTTLING CO	1

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

PEPSI COLA OF WILMINGTON	2
PERDUE FARMS INC	23
PERSON CO BD OF ED	2
PETROLEUM TANK CO	2
PFIZER INC	12
PFRS CROSSROADS CORP	4
PH HS LLC	1
PHOENIX LTD PARTNERSHIP	1
PIEDMONT NATURAL GAS	1
PIEDMONT NATURAL GAS CO	1
PILGRIMS PRIDE CORPORATION	6
PILKINGTON	1
PINEHURST LLC	84
PINEHURST MEDICAL CLINIC	1
PIONEER HI BRED INC	4
PLASTEK IND INC (PA) NC	3
PLASTICARD PRODUCTS INC	1
POLYMER GROUP INC	3
POLYZEN INC	1
PORT CITY COMMUNITY CHURCH	3
PR II WADE PARK LLC	3
PRAXAIR INC	2
PRC NC LLC	2
PRECISION HYDRAULIC CYL INC	3
PRECISIONAIRE INC	3
PREMIERE FIBERS INC	4
PRESTAGE AGENERGY OF NC LLC	2
PRESTAGE FARMS INC	36
PRESTIGE FABRICATORS INC	3
PRESTON TAYLOR FOOD INC	1
PRINTLOGIC LLC	2
PRO PALLET SOUTH INC	1
PSNC ENERGY	1
PUBLIC SCHOOLS OF ROBESON CO	1
PUBLIX NORTH CAROLINA LP	2
QUAIL HAVEN OF PINEHURST LLC	1
QUALCOMM INC	1
QUALITY CHEMICAL LABORATRS LLC	2
QUALITY TEXTILE SERVICES INC	1
RAEFORD CITY OF	1
RAILROAD FRICTION PRODUCT CORP	4
RALEIGH CITY OF	6
RALEIGH FITNESS & WELLNESS	1
RALEIGH HOTEL OPERATOR INC	1
RANDOLPH COUNTY	9

DE Progress EE Opt-Out at December 31, 2017
North Carolina (excludes outdoor lighting)

RAVEN ANTENNA SYSTEMS INC	1
RC CREATIONS, LLC	2
RD AMERICA LLC	1
RDU AIRPORT AUTHORITY	6
RED HAT INC	1
RED WOLF COMPANY, LLC	1
REDDY ICE CORP	2
REGAL CINEMAS	2
REGAL ENTERTAINMENT GROUP	4
RESINART EAST INC	1
REVLON CONSUMER PRODUCTS CORP	3
REX HEALTH CARE INC	14
REX MOB PARTNERS LLC	1
RHEINFELDEN AMERICAS LLC	1
RICHMOND COUNTY	1
RICHMOND COUNTY BOARD OF COMM	2
RICHMOND COUNTY SCHOOLS	2
RICHMOND SPECIALTY YARNS LLC	2
RIDGECREST CONFERENCE CENTER	6
ROBESON COUNTY DSS	1
ROCKINGHAM CITY OF	1
RODECO CO	2
ROSTRA PRECISION CT INC	2
ROYAL TEXTILE MILLS INC	1
RUBY'S PROPERTIES II LLC	1
S AND J HOLDINGS LLC	1
S B SMITH & SON INC	3
S B SMITH & SON INC	1
S T & F PRECISION INC	1
S T WOOTEN CORPORATION	17
SAMPSON REGIONAL MEDICAL CTR	3
SANDERSON FARMS INC	1
SANDHILLS COMM COLLEGE	12
SANFORD CITY OF	4
SANFORD LEE CO BD OF ED	15
SANFORD MILLING CO INC	2
SAPONA MFG CO INC	2
SAS INSTITUTE INC	43
SCHINDLER ELEVATOR CORP	2
SCOTLAND CONTAINER INC	2
SCOTLAND MANUFACTURING	1
SEARS ROEBUCK & CO	4
SENTRY FURNITURE LLC	1
SEPARATION TECHNOLOGIES LLC	2
SIGMA PHI EPSILON	1

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

SILAR LABORATORIES, INC.	1
SILER CITY TOWN OF	2
SILVER LINE PLASTICS CORP	11
SINCLAIR BROADCAST GROUP INC	1
SIX FORKS OFFICE, LLC	3
SKYLAND BEER DIST	3
SMITHFIELD PACKING CO INC	6
SMOKY MOUNTAIN MACHINING INC	3
SNEEDEN, NORMAN E	2
SNUG HARBOR MANAGEMENT LLC	1
SONOCO PRODUCTS CO	1
SOUTH RIVER EMC COMM ASST CORP	1
SOUTHCO INC OF NC	1
SOUTHEASTERN CONTAINER INC	1
SOUTHEASTERN REGIONAL MED CTR	4
SOUTHERN BAG CORP	1
SOUTHERN FABRICATORS INC	4
SOUTHERN PINES TOWN OF	3
SOUTHERN PRODUCE DIST INC	8
SOUTHERN PRODUCTS & SILICA CO	6
SOUTHERN STATES CHEMICAL INC	3
SPANSET INC	1
SPECGX LLC	13
SPIRIT AEROSYSTEMS INC	2
SPORTS FACTORY LLC	3
SPX FLOW TECHNOLOGY SYSTEMS	1
ST ANDREWS PRESBYTERIAN COLL	1
ST. DAVIDS SCHOOL	7
STAN JOHNSON & ASSOCIATES LLC	2
STANADYNE INC	2
STARPET INC	6
STATIC CONTROL COMP INC	11
STEEL & PIPE CORP	2
STEVEN ROBERTS ORIGINAL	2
STI POLYMER INC	1
SUN LIFE ASSURANCE CO OF CANAD	1
SUNBRIDGE REGENCY NC INC	2
SUNRISE SENIOR LIVING	1
SUPERIOR MODULAR PRODUCT INC	1
SUPERIOR PLASTICS EXTRUSION	1
SUPERTEX, INC	4
SURGERY CENTER OF PINEHURST	1
SURGICAL CARE AFFILIATES	1
SURTRONICS	2
SVT VENTURES LP	10

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

Evans' Exhibit 9B

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SYRACUSE PLASTIC OF NC INC	1
TALBERT BUILDING SUPPLY INC	2
TARGET STORES	18
TCDC PARTNERSHIP, LLC	2
TE CONNECTIVITY CORPORATION	2
THE ATRIUM AT BLUE RIDGE, LLC	1
THE BILTMORE COMPANY	2
THE CHEESECAKE FACTORY	1
THE CHEMOURS COMPANY FC, LLC	7
THE COUNTRY CLUB OF NC INC	1
THE CYPRESS OF RALEIGH	7
THE HARRELSON BUILDING INC	1
THE NEWS REPORTER CO INC	1
THE QUARTZ CORP USA	17
THE UMSTEAD	1
THEO DAVIS SONS INC	1
THERMAL METAL TREATING INC	2
THIRD & GRACE LLC	2
THIRD STREET SCREEN PRNTNG INC	2
TIERPOINT LLC	3
TIPPER TIE INC	3
TOP TOBACCO CO	3
TOWN SQUARE WEST LLC	7
TRAM LUMBER LLC	3
TRAMWAY VENEERS INC	1
TRANS CAROLINA PRODUCTS LLC	1
TREEHOUSE FOODS INC	6
TRIANGLE AQUATIC CENTER	1
TRIANGLE BRICK CO	6
TRIANGLE TOWN CENTER, LLC	19
TRINITY MANUFACTURING INC	5
TROY LUMBER CO	17
TROY POLYMER INC	1
TUCSON CARY, LLC	1
TURN BULL LUMBER COMPANY	1
TYCO ELECTRONICS	1
TYSON FOODS INC	3
U S REIF 4700 FALLS NC LLC	1
UCHIYAMA MANUF AMERICA LLC	3
UNC AT ASHEVILLE	8
UNC INSTITUTE OF MARINE SCI	3
UNC PUBLIC TV OF NC	1
UNCW	29
UNILEVER MANUFACTURING US INC	6
UNILIN NORTH AMERICA LLC	4

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

UNILIN US MDF	3
UNIMIN CORPORATION	49
UNISON ENGINE COMPONENTS INC	3
UNITED STATES COLD STORAGE INC	6
UNIVERSAL HEALTHCARE N RAL INC	1
UNIVERSAL LEAF NORTH AMERICA	3
UNIVERSITY OF NC AT PEMBROKE	16
UNIVERSITY RESEARCH UNIT	1
US ARMY	1
US ARMY FORT BRAGG	3
US DEPT OF AIR FORCE	1
US FLUE CURED TOBACCO GROWERS	1
US MARINE CORP	1
US MARINE CORPS	1
US POST OFFICE	3
US VETERANS ADMIN HOSPITAL	3
USS NC BATTLESHIP COMM	2
UWHARRIE FRAME MFG LLC	2
UWHARRIE LUMBER CO	3
VALLEY PROTEINS INC	15
VANGUARD CULINARY GROUP LTD	1
VENEER TECHNOLOGIES INC	7
VENTURE CENTER LLC	4
VERTEX RAILCAR CORPORATION	2
VICTAULIC CO OF AMERICA	2
VONDREHLE CORP	6
VULCAN CONST MATERIALS LP	26
W N WILDER CO INC	1
WADESBORO IGA INC	1
WAKE CO HOSP SYSTEM INC	4
WAKE COUNTY BOARD OF EDUCATION	210
WAKE COUNTY GENERAL SERVICES	16
WAKE STONE CORP	17
WAKEMED PROPERTY SERVICES	13
WAL MART PDC #6091	4
WALMART STORES INC	76
WALNUT CREEK AMPHITHEATER	5
WARP TECHNOLOGIES INC	1
WARREN CO BD OF ED	5
WAYNE BAILEY INC	2
WAYNE CO PUBLIC SCHOOLS	1
WAYNE COMMUNITY COLLEGE	1
WAYNE COUNTY	4
WAYNE MEMORIAL HOSPITAL INC	9
WAYNESVILLE TOWN OF	1

DE Progress EE Opt-Out at December 31, 2017

North Carolina (excludes outdoor lighting)

WELLS FARGO BANK NA	2
WEST CRAVEN HIGH SCHOOL	3
WEST CRAVEN MIDDLE SCHOOL	1
WEST FRASER INC	5
WESTERN NC HEALTHCARE INNO III	1
WESTERN NC HEALTHCARE INNO LLC	1
WEYERHAEUSER NR COMPANY	5
WHITEVILLE FABRICS LLC	4
WILLIAM BARNET & SON INC	5
WILLIAMS PROPERTY GROUP INC	1
WILMINGTON CITY OF	2
WILMINGTON HOTEL ASSOC CORP	2
WILMINGTON ICE VENTURES LLC	1
WILMINGTON INTL AIRPORT	2
WILMINGTON MACHINERY INC	1
WILSONART INTERNATIONAL	4
WNC PALLET & FOREST PRDCTS INC	5
WRDC LLC	1
WRIGHT FOODS INC	2
WRIGHT MACHINE & TOOL CO INC	1
XELLIA PHARMACEUTICALS USA LLC	1
YALE INDUSTRIAL PRODUCTS INC	1
YAMCO LLC	1
YMCA OF WESTERN NORTH CAROLINA	2
Total	4,165

Duke Energy Progress, Inc
 Industrial and Commercial Accounts that Opted In (2017)

Customer's Name	EE	DSM	Grand Total
Elastic Therapy, Inc.	0	2	2
Elastic Therapy, Inc.	0	1	1
Vulcan Construction Materials	0	3	3
Carlie C Operation Center, Inc.	0	4	4
Carteret General Hospital	0	3	3
Target Stores	11	0	11
Bjt, Inc	1	0	1
Sandhills Comm College	9	0	9
Belk Inc	1	0	1
Campbell University	1	0	1
General Industries Inc	1	0	1
The Harrelson Building Inc	1	0	1
Jovc Food Corp Inc	1	0	1
P G & C Inc	1	0	1
H & H Furniture Mfg Inc	1	0	1
Ohm Hotels Rtp, Llc	1	0	1
Haywood Regional Medical Cntr	1	0	1
Steel & Pipe Corp	1	0	1
Total			44

1A

EM&V Activities

Planned Evaluation, Measurement and Verification (EM&V) Activities through the rate period (Dec. 31, 2018)

Evaluation is a term adopted by Duke Energy Progress (DEP), and refers generally to the systematic process of gathering information on program activities, quantifying energy and demand impacts, and reporting overall effectiveness of program efforts. Within evaluation, the activity of measurement and verification (M&V) refers to the collection and analysis of data at a participating facility/project. Together this is referred to as "EM&V."

Refer to the accompanying Evans Exhibit 11 chart for a schedule of process and impact evaluation analysis and reports that are currently scheduled.

Energy Efficiency Portfolio Evaluation

DEP has contracted with independent, third-party evaluation consultants to provide the appropriate EM&V support, including the development and implementation of an evaluation plan designed to measure the energy and demand impacts of the residential and non-residential energy efficiency programs.

Typical EM&V activities:

- Develop evaluation action plan
- Process evaluation interviews
- Collect program data
- Verify measure installation and performance through surveys and/or on-site visits
- Program database review
- Impact data analysis
- Reporting

The process evaluation provides unbiased information on past program performance, current implementation strategies and opportunities for future program improvements. Typically, the data collection for process evaluation consists of surveys with program management, implementation vendor(s), program partner(s), and participants; and, in some cases, non-participants. A statistically representative sample of participants will be selected for the analysis.

The impact evaluation provides energy and demand savings resulting from the program. Impact analysis may involve engineering analysis (formulas/algorithms), billing analysis, statistically adjusted engineering methods, and/or building simulation models, depending on the program and the nature of the impacts. Data collection may involve surveys and/or site visits. A statistically representative sample of participants is selected for the analysis. Duke Energy Progress intends to follow industry-accepted methodologies for all measurement and

verification activities, consistent with International Performance Measurement Verification Protocol (IPMVP) Options A, C or D depending on the measure.

The field of evaluation is constantly learning from ongoing data collection and analysis, and best practices for evaluation, measurement and verification continually evolve. As updated best practices are identified in the industry, DEP will consider these and revise evaluation plans as appropriate to provide accurate and cost-effective evaluation.

Demand Response Program Evaluation

DEP has contracted with independent, third-party evaluation consultants to provide an independent review of the evaluation plan designed to measure the demand impacts of the residential and non-residential demand response programs and the final results of that evaluation.

Typical EM&V activities:

- Collect program data
- Process evaluation interviews
- Verify operability and performance through on-site visits
- Collect interval data
- Program database review
- Benchmarking research
- Dispatch optimization modeling
- Impact data analysis
- Reporting

The process evaluation provides unbiased information on past program performance, current implementation strategies and opportunities for future improvements. Typically, the data collection for process evaluation consists of surveys with program management, implementation vendor(s), program partner(s), and participants; and, in some cases, non-participants. A statistically representative sample of participants will be selected for the analysis.

The impact evaluation provides demand savings resulting from the program. Impact analysis for EnergyWise involves a simulation model to calculate the duty cycle reduction, and then an overall load reduction. Impact analysis for CIG-DR involves statistical modeling of an M&V baseline load shape for a customer, then modeling the event period baseline load shape and comparing to the actual load curve of the customer during the event period.

The field of evaluation is constantly learning from ongoing data collection and analysis, and best practices for evaluation, measurement and verification continually evolve. As updated best practices are identified in the industry, DEP will consider these and revise evaluation plans as appropriate to provide accurate and cost-effective evaluation.

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DEP DSM/EE Programs - Anticipated EM&V Schedule

Program Name	MC Docket	SC Docket	Short name	2018 3rd Quarter	2018 4th Quarter	2019 1st Quarter	2019 2nd Quarter	2019 3rd Quarter	2019 4th Quarter
Commercial Demand Response	Docket No. E-2 Sub 953	Docket 2010-41-E	C&G DR				REP (2019)		
Distribution System Demand Response	Docket No. E-2 Sub 925	Docket 2009-190-E	DSDR						
Residential Smart Saver EE Products & Assessment (Prescriptive)	Docket No. E-2 Sub 938	Docket 2009-150-E	EEB					PROC/IMP	
Residential Smart Saver EE Products & Assessment (Custom)	Docket No. E-2 Sub 938	Docket 2009-190-E	EEB	REP (2019)					
EnergyWise	Docket No. E-2 Sub 927	Docket 2009-190-E	EW	REP (2019)		REP (2019)		REP (2019)	
EnergyWise for Business	Docket No. E-2 Sub 1066	Docket 2015-153-E	EWB	REP (2017)			REP (2019)		
Energy Efficiency Education	Docket No. E-2 Sub 1060	Docket 2014-420-E	K12	PROC/IMP	REP (2017/2018)				
Residential Energy Assessment	Docket No. E-2 Sub 1084	Docket 2016-82-E	REA	REP					
Lighting Retail	Docket No. E-2 Sub 950	Docket 2010-41-E	LP						
Multi-Family Energy Efficiency	Docket No. E-2 Sub 1055	Docket 2014-419-E	MF	PROC/IMP	REP				
Workplace Energy Report	Docket No. E-2 Sub 989	Docket 2011-190-E	MYHER			REP			
Neighborhood Energy Saver	Docket No. E-2 Sub 952	Docket 2009-190-E	NES			PROC	IMP	REP	
Residential New Construction	Docket No. E-2 Sub 1021	Docket 2015-237-E	RNC						
Residential Save Energy & Water Kit	Docket No. E-2 Sub 1085	Docket 2015-302-E	SEW			PROC/IMP	REP		
Small Business Energy Saver	Docket No. E-2 Sub 1022	Docket 2015-153-E	SBES	REP					

LEGEND
 PROC Process surveys/interviews (customers or other) for purposes of report that follows
 IMP Impact data collection (onsites, billing data) and analysis for purposes of report that follows
 REP Evaluation, Measurement & Verification Report

NOTE THESE DATES ARE SUBJECT TO CHANGE

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2016 EM&V Report for the Duke Energy Progress Commercial, Industrial, and Governmental Demand Response Automation (DRA) Program

Prepared for:

Duke Energy Progress

Prepared by:

Navigant Consulting, Inc.



June 19, 2017

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REPORT

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 **Nexant**

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Energy Efficiency Education in Schools Program Year 2015 - 2016 Evaluation Report

Submitted to Duke Energy Progress
in partnership with Research into Action

July 28th, 2017

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EM&V Report for the EnergyWise Home Program

Summer 2016

**Presented for:
Duke Energy Progress**

**Prepared by:
Navigant Consulting, Inc.**



June 5, 2017

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EM&V Report for the EnergyWise Home Demand Response Program

Winter PY2016/2017

Prepared for:

Duke Energy Progress



July 6, 2017

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EM&V Report for the EnergyWise Home Demand Response Program

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EM&V Report for the EnergyWise Home Demand Response Program

EVALUATION SUMMARY

The EnergyWise Home (EnergyWise) demand response (DR) program offers Duke Energy Progress (DEP) residential customers the opportunity to earn credits on their electricity bill by allowing DEP to remotely control air conditioners in the summer months (available system wide) and space- and water-heating equipment in winter (Western region customers only) during times of seasonal peak consumption. This report covers the evaluation, measurement, and verification (EM&V) activities for the winter of 2016-2017.

At the time of the single event called by Duke Energy during the winter of 2016-2017, there were over 8,390 participants with water heaters and over 4,060 participants with sets of heat pump auxiliary heat strips enrolled in the program.

As shown in Table 1, the estimated program-level impact for the EnergyWise winter Program Year (PY) 2016/2017 DR program was 7.13 MW. The system impact and per customer impact by device type are also presented in Table 1.

Table 1. Average Demand Reduction Impact by Technology: PY2016/2017

Device Curtailed	Average Per Participant Impact (kW)	Participants Controlled	System Impact (MW)	Relative Precision (+/-)*
Auxiliary Heat Strips	0.90	4,060	3.65	32%
Electric Water Heater	0.42	8,390	3.49	24%
Total System Impact:			7.13	

*At 90% confidence level

Source: Navigant Analysis, PY2016/2017 weather, and PY2014/2015 modeling results

Evaluation Methods

Navigant estimated DR impacts for auxiliary heat strips by applying the regression coefficients estimated as part of the PY2014/2015 evaluation¹, and the proportion of auxiliary heat strips that were fully responsive or partially responsive to DEP’s curtailment signal as observed in the PY2014/2015 evaluation,² and the hourly observed heating degree hours in the appropriate quarter-hour of the PY2016/2017 DR event.

Navigant estimated DR impacts for water heaters by applying the regression coefficients estimated as part of the PY2014/2015 evaluation to the appropriate quarter-hour of the PY2016/2017 DR event.

¹ Navigant Consulting, Inc., on behalf of Duke Energy Progress, *EM&V Report for the EnergyWise Home Program: Winter 2014/2015*, June 2015.

² In that evaluation (as in the PY2011/2012 winter evaluation), Navigant divided auxiliary heat strips based on a visual examination of logger data into “fully responsive,” “partially responsive,” “unused,” and “unresponsive” categories—referred to as dispositions. Separate equations were used to estimate impacts for fully and partially responsive devices.

Evaluated Impacts

The principal EM&V findings regarding the PY2016/2017 winter event demand impacts are as follows:

- **Auxiliary heat strips delivered an average DR impact of 0.90 kW per household.** The total estimated program impact of the 4,060 participating households was 3.65 MW.
- **Auxiliary heat strip impacts were lower on average for PY2016/2017 than PY2014/2015 due to the single PY2016/2017 event occurring on a relatively mild weather day.** In PY2014/2015, there were three events where the average event temperature was at or below approximately 5°F. In contrast, for the PY2016/2017 event, the average event temperature was approximately 19°F.
- **Water heaters delivered an average DR impact of 0.42 kW per household.** The total program impact of the 8,390 participating households was 3.49 MW.

1. INTRODUCTION

The EnergyWise program provides residential customers the opportunity to earn credits on their electricity bill by allowing DEP to remotely control air conditioning (in the summer) and water heater and heat pump auxiliary heating strips (in the winter – Western region customers only) during times of seasonal peak consumption. This report covers the EM&V activities for the winter of PY2016/2017.

EM&V is a term adopted by DEP and refers generally to the assessment and quantification of the energy and peak demand impacts of an energy efficiency or DR program. For DR, estimating reductions in peak demand is the primary objective, as energy impacts are generally negligible. EM&V also can encompass an evaluation of program processes and customer feedback typically conducted through participant surveys. The winter PY2016/2017 EM&V cycle did not include a process evaluation.

1.1 Objectives of the Evaluation

This report is intended to verify program impacts per the requirements established by the North Carolina Utilities Commission and the Public Service Commission of South Carolina. Since no data loggers were deployed to participating homes in the winter of PY2016/2017, the principal objective of the PY2016/2017 evaluation is to apply the results of the PY2014/2015 EM&V report to PY2016/2017 weather and participation data to estimate the impact of direct load control on residential demand in the winter.

1.2 Program Overview

The EnergyWise program was developed in response to DEP's determination that a curtailable load program would be a valuable resource for the company, and that it would provide an opportunity to engage directly with customers to help reduce costly seasonal peak demand. The program seeks to attract DR resources by providing incentives to residential customers to allow DEP to remotely control two of the most important drivers of winter peak demand typically found in the home—auxiliary heat strips and water heaters.

The program offers an annual bill credit of \$25 (per appliance type controlled) to customers that choose to allow DEP to control their electric auxiliary heat strips and/or water heaters.

Eligibility. To be eligible for participation in the winter component of the EnergyWise program, a household must meet the following criteria:

- Participants must occupy the residence where the controls are installed. Renters must complete a Tenant Authorization Form and the landlord/property owner must approve.
- Residential electricity service must be in the name of the participant.
- Must reside in DEP's Western region (Asheville area).
- Participants must be in an area that can receive the EnergyWise Home paging signal.
- Participation also requires that participants have an electric water heater and/or a centrally ducted heat pump (for auxiliary heat strip control).

Incentives. Each participant receives a \$25 bill credit per appliance or load type upon joining the program, and then an additional \$25 bill credit every 12 months per appliance or load type to encourage continued participation.



EM&V Report for the EnergyWise Home Demand Response Program

Marketing. DEP is responsible for all marketing of the EnergyWise program. Participant enrollments are generated through a mix of direct mail, bill inserts, email, outbound calling, and door-to-door canvassing.

1.3 Reported Program Participation

This section reports the overall program participation for the winter EnergyWise program in the winter of PY2016/2017.

DEP called one DR event in winter PY2016/2017 on January 9, 2017. There were a total of 4,060 auxiliary heat strip participants and 8,390 water heater participants during the winter PY2016/2017 event.

The number of participants and number of appliances controlled by appliance type are shown in Table 2. Both devices were curtailed from 6:30 a.m. to 9:30 a.m., using a 100% cycling strategy. All winter EnergyWise participants are located in DEP's Western region.

Table 2. Overall Winter PY2015/2016 Program Participation by Appliance

Appliance	Number of Participants	Number of Appliances Controlled
Auxiliary Heat Strips	4,060	4,399
Electric Water Heater	8,390	8,548

Source: DEP EW Control Event Tracking Report

2. EVALUATION METHODS

This section of the EM&V report describes the approach used to estimate the DR and snapback impacts of the EnergyWise program for PY2016/2017.

Navigant estimated DR impacts from auxiliary heat strip by applying the regression coefficients estimated as part of the PY2014/2015 evaluation³ and the device responsiveness shares as observed in the PY2014/2015 evaluation⁴ to the hourly observed heating degree hours in the appropriate quarter-hour of the PY2016/2017 DR event.

Navigant estimated DR impacts from water heaters by applying the regression coefficients estimated as part of the PY2014/2015 evaluation to the appropriate quarter-hour of the PY2016/2017 DR event.

This section is divided into three subsections:

- **Demand Reduction Impacts:** How the demand reduction impacts were estimated based on regression-estimated parameters obtained from the PY2014/2015 evaluation report other technology-specific variables.
- **Snapback Impacts:** How the snapback impacts were estimated, using the coefficients estimated in the PY2014/2015 analysis.
- **Energy Impacts:** How energy impacts were estimated, using the DR and snapback estimated impacts.

2.1 Demand Reduction Impacts

This section details methodology for demand reduction impacts for both the auxiliary heat strip and water heater programs.

2.1.1 Auxiliary Heat Strip Demand Reduction Impacts

Navigant estimated DR impacts from auxiliary heat strips by applying the regression coefficients estimated as part of the PY2014/2015 evaluation⁵ and the device responsiveness shares as observed in the PY2014/2015 evaluation⁶ to the hourly observed heating degree hours in the appropriate quarter-hour of the PY2016/2017 DR event.

³ Navigant Consulting, Inc., on behalf of Duke Energy Progress, *EM&V Report for the EnergyWise Home Program: Winter 2014/2015*, June 2015.

⁴ In this evaluation, as in the PY2011/2012 winter evaluation, Navigant divided auxiliary heat strips based on a visual examination of logger data into "fully responsive," "partially responsive," "unused," and "unresponsive" categories—referred to as dispositions. Separate equations were used to estimate impacts for fully and partially responsive devices.

⁵ Navigant Consulting, Inc., on behalf of Duke Energy Progress, *EM&V Report for the EnergyWise Home Program: Winter 2014/2015*, June 2015.

⁶ In this evaluation, as in the PY2011/2012 winter evaluation, Navigant divided auxiliary heat strips based on a visual examination of logger data into "fully responsive," "partially responsive," "unused," and "unresponsive" categories—referred to as dispositions. Separate equations were used to estimate impacts for fully and partially responsive devices.

The DR parameters estimated for auxiliary heat strips in the PY2014/2015 evaluation provide an estimate of the relationship between the observed outdoor heating degree hours (HDH) during a given quarter-hour of the day, and the demand reduction impact in that same quarter-hour when a DR event is called. Navigant estimated PY2016/2017 impacts of each auxiliary heat strip disposition type (see below for more details) by applying this relationship to the HDH observed in the appropriate quarter-hour of the day for the PY2016/2017 event.

The average impacts per device were estimated based on a weighted average of disposition-specific estimated impacts. The weights were derived from the average distribution of device dispositions observed during the PY2014/2015 evaluation.

Customers can have more than one set of auxiliary heat strips or more than one water heater controlled. As a result, the Navigant team multiplied auxiliary heat strip impact by the average number of devices controlled per participant (1.08 devices per participant) and multiplied the water heater impact by the average number of water heaters controlled per participant (1.02 per participant) to obtain an estimate of the average impact per participant.

2.1.2 Water Heater Demand Reduction Impact

Navigant estimated DR impacts from water heaters by applying the regression coefficients estimated as part of the PY2014/2015 evaluation to the appropriate quarter-hour of the PY2016/2017 DR event.

2.2 Snapback Impact

Snapback refers to the increase in demand observed in the hours immediately following a DR event. During a winter DR event, space heating or water heating is curtailed. When curtailed, the home or water tank cools beyond the customer's preferred settings, reducing electricity demand during the event. Snapback refers to the incremental electricity required to restore the water tank or home to the setpoint temperature in the period immediately following the event.

2.2.1 Auxiliary Heat Strip Snapback Impact

In PY2014/2015, Navigant estimated auxiliary heat strip snapback impacts as a function of the total HDH observed during the DR event, and the number of periods that had elapsed since the end of the event (i.e., the relative quarter-hour of snapback). In PY2016/2017, Navigant estimated snapback impacts by aligning the relative quarter-hour estimated parameters with the appropriate quarter-hours following the PY2016/2017 event and then applying event period weather data.

As with DR impacts, snapback impacts were weighted by disposition for impacts per device and scaled by number of devices per participant to get impacts per participant.

2.2.2 Water Heater Snapback Impact

In PY2014/2015, Navigant estimated water heater snapback impacts as a function of the number of periods that had elapsed since the end of the event (i.e., the relative quarter-hour of snapback). In

PY2016/2017, snapback impacts were estimated by aligning the relative estimated quarter-hour parameters with the appropriate quarter-hours following the PY2016/2017 event.

Snapback impacts were constrained such that the total energy recovered during the snapback (as a proportion of energy saved during the event period) was equal to that estimated in PY2014/2015. More specifically, snapback impacts are constrained such that total energy taken back during the snapback period is equal to approximately 94% of total energy saved during the curtailment period.

This constraint meant that some of the regression-estimated snapback parameters had to be adjusted slightly. The curtailment period observed in PY2016/PY2017 was longer than any of the curtailment periods observed in PY2014/2015; consequently, without adjustment, the regression-estimated snapback parameters would not deliver the appropriate level of net energy savings. The additional energy required to be taken back by the snapback (that was not accounted for by the existing parameters) was allocated across the snapback periods in proportion to the snapback demand impact in each quarter-hour of that period.

The logic used to calculate snapback may be observed directly in the Excel spreadsheet that accompanies this report (Appendix A).

2.3 Energy Impacts

Total energy impacts were estimated by subtracting the energy use increase estimated to have occurred in the snapback period from the energy reduction estimated to have been delivered during the event period.

3. IMPACT FINDINGS

This section provides the estimated demand reduction and snapback impacts for the EnergyWise program for the winter of PY2016/2017. Section 2.1 details how these impacts were estimated. Impacts are based on the results of the PY2014/2015 evaluation report, and PY2016/2017 weather and participation as applicable.

The estimated average DR impact by equipment type is shown in Table 3.

Table 3. Average Demand Reduction Impact by Technology: PY2016/2017

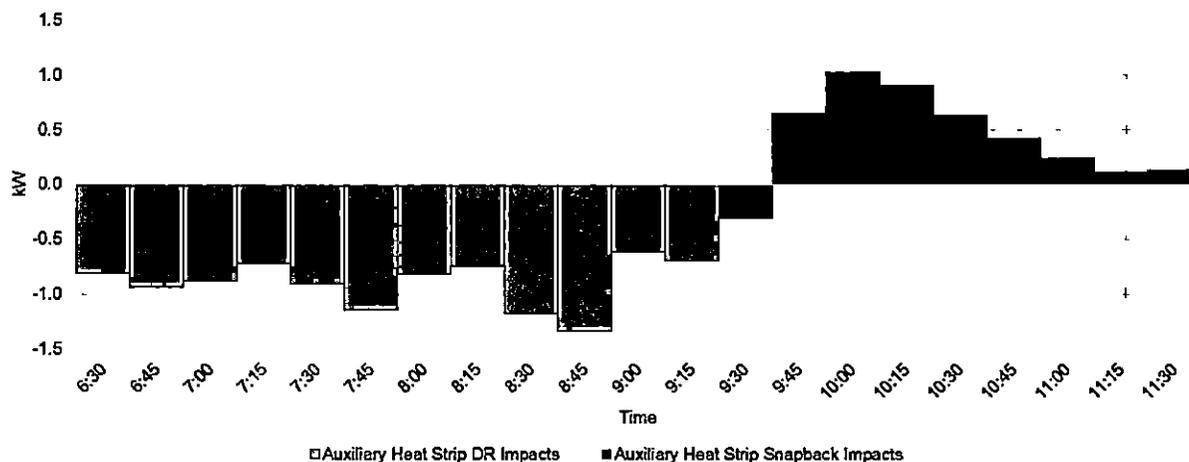
Device Curtailed	Average Per Participant Impact (kW)	Participants Controlled	System Impact (MW)	Relative Precision (+/-)*
Auxiliary Heat Strips	0.90	4,060	3.65	32%
Electric Water Heater	0.42	8,390	3.49	24%
Total System Impact:			7.13	

*At 90% confidence level

Source: Navigant Analysis, PY2016/2017 weather, and PY2014/2015 modeling results

Hour-by-hour results are shown graphically in Figure 1 and Figure 2. In Figure 1, DR impacts are represented as a negative number (i.e., demand reduction) and snapback as a positive (i.e., an increase in demand). Note that due to ramping, there is still a lingering DR impact in the first quarter-hour of the snap-back period (i.e., the negative value of the first gray column in the figure below).

Figure 1. Auxiliary Heat Strip Demand Response Impact



Source: Navigant Analysis, PY2015/2016 weather, and PY2014/2015 modeling results

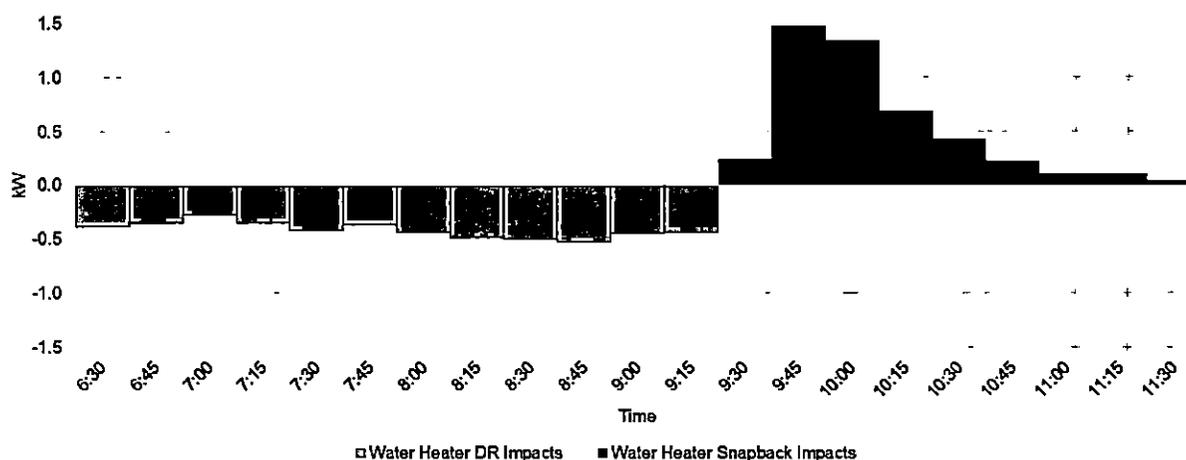
The PY2016/2017 auxiliary heat strip DR impact (0.90 kW) is approximately two-thirds the average DR impact reported for auxiliary heat strips in PY2014/2015 (1.37 kW). This is due to the lower temperatures observed during the PY2014/2015 DR events. In that program year, the average outdoor event temperature was less than 16°F, and for three of the ten events was less than 6°F. In contrast, during

PY2016/2017 the average outdoor temperature observed during the single event was approximately 19°F.

The most suitable event from PY2014/2015 with which to compare the impacts of the single PY2015/2016 event occurred on February 13, 2015. For this event, the average outdoor temperature was 19°F. The event lasted from 6:30 a.m. to 9:00 a.m.; the estimated DR impact of heat strips for that event was 0.9 kW.

The estimated quarter-hour impacts of water heater curtailment are shown in Figure 2. In this graphic, as in the above, the convention is to represent DR impacts as a negative number (i.e., demand reduction) and snapback as a positive (i.e., an increase in demand).

Figure 2. Water Heater Demand Response Impact

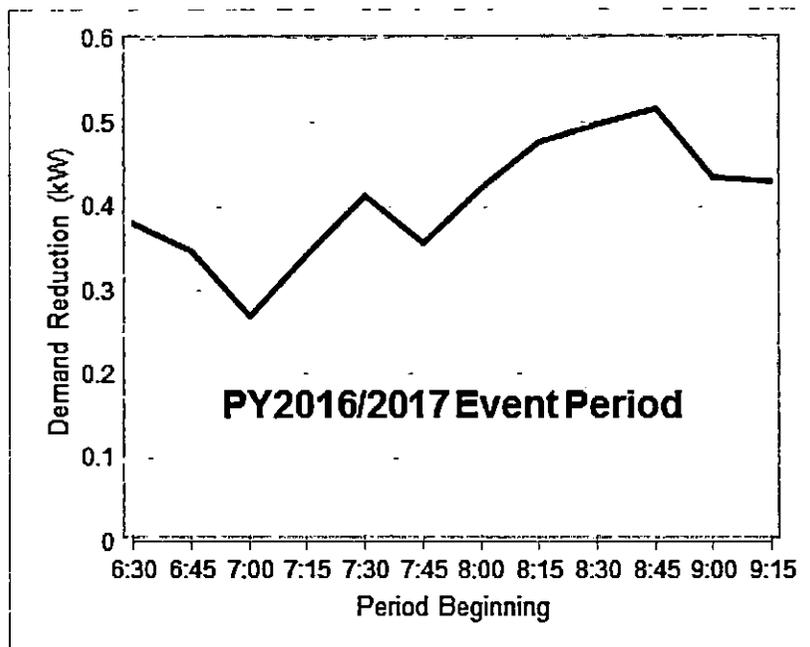


Source: Navigant Analysis, PY2016/2017 weather, and PY2014/2015 modeling results

The PY2016/2017 water heater DR impact (0.42 kW) is slightly higher than the average DR impact reported for water heaters in PY2014/2015 (0.4 kW). This is because the PY2016/2017 event extended until 9:30 a.m., whereas eight out of the ten events in PY2014/2015 ended at 9:00 a.m. or earlier.

As seen in Figure 3, the estimated DR impacts climb steadily through the morning, peaking in the period between 8 a.m. and 9 a.m. Since the magnitude of water heater DR impacts reflects the underlying hot water usage patterns, this suggests that a high proportion of the EM&V participants in the PY2014/2015 logger data study shower at or slightly after 8 a.m.

Figure 3. Water Heater DR Impacts by Quarter-Hour



Source: Navigant Analysis, PY2014/2015 modeling results

As noted previously, energy impacts were estimated by taking the difference between the average energy savings realized during the curtailment period and the average energy increases that occurred in the snapback period. Estimated energy impacts are presented in Table 4. The estimated energy impacts are small, and reflect the patterns estimated as part of the PY2014/2015 study.

Table 4. Estimated Energy Impacts

Device Curtailed	DR Energy Savings (kWh)	System Energy Savings (MWh)
Auxiliary Heat Strips	1.74	7.06
Electric Water Heater	0.08	0.67
Total System Impact:		7.73

Source: Navigant Analysis, PY2016/2017 weather, and PY2014/2015 modeling results

Water heater energy savings are small and reflect the closed nature of the system being curtailed; effectively, participants' water heaters are being used as an electric/thermal battery. The small savings that are realized may be due to reduced standby losses during curtailment.

Auxiliary heat strip energy savings are, relatively speaking, much larger, although still trivial in absolute terms. The much lower energy take-back in the snapback period could be due to a number of factors: participants adjusting their thermostats (or having their thermostats programmed to adjust) to reduce setpoint during the working hours when they may not be home, and rising temperatures as the sun rises reducing the proportion of heat pumps that need to rely on their auxiliary heat strips.



EM&V Report for the EnergyWise Home Demand Response Program

4. SUMMARY FORM

<p>EnergyWise Home Winter PY2016/2017 Completed EMV Fact Sheet</p>			
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Description of Program

Duke Energy's EnergyWise program is a DR program offered to residential customers in the DEP territory.

EnergyWise is a direct load control program. Participants receive an incentive to allow Duke Energy to control their air conditioners (in the summer), their heat pump auxiliary heat strips (in the winter), or their electric water heaters (winter or summer). Only participants in the Western region are curtailed in the winter.

This report evaluates the impact of the program in the winter of 2016-2017. Only a single event was called, on January 9, 2017.

Date:	July 6, 2017
Region:	DEP
Evaluation Period	Winter PY2016/2017
DR Event Impact per Participant (kW)	
Water Heaters	0.42
Auxiliary Heat Strips	0.90
DR Event Program Impact (MW)	
Water Heaters	3.49
Auxiliary Heat Strips	3.65
Net-to-Gross Ratio	1

Evaluation Methods

Navigant estimated DR impacts for auxiliary heat strips by applying the regression coefficients estimated as part of the PY2014/2015 evaluation, and the proportion of auxiliary heat strips that were fully responsive or partially responsive to DEP's curtailment signal, as observed in the PY2014/2015 evaluation, to the hourly observed heating degree hours in the appropriate quarter-hour of the PY2016/2017 DR event.

Navigant estimated DR impacts for water heaters by applying the regression coefficients estimated as part of the PY2014/2015 evaluation to the appropriate quarter-hour of the PY2016/2017 DR event.

Impact Evaluation Details

- **Auxiliary heat strips delivered an average DR impact of 0.90 kW per household.** The total estimated program impact of the 4,060 participating households was 3.65 MW.
- **Auxiliary heat strip impacts were lower on average for PY2016/2017 than PY2014/2015 due to the single PY2016/2017 event occurring on a relatively mild weather day.** In PY2014/2015, there were three events where the average event temperature was at or below approximately 5°F. In contrast, for the PY2016/2017 event the average event temperature was approximately 19°F.
- **Water heaters delivered an average DR impact of 0.42 kW per household.** The total program impact of the 8,390 participating households was 3.49 MW.

5. CONCLUSION

The principal EM&V findings regarding the winter event demand impacts for PY2015/2016 are as follows:

- **Auxiliary heat strips delivered an average DR impact of 0.90 kW per household.** The total estimated program impact of the 4,060 participating households was 3.65 MW.
- **Auxiliary heat strip impacts were lower on average for PY2016/2017 than PY2014/2015 due to the single PY2016/2017 event occurring on a relatively mild weather day.** In PY2014/2015, there were three events in which the average event temperature was at or below approximately 5°F. In contrast, for the PY2016/2017 event the average event temperature was approximately 19°F.
- **Water heaters delivered an average DR impact of 0.42 kW per household.** The total program impact of the 8,390 participating households was 3.49 MW.

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EM&V Report for the Duke Energy Multifamily Energy Efficiency Program

Prepared for:

Duke Energy Progress, Duke Energy Carolinas



October 4, 2016
Revised June 27, 2017

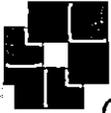
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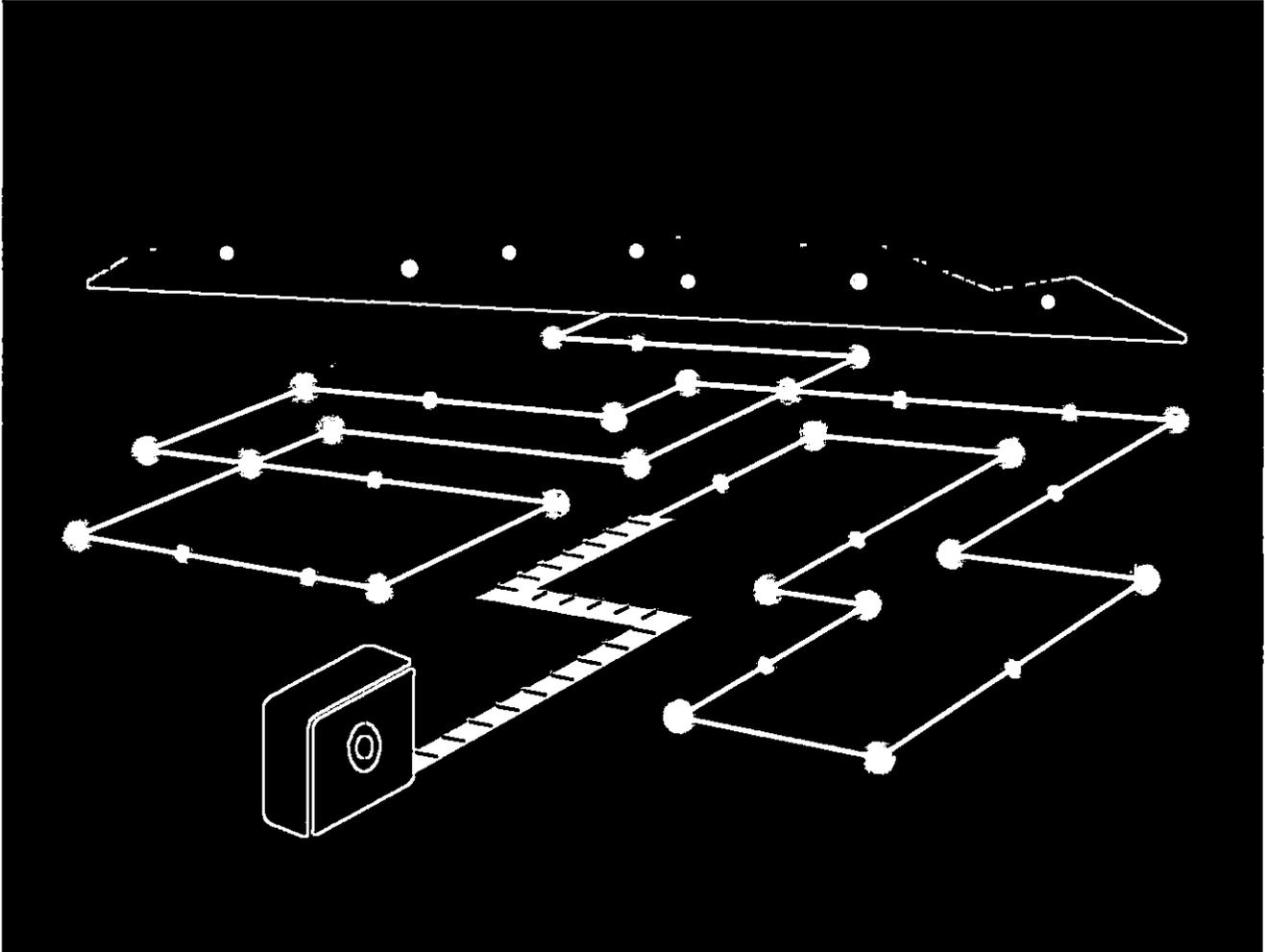
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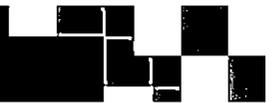


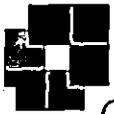
Opinion **Dynamics**



Duke Energy Carolina/ Duke Energy Progress Non-Residential Prescriptive Program Evaluation Report – Final

March 25, 2018





Opinion **Dynamics**

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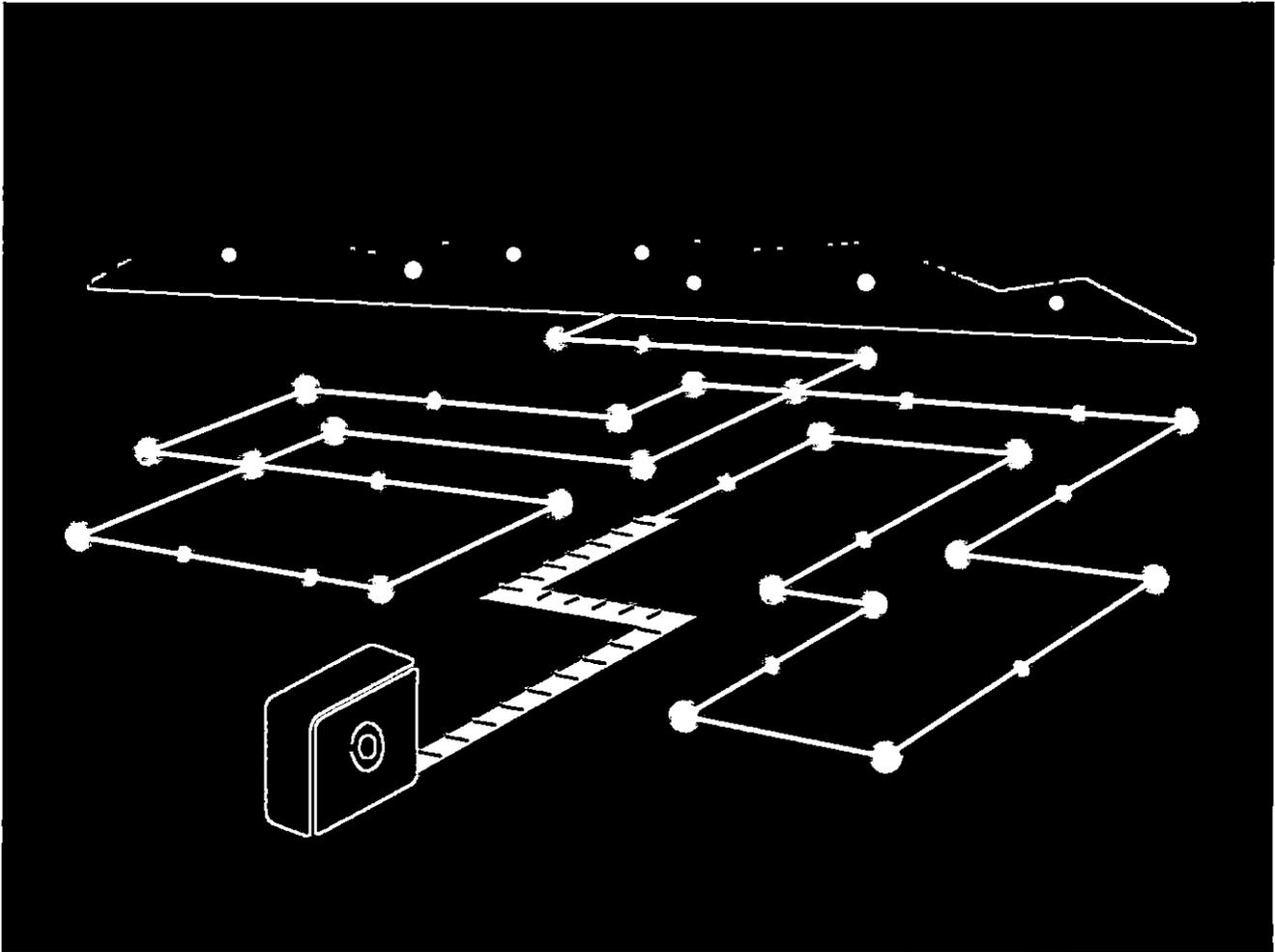
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Exhibit G
Page 1 of 23
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Duke Energy Carolinas and Progress

EnergyWise for Business Programs
Evaluation Report – Final

June 12, 2017





Opinion Dynamics

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1. Evaluation Summary

1.1 Program Summary

The Duke Energy Carolinas (DEC) and Duke Energy Progress (DEP) EnergyWise for Business Program is a demand response (DR) and energy efficiency (EE) program that provides small businesses with the opportunity to participate in DR events, earn incentives, and realize additional energy efficiency (EE) benefits. The program was introduced in 2016 and offers participants either a programmable, two-way WiFi Smart Thermostat or a Load Control Switch. Participants can select one of three levels of DR participation—30% cycling, 50% cycling, and 75% cycling—with varying levels of earned incentives based on the selected cycling strategy. Smart thermostat participants who have a heat pump with electric resistance heat strips are also offered the option of participating in winter DR events and can earn additional incentives per season. Customers who opt for the smart thermostat have the ability to manage their thermostat remotely with presets that help them potentially realize energy savings. Duke Energy contracted with Converge to implement this program.

The program targets small businesses with a qualifying central air conditioning system and a minimum usage of 1,000 kWh per month during the billing months of May through September. By the end of 2016, the program had enrolled a total of 606 customers and 1,202 devices. The program called three summer but no winter DR events in 2016.

1.2 Evaluation Objectives

The 2016 evaluation included a deemed savings review and an engineering-based gross impact analysis to answer the following key research questions:

1. What were the estimated gross demand response impacts from the program in 2016?
2. What were the estimated gross energy efficiency impacts from the program in 2016?

It should be noted that this evaluation did not include a regression-based modeling approach, which is the industry-standard approach to estimating impacts from DR events. As such, the results of this evaluation should be interpreted as directional. The upcoming evaluation of the 2017 EnergyWise for Business Program will include a regression-based model approach to estimating both DR and EE impacts.

1.3 High-Level Findings

Based on our engineering-based impact analysis, the EnergyWise for Business Program fell short of planned savings in 2016, realizing between one-quarter (DEP) and one-third (DEC) of planned DR savings and just above 40% of planned EE savings.

Table 1-1 presents the results of our DR and EE analyses, including ex ante and ex post values for the number of devices, per device savings, and overall impacts, by jurisdiction. The table also presents the resulting realization rates.

Table 1-1. Summary of Gross Impact Analysis

Estimate	DEC			DEP		
	Ex Ante	Ex Post	Realization Rate	Ex Ante	Ex Post	Realization Rate
Demand Response Impacts						
Average # of Participating Devices ^A	625	442	71%	355	262	74%
Average Per Device kW Savings	3.59	1.54	43%	3.59	1.25	35%
Total Demand Response Savings	2,244	682	30%	1,274	329	26%
Energy Efficiency Impacts						
Number of Enrolled Thermostats ^B	750	692	92%	426	447	105%
Average Per Thermostat kWh Savings	1,450	641	44%	1,450	562	39%
Total Energy Efficiency Savings	1,087,500	443,344	41%	617,700	251,433	41%

^A Ex post values represent the average number of devices (across the three 2016 DR events) that were enrolled during the event and did not opt out. These are the devices that achieved demand reductions during the 2016 events.

^B Ex ante and ex post values represent thermostats enrolled at the end of 2016.

Two factors contributed to the shortfall in savings:

1. **Per-unit savings assumptions:** Our deemed savings review found that ex ante per-unit savings were too high, mostly due to an overestimate of the size (tonnage) of the controlled air conditioning units. Since equipment size is directly correlated with savings, the smaller than expected controlled units significantly affected realized EE and DR savings. On the DR side, other contributors to lower than expected per unit savings were a higher than planned adoption of thermostats (which in 2016 were estimated to achieve lower DR savings than switches) and a slight under-enrollment in the more aggressive cycling strategies for DEP.
2. **Enrollment:** By the end of 2016, the program had almost met its planned number of enrolled devices: Enrollment for DEC was 92% of projections while enrollment for DEP exceeded projections (105%). As a result, enrollment assumptions did not significantly contribute to the shortfall in EE savings. Device enrollment did affect DR impacts, however, as some of the devices were not installed until after the summer DR events. As a result, participation levels in the DR events were just short of three-quarters of planned participation.

1.4 Evaluation Recommendations

Because this evaluation was limited to an engineering-based analysis, there is uncertainty about the program impacts achieved in 2016. However, based on our comparison of planning and verified assumptions, we provide the following recommendations for future program planning.

Adopt More Conservative HVAC Average Tonnage Values

The tonnage values tracked in the program participation database suggest that Duke Energy's current planning values are too high. Pending results from the 2017 evaluation, the program may wish to lower its planning values as smaller units, everything else being equal, will achieve lower savings compared to larger units. As a result, an erroneous tonnage assumption might result in the program not achieving its savings goals.

Increase Promotion of Higher Cycling Strategies among Program Enrollees

Participants in DEP seemed to shy away from enrolling in the 75% cycling strategy and opted for strategies that result in lower savings. As such, we encourage Duke Energy to put additional emphasis on 75% cycling when recruiting participants, as it will lead to greater savings. Another alternative would be for Duke Energy to adjust its ex ante assumptions regarding cycling strategies. While this would not increase savings, it would provide more realistic planning assumptions and improve realization rates.

2. Program Description

2.1 Program Design

The Duke Energy Carolinas (DEC) and Duke Energy Progress (DEP) EnergyWise for Business program is a demand response (DR) and energy efficiency (EE) program that provides small businesses with the opportunity to participate in DR events, earn incentives, and realize additional EE benefits. The program was introduced in 2016 and offers participants either a programmable, two-way WiFi Smart Thermostat or a Load Control Switch. Participants can select one of three levels of DR participation—30% cycling, 50% cycling, and 75% cycling—with varying levels of earned incentives based on the selected cycling strategy. Smart Thermostat participants who have a heat pump with electric resistance heat strips are also offered the option of participating in winter DR events and can earn additional incentives per season. Customers who opt for the smart thermostat have the ability to manage their thermostat remotely with presets that help them potentially realize energy savings. Duke Energy contracted with Comverge to implement this program.

The program targets small businesses with a qualifying central air conditioning system and a minimum usage of 1,000 kWh per month during the billing months of May through September.

The program was first implemented by Comverge in the DEC and DEP territories in 2016. The evaluation period considered in this report is January 1, 2016 to December 31, 2016.

2.2 Program Implementation

Duke Energy contracted with Comverge in 2016 to implement the EnergyWise for Business program. Once a customer enrolls in the program, a representative visits the site to install the devices and to show participants how to program their devices and access the web portal. Events are called on weekdays when average temperature criteria are met and a high system peak is projected. Each time an event is scheduled, participants are notified via email and through the web portal. During the event, the devices display a message that an event is in progress. Participants are able to opt out of events at any time before or during the event.

2.3 Program Participation

Based on the program-tracking database, the program distributed 1,202 devices in 2016, associated with 606 unique customer accounts. Customers overwhelmingly opted for Smart Thermostats (95%) over Load Control Switches (5%). The 30% cycling strategy was the most popular among customers, with 63% of devices enrolled into that cycling level. Only 23% of devices were enrolled in the 50% cycling strategy and 14% in the 75% cycling strategy. Table 2-1 provides the distribution of device types and cycling strategies.

Table 2-1. Counts of Enrolled Devices, Device Jurisdiction, Type, and Cycling Strategy

Jurisdiction and Cycling Strategy	Number of Devices			Percentage of Total Devices in Jurisdiction		
	Thermostat	Switch	Total	Thermostat	Switch	Total
DEC						
30%	393	12	405	54%	2%	56%
50%	169	16	185	23%	2%	25%
75%	130	9	139	18%	1%	19%
Jurisdiction Total	692	37	729	95%	5%	100%
DÉP						
30%	289	19	308	61%	4%	65%
50%	113	5	118	24%	1%	25%
75%	45	2	47	10%	<1%	10%
Jurisdiction Total	447	26	473	95%	5%	100%
Overall Total	1,139	63	1,202	95%	5%	100%

3. Overview of Evaluation Activities

To address the research objectives for this evaluation, Opinion Dynamics performed a range of data collection and analytic activities. These activities are summarized in this section.

3.1 Program Staff Interviews

We conducted an in-depth interview with the Duke Energy EnergyWise for Business program manager. This interview took place in January 2016. The purpose of this interview was to understand the program's current design and implementation, and to determine the priorities for the impact evaluation.

3.2 Program Materials Review

To inform the subsequent analyses, Opinion Dynamics reviewed program materials, including program design and implementation materials, relevant research reports, and most notably the program-tracking database.

3.3 Engineering-Based Impact Analysis to Determine Ex-Post Savings and Realization Rate

To determine program impacts, the evaluation team used a three-step process: (1) we conducted a deemed savings review; (2) we performed an analysis of the program participation database; and (3) we estimated ex post savings and calculated realization rates.

Step 1: Deemed Savings Review. Opinion Dynamics reviewed inputs and algorithms provided by Duke Energy to document existing (ex ante) assumptions and claimed EE and DR savings. We then performed an engineering analysis using various Technical Reference Manuals (TRMs) and secondary sources to develop verified (ex post) per-unit savings estimates for Smart Thermostats and Load Control Switches. As part of this analysis, we looked up cooling equipment characteristics, based on model numbers, for a sample of 54 participants to update program assumptions about equipment efficiency. We then updated the ex ante savings values based on our engineering analysis and the customer data we received. The deemed savings review, including references to all sources used, is presented in Appendix A.

Step 2: Participation Analysis. The evaluation team reviewed program-tracking data to assess program participation during the evaluation period. This effort included:

- A review of the program participation database to determine the total number of devices and participants, the type of devices installed, and the cycling strategies employed, as well as device installation dates.
- A review of thermostat and switch reports to identify opt-outs.

Step 3: Estimation of Ex Post Savings and Realization Rates. To estimate ex post savings, we applied the ex post per-unit savings values from the deemed savings review (Step 1) with participation counts from the participation analysis (Step 2). We then calculated realization rates for both energy and demand impacts by dividing ex post (evaluated) savings by ex ante (claimed) savings.

4. Gross Impact Evaluation

Our gross impact evaluation included three main analytic steps: (1) a deemed savings review, (2) a participation analysis, and (3) estimation of ex post savings analysis and realization rates for the demand response and energy efficiency components of the program. Figure 4-1 depicts this process.

Figure 4-1. Gross Impact Evaluation Approach



The following subsections describe our approach and the results for each of the three steps.

4.1 Deemed Savings Review

The goal of the deemed savings review was to examine existing program savings values and assumptions and to develop new estimates that the program can use going forward. Our review consisted of several activities:

- We reviewed inputs and algorithms provided by Duke Energy. We also reviewed source documents and program filings to determine existing assumptions about per-device DR and EE savings.
- We reviewed the TRMs for Arkansas, Illinois, Indiana, and the Mid-Atlantic, as well as secondary sources to establish an algorithm for EE savings and to inform assumptions for new per-unit savings estimates for Smart Thermostats and Load Control Switches.
- We used tonnage information from the program-tracking database to update default program assumptions.
- We conducted a look-up of 54 equipment model numbers to develop an estimate of the average efficiency (expressed as the Seasonal Energy Efficiency Ratio [SEER]) of participants' cooling equipment.

Based on the results of these activities, we developed new per-device savings values.

Below, we summarize the inputs for estimating both DR and EE impacts and present the results of the analysis. The full deemed savings review is included in Appendix A.

4.1.1 Demand Response Load Impacts

Our evaluation of the 2016 EnergyWise for Business Program did not include a model-based analysis of DR events.¹ However, one of the key determinants of summer DR event savings is the size (tonnage) of the

¹ Note that a full, model-based DR impact analysis will be performed as part of our 2017 program evaluation.

controlled cooling equipment. Our comparison of program tonnage assumptions with actual tonnage information in the program-tracking database found that the size of participants' cooling equipment is substantially smaller than the program assumption. Everything else being equal, smaller equipment size would lead to smaller per-device DR event savings. To provide updated per device-DR savings, we therefore developed a ratio of actual to assumed equipment size (i.e., average ex post tonnage/average ex ante tonnage). We applied this ratio to the program's ex ante per-device savings assumptions (by device type and cycling strategy), using the following formula:

$$\text{Per-Device kW Event Savings} = \text{Ex Ante kW} * \text{Ex Post Tons/Ex Ante Tons}$$

Table 4-1 provides the ex ante and ex post tonnage assumptions, by device type and jurisdiction, and the resulting tonnage ratios. Tonnage ratios range from 0.36 for equipment controlled by DEP load control switches to 0.46 for equipment controlled by DEC smart thermostats.

Table 4-1. Tonnage Assumptions for Estimating DR Event Impacts

Parameter	Smart Thermostat			Load Control Switch		
	Ex Ante	Ex Post		Ex Ante	Ex Post	
		DEC	DEP		DEC	DEP
Tonnage	9.62	4.41	4.08	9.62	4.02	3.48
Tonnage Ratio		0.46	0.42		0.42	0.36

^AIn instances where tonnage values were missing from the program participation database (n = 65 devices), the average tonnage for that device and jurisdiction value was imputed.

Table 4-2 shows the program's ex ante per-device savings assumptions for thermostats and switches, by cycling strategy, and the ex post values that result from applying the tonnage ratios to the ex ante values. Given the relatively low tonnage ratios, estimated ex post kW savings are less than half of ex ante savings, across both jurisdictions and device types.

Table 4-2. Assumptions for Estimating Per Device DR Event Savings (kW)

Cycling Strategy	Smart Thermostat			Load Control Switch		
	Ex Ante kW	Ex Post kW		Ex Ante	Ex Post kW	
		DEC	DEP		DEC	DEP
30% Cycling	2.02	0.93	0.86	2.50	1.04	0.90
50% Cycling	3.77	1.73	1.60	4.25	1.78	1.54
75% Cycling	6.27	2.88	2.66	6.75	2.82	2.44

4.1.2 Energy Efficiency Impacts

The program's energy efficiency impacts are associated with smart thermostats only. Duke Energy provided tonnage assumptions as well as per device ex ante savings, but did not provide the algorithm used to develop these savings. We compared the ex ante tonnage assumption with actual tonnages from the program tracking databases and calculated per thermostat ex post savings using the following equation, which is common to most TRMs for thermostat measures:

$$\text{kWh savings per thermostat} = \text{Tonnage} * 12/\text{SEER} * \text{EFLHcool} * \text{ESF}$$

Table 4-3 summarizes the ex ante tonnage and per device savings assumptions (provided by Duke Energy) and provides the ex post inputs into the EE savings formula. These inputs include the average equipment

tonnage, the average equipment efficiency (SEER), Equivalent Full Load Cooling Hours (EFLHcool), and the Energy Savings Factor (ESF). The deemed savings review memo (Appendix A) provides more detail about these inputs, including the sources of information.

Table 4-3. Assumptions for Estimating EE kWh Impacts

Parameter	Ex Ante Value		Ex Post Value	
	DEC	DEP	DEC	DEP
Tonnage	9.62	9.62	4.41	4.08
SEER	Unknown		11.2	11.8
EFLHcool	Unknown		1,355	1,355
ESF	Unknown		10%	10%
Savings per Thermostat (kWh)	1,450	1,450	641	563

Similar to the per device DR impacts, the greater ex ante tonnage assumption was largely responsible for the difference between ex ante and ex post per-thermostat EE savings. While we do not have ex ante values for SEER, EFLHcool, and ESF, nor the algorithm used, we calculate per-thermostat EE savings of 1,397 kWh (DEC) and 1,326 kWh (DEP) when using the ex post energy savings equation and assumptions but substituting in the ex ante tonnage assumptions. These values are very close to the ex ante EE savings value of 1,450 kWh, so differences in assumptions other than tonnage would be minor.

4.2 Participation Analysis

The second step in the gross impact analysis consisted of an analysis of program enrollment and event participation, based on program tracking data and customer opt out reports. Both are described in this section.

4.2.1 Program Enrollment

According to information provided by Duke Energy, anticipated participation in the program was 1,250 devices for DEC and 710 devices for DEP. The program further assumed that 60% of devices would be thermostats and 40% would be load control switches.

Review of the program tracking data showed a total 2016 enrollment of 729 thermostats and switches in the DEC service territory and 473 thermostats and switches in the DEP service territory, just over half of what was anticipated in the program filings. It should be noted that approximately 34% of these devices were installed after the 2016 summer event season, and therefore were not able to participate in these events. The tracking data also showed a different mix of thermostats and switches from what was anticipated, with fewer customers choosing to install switches than projected.

Table 4-4 provides ex ante and ex post enrollment numbers, by device type and jurisdiction. Table 4-4. Projected and Actual Program Enrollment.

Table 4-4. Projected and Actual Program Enrollment (Number of Devices)

Jurisdiction	Device Type	Demand Response			Energy Efficiency		
		# Projected	# Achieved	% Achieved	# Projected	# Achieved	% Achieved
DEC	Thermostat	750	692	92%	750	692	92%
	Switch	500	37	7%	0	0	n/a
	Overall	1,250	729	58%	750	692	92%
DEP	Thermostat	426	447	105%	426	447	105%
	Switch	284	26	9%	0	0	n/a
	Overall	710	473	67%	426	447	105%

To develop expected savings from DR events, the program also projected the share of customers that would select the different cycling strategies. The program projected 50% of enrollment in the 30% cycling strategy, 30% of enrollment in the 50% cycling strategy, and 20% of enrollment in the 75% cycling strategy. These projections were fairly accurate for DEC customers, but DEP customers showed a stronger preference for the 30% cycling strategy at the expense of the 75% cycling strategy. Everything else being equal, a lower cycling percentage will generate lower DR savings. To realize expected savings, the program may therefore need to more strongly promote the higher cycling strategies, particularly among DEP customers.

Table 4-5 provides the projected and actual distributions of enrollment in the three cycling strategies.

Table 4-5. Ex Ante and Ex Post Distribution of Cycling Strategies by Jurisdiction

Jurisdiction	Projected ^A	Actual
30% Cycling Strategy		
DEC	50%	55.6%
DEP		65.1%
50% Cycling Strategy		
DEC	30%	25.4%
DEP		24.9%
75% Cycling Strategy		
DEC	20%	19.1%
DEP		9.9%

^ABased on 9/19/2014 PowerPoint presentation, entitled "Small Business Demand Response - Evaluation Gate Presentation"

4.2.2 Participation in Demand Response Events

In 2016, the program called three summer DR events, on July 8th, July 14th, and July 27th. The average peak temperature on these three event days was 96 ° F.² There were no winter events called in 2016.

To assess participation in the three summer DR events, Opinion Dynamics reviewed override reports to assess the number of event opt-outs. These data were then merged with the program tracking data to determine opt-out rates by jurisdiction. As shown in Table 4-6, opt-out rates for events were low, and review of the data does not suggest that opt-outs vary as a function of cycling strategy. It is worth noting that as of the third event on July 28th, only 797 devices had been installed (66% of the total enrolled devices in 2016).

² Average peak temperature is based on weather information for Charlotte and Raleigh, NC.

Thus, about a third of 2016 participants were not able to participate in any of the 2016 DR events as they had not yet had their devices installed.

Table 4-6. Device Participation by Event and Jurisdiction

Event Date & Jurisdiction	Enrolled Devices	Device Opt-Outs	Part. Devices	Device Part. Rate
7/8/2016				
DEC	424	1	423	99.8%
DEP	235	1	234	99.6%
Total	659	2	657	99.7%
7/14/2016				
DEC	443	16	427	96.4%
DEP	258	8	250	96.9%
Total	701	24	677	96.6%
7/27/2016				
DEC	495	20	475	96.0%
DEP	302	1	301	99.7%
Total	797	21	776	97.4%

4.3 Estimation of Ex Post Savings

The third step in our gross impact evaluation was to estimate program DR and EE savings using the ex post deemed savings values and information from the program participation database developed in the previous steps. Below, we describe the inputs and algorithms used for the DR and EE ex post savings analyses and present the results.

4.3.1 Demand Response Impacts

For each summer DR event, we estimated kW impacts by multiplying the per-device ex post savings (shown in Table 4-2) by the number of participating devices. Since per unit ex post savings estimates vary by jurisdiction, device type, and cycling strategy, we developed 6 different ex post savings values for each jurisdiction and each event (2 device types x 3 cycling strategies). We then summed over these values to estimate the total event savings by jurisdiction.

Table 4-7 provides the number of participating devices per event, average per device savings (i.e., the weighted average across the three cycling strategies), and overall kW savings. Across both DEC and DEP, both participating devices and savings increased with each event, as a result of the program enrolling new customers as the event season progressed. On average, in DEC savings were 682 kW per event and in DEP savings were 329 kW per event, including savings from both thermostats and switches.

Table 4-7. DR kW Savings by Event

Event Date	DEC		DEP	
	Therm.	Switch	Therm.	Switch
7/8/2016				
Number of Participating Devices	401	22	226	8
Average Per-Device kW Savings	1.52	1.86	1.28	1.18
Total Event kW Savings	609	41	288	9
7/14/2016				
Number of Participating Devices	403	24	242	8
Average Per-Device kW Savings	1.54	1.79	1.29	1.18
Total Event kW Savings	619	43	312	9
7/27/2016				
Number of Participating Devices	450	25	288	13
Average Per-Device kW Savings	1.53	1.83	1.22	1.07
Total Event kW Savings	687	46	352	14
Overall Average				
Number of Participating Devices	418	24	252	10
Weighted Average Per-Device kW Savings	1.53	1.83	1.26	1.13
Total Event kW Savings	638	44	317	11

Error! Reference source not found. shows the average ex post summer DR event impacts, by jurisdiction, relative to the ex ante values taken from program filings. Overall, the program achieved just under one-quarter of its anticipated DR savings. This shortfall is driven by two key factors: (1) the lower than projected size of participating air conditioning units and (2) the lower than expected enrollment at the time of the 2016 summer events.

The lower per-unit savings realization rate for DEP, compared to DEC, results from the relative under-enrollment in the 75% cycling strategy in that jurisdiction as well as a slightly greater tonnage adjustment compared to DEC.

Table 4-8. Program DR Impacts

Estimate	DEC			DEP		
	Ex Ante	Ex Post	Realization Rate	Ex Ante	Ex Post	Realization Rate
Average # of Participating Devices	625	442	71%	355	262	74%
Average Per Device kW Savings ^A	3.59	1.54	43%	3.59	1.25	35%
Total Program Savings	2,244	682	30%	1,274	329	26%

^AEx post kW values represent the weighted average of thermostats and switches.

4.3.2 Energy Efficiency Impacts

To estimate EE savings, we multiplied the per thermostat savings (shown in Table 4-3. Assumptions for Estimating EE kWh Impacts Table 4-3), by the number of enrolled thermostats (shown in Table 2-1). Table 4-9

summarizes ex ante and ex post thermostat counts and per unit savings values and shows the resulting realization rates.

Table 4-9. Program Energy Efficiency Impacts

Estimate	DEC			DEP		
	Ex Ante	Ex Post	Realization Rate	Ex Ante	Ex Post	Realization Rate
Number of Enrolled Thermostats ^A	750	692	92%	426	447	105%
Average Per Thermostat kWh Savings	1,450	641	44%	1,450	562	39%
Total Energy Efficiency Savings	1,087,500	443,344	41%	617,700	251,433	41%

^A Ex ante and ex post values represent thermostats enrolled at the end of 2016.

Duke Energy achieved just over 40% of its anticipated EE kWh savings. The discrepancy between the ex ante and ex post savings is mainly due to the shortfall in per thermostat savings resulting from the lower than expected size (tonnage) of the controlled air conditioning units.

5. Conclusions and Recommendations

5.1 Conclusions

Based on our engineering-based impact analysis, the EnergyWise for Business Program fell short of planned savings in 2016, realizing between one-quarter (DEP) and one-third (DEC) of planned DR savings and just above 40% of planned EE savings.

Table 5-1 presents the results of our DR and EE analyses, including ex ante and ex post values for the number of devices, per device savings, and overall impacts, by jurisdiction. The table also presents the resulting realization rates.

Table 5-1. Summary of Gross Impact Analysis

Estimate	DEC			DEP		
	Ex Ante	Ex Post	Realization Rate	Ex Ante	Ex Post	Realization Rate
Demand Response Impacts						
Average # of Participating Devices ^A	625	442	71%	355	262	74%
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Total Energy Efficiency Savings	1,087,500	443,344	41%	617,700	251,433	41%

^A Ex post values represent the average number of devices (across the three 2016 DR events) that were enrolled during the event and did not opt out. These are the devices that achieved demand reductions during the 2016 events.

^B Ex ante and ex post values represent thermostats enrolled at the end of 2016.

Two factors contributed to the shortfall in savings:

1. **Per-unit savings assumptions:** Our deemed savings review found that ex ante per-unit savings were too high, mostly due to an overestimate of the size (tonnage) of the controlled air conditioning units. Since equipment size is directly correlated with savings, the smaller than expected controlled units significantly affected realized EE and DR savings. On the DR side, other contributors to lower than expected per unit savings were a higher than planned adoption of thermostats (which in 2016 were estimated to achieve lower DR savings than switches) and a slight under-enrollment in the more aggressive cycling strategies for DEP.
2. **Enrollment:** By the end of 2016, the program had almost met its planned number of enrolled devices: Enrollment for DEC was 92% of projections while enrollment for DEP exceeded projections (105%). As a result, enrollment assumptions did not significantly contribute to the shortfall in EE savings. Device enrollment did affect DR impacts, however, as some of the devices were not installed until after the summer DR events. As a result, participation levels in the DR events were just short of three-quarters of planned participation.

5.2 Recommendations

Because this evaluation was limited to an engineering-based analysis, there is uncertainty about the program impacts achieved in 2016. However, based on our comparison of planning and verified assumptions, we provide the following recommendations for future program planning.

Adopt More Conservative HVAC Average Tonnage Values

The tonnage values tracked in the program participation database suggest that Duke Energy's current planning values are too high. Pending results from the 2017 evaluation, the program may wish to lower its planning values as smaller units, everything else being equal, will achieve lower savings compared to larger units. As a result, an erroneous tonnage assumption might result in the program not achieving its savings goals.

Increase Promotion of Higher Cycling Strategies among Program Enrollees

Participants in DEP seemed to shy away from enrolling in the 75% cycling strategy and opted for strategies that result in lower savings. As such, we encourage Duke Energy to put additional emphasis on 75% cycling when recruiting participants, as it will lead to greater savings. Another alternative would be for Duke Energy to adjust its ex ante assumptions regarding cycling strategies. While this would not increase savings, it would provide more realistic planning assumptions and improve realization rates.

6. Summary Form

<p>Duke Energy Carolinas and Progress EnergyWise for Business Program Completed EMV Fact Sheet</p>			
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Duke Energy Progress' and Carolinas' EnergyWise for Business Program is a demand response program that provides small businesses with the opportunity to participate in DR events, earn incentives, and realize additional EE benefits. The program offers either a programmable, two-way WiFi Smart Thermostat or a Load Control Switch to customers. Customers can select one of three levels of DR participation: 30% cycling, 50% cycling, and 75% cycling with varying levels of earned incentives based upon the selected cycling strategy. Thermostat participants having a heat pump with electric resistance heat strips are also offered the option of participating in winter DR, and can earn additional incentives per season.

Date	June 12, 2017
Region(s)	Duke Energy Carolinas & Progress
Evaluation Period	1/1/16 through 12/31/16
Total kWh Savings	DEC: 641 kWh DEP: 563 kWh
Coincident kW Impact	DEC: 681 kW DEP: 328 kW
Measure Life	Not evaluated
Net-to-Gross Ratio	Not evaluated
Process Evaluation	No
Previous Evaluation(s)	None

To determine program impacts, the evaluation team used a three-step process: (1) we conducted a deemed savings review; (2) we performed an analysis of the program participation database; and (3) we estimated ex post savings and calculated realization rates.

Step 1: Deemed Savings Review. The evaluation team reviewed the inputs and algorithms used by Duke Energy to estimate ex ante savings. The team adjusted these values based on information from program-tracking data and secondary sources. The full deemed savings review is provided in Appendix A.

Step 2: Participation Analysis. The evaluation team reviewed program-tracking data to assess program participation during the evaluation period. This effort included:

- A review of the program participation database to determine the total number of devices and participants, the type of devices installed, and the cycling strategies employed, as well as device installation dates.
- A review of thermostat and switch log data to determine device operability rates and to identify opt-outs.

Step 3: Estimation of Ex Post Savings and Realization Rates. To estimate ex post savings, we applied the ex post per-unit savings values from the deemed savings review (Step 1) with participation counts from the participation analysis (Step 2). We then calculated realization rates for both energy and demand impacts by dividing ex post (evaluated) savings by ex ante (claimed) savings.

DSMore Table

7. DSMore Table

The embedded Excel spreadsheets below contains measure-level inputs for Duke Energy Analytics. Per-measure savings values in the spreadsheet are based on the gross and net impact analysis reported above. Measure life estimates have not been updated as part of this evaluation since it was not part of the evaluation scope.

[DSMore Tables provided in separate files]

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Appendix A. Deemed Savings Review

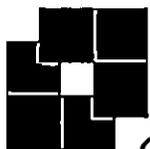
[Deemed Savings Review provided in a separate file]

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Opinion **Dynamics**

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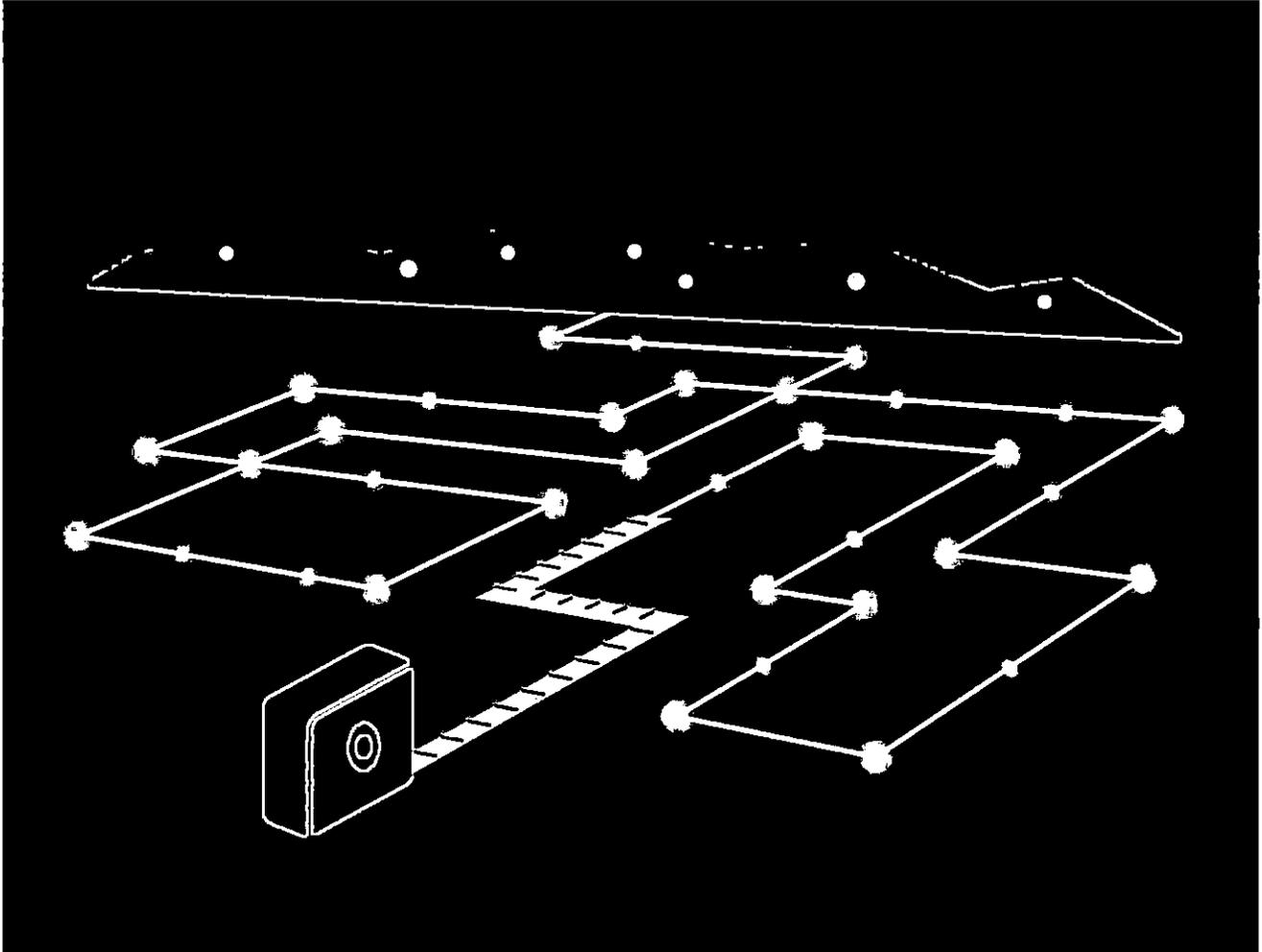
Exhibit H
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Duke Energy Progress & Duke Energy Carolinas

Energy Efficient Lighting & Retail LED Programs

Evaluation Report – Final

April 6, 2018



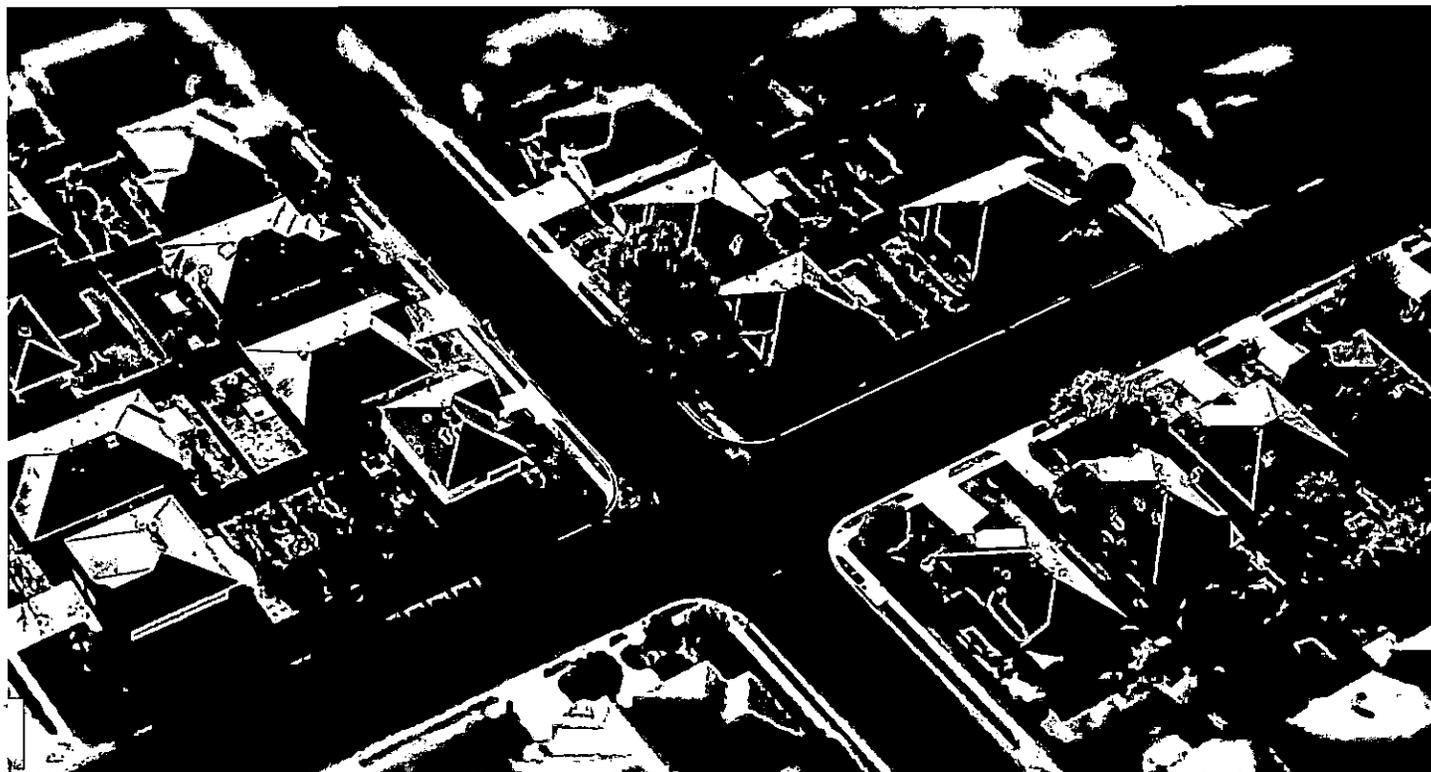
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REPORT



Reimagine tomorrow.



My Home Energy Report Program Evaluation

Submitted to Duke Energy Progress
July 31, 2017

Principal authors:

Rush Childs, Consultant

Candice Potter, Managing Consultant

Patrick Burns, Senior Vice President

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EM&V Report for the Small Business Energy Saver Program

Duke Energy Progress and Duke Energy Carolinas

Prepared for:

Duke Energy



Submitted by:
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September 27, 2016
Revised June 6, 2017

REPORT

research > into > action^{inc}

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Nexant

Reimagine tomorrow.



Save Energy and Water Kits 2016 Program Year Evaluation Report

Submitted to Duke Energy
in partnership with Research into Action

November 29th, 2017

Principal authors:

Wyley Hodgson, Vikram Sridhar, Patrick Burns, Nexant

Ryan Bliss, Jordan Folks, Anne Weaver, Research into Action

Program	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System kW of Avoided Costs	Total Cost	Shared Savings %	Incentive	Unqualified Rev Requirement *	NC Retail kWh Sales Allocation Factor	NC Residential Unqualified Revenue Requirement *	Adjusted Revenue Requirement (EM1)
Residential Programs										
EE Programs										
Appliance Recycling Program	566	4,407,083	\$ 1,528,567	\$ 1,210,665	13.00%	\$ 37,453	\$ 1,257,919	85.29000000%	\$ 1,072,879	\$ -
Energy Education Program for Schools	1,107	2,603,099	\$ 1,238,140	\$ 1,034,689	0.00%	\$ -	\$ 709,688	85.29000000%	\$ 600,176	\$ -
Energy Efficient Lighting	6,839	63,803,976	\$ 35,910,710	\$ 14,616,439	13.00%	\$ 2,196,295	\$ 17,384,431	85.29000000%	\$ 14,827,181	\$ -
Home Energy Improvement Program	1,913	6,888,937	\$ 6,839,864	\$ 5,284,232	11.00%	\$ 5,284,232	\$ 5,284,232	85.29000000%	\$ 4,501,894	\$ -
Multi-Family	2,112	17,549,005	\$ 9,816,135	\$ 6,153,765	11.00%	\$ 6,153,765	\$ 6,153,765	85.29000000%	\$ 5,230,316	\$ -
Neighborhood Energy Saver	315	2,087,494	\$ 1,194,633	\$ 1,586,061	0.00%	\$ -	\$ 1,586,061	85.29000000%	\$ 1,357,761	\$ -
Residential New Construction	2,838	6,607,792	\$ 12,081,218	\$ 7,447,258	13.00%	\$ 602,415	\$ 4,967,872	85.29000000%	\$ 4,215,566	\$ -
Energy and Water 2015 Residential Conservation Programs	-	-	\$ -	\$ -	13.00%	\$ -	\$ -	85.29000000%	\$ -	\$ -
Total for Residential Conservation Programs	11,873	101,075,275	\$ 64,845,289	\$ 31,487,545	13.00%	\$ 4,247,028	\$ 38,034,673	85.29000000%	\$ 32,439,273	\$ -
My Home Energy Report	17,161	105,437,168	\$ 5,791,212	\$ 5,008,641	11.00%	\$ -	\$ 5,008,641	85.29000000%	\$ 4,254,446	\$ -
Total Residential Conservation and Behavioral Programs	34,814	206,882,643	\$ 74,677,256	\$ 36,496,186	11.00%	\$ 4,247,028	\$ 43,843,314	NC Residential Peak Demand Allocation Factor	\$ 37,934,219	\$ 179,301
EnergyVista	28,015	206,882,643	\$ 33,417,641	\$ 5,208,545	8.00%	\$ 2,292,938	\$ 2,298,511	85.00000000%	\$ 1,956,174	\$ -
Total EnergyVista	62,879	-	\$ 107,795,116	\$ 44,502,071	8.00%	\$ 6,740,095	\$ 13,742,125	85.00000000%	\$ 11,786,937	\$ 174,301
Non-Residential Programs										
EE Programs										
Business Energy Report	-	-	\$ -	\$ -	13.00%	\$ -	\$ -	85.29000000%	\$ -	\$ -
Energy Efficient for Business	4,339	52,116,403	\$ 29,924,272	\$ 74,374	13.00%	\$ 3,077,669	\$ 74,374	85.29000000%	\$ 63,413	\$ -
Energy Efficient Lighting	4,172	19,295,699	\$ 12,758,470	\$ 6,228,453	11.00%	\$ 1,270,412	\$ 9,304,422	85.29000000%	\$ 7,935,657	\$ -
Small Business Energy Saver	6,829	42,138,074	\$ 21,339,417	\$ 1,728,958	11.00%	\$ 2,097,549	\$ 11,793,845	85.29000000%	\$ 10,055,595	\$ -
Total for Non-Residential Conservation Programs	15,890	116,343,435	\$ 66,992,877	\$ 71,852,841	13.00%	\$ 6,352,135	\$ 24,251,516	85.29000000%	\$ 20,613,443	\$ -
EnergyWise for Business	894	-	\$ 1,025,439	\$ 65,456	8.00%	\$ -	\$ 65,456	85.00000000%	\$ 56,213	\$ -
Commercial, Industrial, & Governmental Demand Response	894	-	\$ 1,025,439	\$ 65,456	8.00%	\$ 35,460	\$ 65,456	85.00000000%	\$ 56,213	\$ -
Total for Non-Residential Demand Programs	894	-	\$ 1,025,439	\$ 65,456	8.00%	\$ 35,460	\$ 65,456	85.00000000%	\$ 56,213	\$ -
Total Non Residential	16,725	118,024,238	\$ 67,718,315	\$ 18,491,841	8.00%	\$ 33,134,870	\$ 24,885,666	85.00000000%	\$ 21,230,943	\$ -
Total All Programs	79,584	325,616,926	\$ 175,513,643	\$ 62,993,572	11.00%	\$ 13,134,870	\$ 76,178,812	85.00000000%	\$ 64,991,136	\$ 174,301
(1) My Home Energy Report impacts reflect cumulative capability as of end of winter year. Incentive amounts for participants from prior winters.	315,679	41,388,428	\$ 175,513,643	\$ 7,999,427	-	\$ -	\$ -	-	\$ -	\$ -
(2) Trial System DSM Programs allocated to Residential and Non-Residential based on contribution to retail system peak.	355,226	387,806,357	\$ 175,513,643	\$ 7,999,427	-	\$ -	\$ -	-	\$ -	\$ -
Total with DSM	355,226	387,806,357	\$ 175,513,643	\$ 7,999,427	-	\$ -	\$ -	-	\$ -	\$ -

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Program	MC Description	Program %	Revenue Years	Net-of-Tax PPI Total (PPI)	Discount Rate	PPI Amortization Period	Year-end 2013 PPI	Revenue %	Adjusted PPI	Output PPI	PPI Over / Under Collection	Years at Risk	Cumulative PPI Over / Under Collection	Carrying Cost	Over/Under Collection w/Carrying	1 Year Period PPI	Year-end 2008 PPI	Year-end 2009 PPI	Year-end 2010 PPI	Year-end 2011 PPI	Year-end 2012 PPI	Year-end 2013 PPI	Year-end 2014 PPI	PPI Values for Total Period		
																									Output PPI	Over/Under Collection
Residential Programs																										
1	Appliance Rebate Program	5	11,944	11,944	6.75%	12	5	61.64%	4,497	4,497	0	1	4,497	0	4,497	11,944	11,944	11,944	11,944	11,944	11,944	11,944	11,944	11,944		
2	Energy Education Program for Schools	4	2,247	2,247	6.75%	12	5	61.64%	1,624	1,624	0	1	1,624	0	1,624	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247		
3	Home Energy Rebate Program	3	1,124	1,124	6.75%	12	5	61.64%	812	812	0	1	812	0	812	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124		
4	Home Energy Rebate Program	3	1,124	1,124	6.75%	12	5	61.64%	812	812	0	1	812	0	812	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	
5	High-Efficiency	3	793,819	793,819	6.75%	12	5	61.64%	585,293	585,293	0	1	585,293	0	585,293	793,819	793,819	793,819	793,819	793,819	793,819	793,819	793,819	793,819	793,819	
6	High-Efficiency	3	793,819	793,819	6.75%	12	5	61.64%	585,293	585,293	0	1	585,293	0	585,293	793,819	793,819	793,819	793,819	793,819	793,819	793,819	793,819	793,819	793,819	793,819
7	Home Energy Rebate Program	3	1,124	1,124	6.75%	12	5	61.64%	812	812	0	1	812	0	812	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	
8	Home Energy Rebate Program	3	1,124	1,124	6.75%	12	5	61.64%	812	812	0	1	812	0	812	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	
9	Home Energy Rebate Program	3	1,124	1,124	6.75%	12	5	61.64%	812	812	0	1	812	0	812	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	1,124	
10	Total for Residential Conservation Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211		
11	Net Home Energy Program	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	
12	Total Residential Conservation and Subsidized Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	
13	Energy Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	
14	Non-Residential Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	
15	Energy Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211
16	Energy Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211
17	Energy Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211
18	Energy Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211
19	Energy Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211
20	Energy Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211
21	Energy Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211
22	Energy Programs	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211
23	Total Non-Residential	5	3,078,211	3,078,211	6.75%	12	5	61.64%	2,228,278	2,228,278	0	1	2,228,278	0	2,228,278	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211	3,078,211
24	Total All Programs	5	11,317,000	11,317,000	6.75%	12	5	61.64%	8,256,556	8,256,556	0	1	8,256,556	0	8,256,556	11,317,000	11,317,000	11,317,000	11,317,000	11,317,000	11,317,000	11,317,000	11,317,000	11,317,000	11,317,000	11,317,000

(1) Total PPI Projected (underlying projects) less cumulative disability as of end of program year, including projects including projects for participants from prior vintage
 (2) Total PPI Projected (underlying projects) less cumulative disability as of end of program year, including projects for participants from prior vintage
 (3) Total PPI Projected (underlying projects) less cumulative disability as of end of program year, including projects for participants from prior vintage

Duke Energy Progress
Supplemental Evans Exhibit 1, page 3
Vintage 2016 True Up - January 1, 2016 to December 31, 2016
Docket Number E-2, Sub 1174
Load Impacts and Estimated Revenue Requirements by Program

REVISED

	A	B	C	D	E	F	G	H			
	System kW		System NPV of Avoided	Total Cost	Shared Savings %	Incentive	Unadjusted Rev Requirement ⁽¹⁾	NC Retail kWh Sales Allocation Factor	NC Residential Unadjusted Revenue Requirement ⁽²⁾	NC Residential Adjusted Revenue Requirement	
	Reduction - Summer Peak	System Energy Reduction (kWh)	Costs							-K (from page 2)	
Residential Programs											
EE Programs											
1. Appliances Recycling Program	27	206,569	\$ 76,177	\$ (137,000)	11.75%	\$ 25,049	\$ (111,960)	85.4384204%	E1 * F1	\$ (95,657)	\$ -
2. Energy Education Program for Schools	1,081	2,533,617	\$ 1,693,087	\$ 827,497	0.00%	\$ -	\$ 827,497	85.4384204%	E2 * F2	\$ 707,000	\$ -
3. Energy Efficient Lighting	6,006	41,649,479	\$ 33,998,827	\$ 15,552,184	11.75%	\$ 2,167,481	\$ 17,719,665	85.4384204%	E3 * F3	\$ 15,139,401	\$ -
4. Home Energy Improvement Program	1,904	6,289,383	\$ 6,991,688	\$ 6,013,170	11.75%	\$ 114,976	\$ 6,128,146	85.4384204%	E4 * F4	\$ 5,235,791	\$ 15
5. Multi-Family	1,480	12,462,490	\$ 7,155,974	\$ 2,045,220	11.75%	\$ 600,508	\$ 2,645,727	85.4384204%	E5 * F5	\$ 2,260,468	\$ (12,725)
6. Neighborhood Energy Saver	304	1,992,091	\$ 1,167,680	\$ 2,092,535	0.00%	\$ -	\$ 2,092,535	85.4384204%	E6 * F6	\$ 1,733,656	\$ -
7. Residential Energy Assessments	632	4,141,247	\$ 3,725,714	\$ 1,417,924	11.75%	\$ 271,165	\$ 1,659,090	85.4384204%	E7 * F7	\$ 1,443,131	\$ -
8. Residential New Construction	4,703	10,959,146	\$ 21,072,142	\$ 9,405,615	11.75%	\$ 1,370,699	\$ 10,776,315	85.4384204%	E7 * F7	\$ 9,207,113	\$ 3,847
9. Save Energy and Water Kit	5,914	17,671,857	\$ 13,873,513	\$ 674,538	11.75%	\$ 1,550,880	\$ 2,225,418	85.4384204%	E8 * F8	\$ 1,901,162	\$ (104,416)
10. Residential Home Advantage	-	-	\$ -	\$ -	11.75%	\$ -	\$ -	85.4384204%	-	\$ -	\$ -
11. Total for Residential Conservation Programs	22,110	97,926,479	\$ 89,753,752	\$ 37,851,674		\$ 6,100,758	\$ 43,952,432			\$ 37,552,263	\$ (113,279)
12. My Home Energy Report	16,905	102,923,181	\$ 7,524,461	\$ 5,890,093	11.75%	\$ 192,038	\$ 6,082,131	85.4384204%	E11 * F11	\$ 5,196,477	\$ 325,852
13. Total Residential Conservation and Behavioral Programs	39,015	200,847,659	\$ 97,278,213	\$ 43,741,767		\$ 6,292,796	\$ 50,034,563			\$ 42,748,740	\$ 212,573
14. EnergyWise	34,059	-	\$ 70,854,171	\$ 6,887,758	11.75%	\$ 7,516,054	\$ 14,403,811	86.1687719%		\$ 6,220,487	\$ -
15. Total Residential	73,074	200,847,659	\$ 168,132,884	\$ 50,629,524		\$ 13,808,850	\$ 64,438,374		46.8904563%	\$ 48,918,227	\$ 212,573
Non-Residential Programs											
EE Programs											
16. Business Energy Report	740	4,546,814	\$ 309,365	\$ 69,516		\$ -	\$ 69,516	85.4384204%	E13 * F13	\$ 59,399	\$ -
17. Energy Efficiency for Business	10,201	71,154,719	\$ 47,824,935	\$ 14,399,310	11.75%	\$ 3,955,711	\$ 18,115,021	85.4384204%	E14 * F14	\$ 15,477,188	\$ 272
18. Energy Efficient Lighting	2,818	12,180,303	\$ 10,844,239	\$ 1,889,091	11.75%	\$ 3,056,861	\$ 3,946,556	85.4384204%	E16 * F16	\$ 2,517,091	\$ -
19. Small Business Energy Saver	6,675	49,879,294	\$ 32,983,857	\$ 9,332,274	11.75%	\$ 2,729,183	\$ 12,115,447	85.4384204%	E17 * F17	\$ 10,351,255	\$ 8,690
19. Total for Non-Residential Conservation Programs	22,434	137,861,130	\$ 92,007,456	\$ 25,454,794		\$ 7,791,755	\$ 33,246,550			\$ 28,405,327	\$ 9,162
20. EnergyWise for Business	523	412,047	\$ 154,698	\$ 1,112,815	11.75%	\$ (111,404)	\$ 1,001,411	86.1687719%	E19 * F19	\$ 7,054,004	\$ 74,686
21. Commercial, Industrial, & Governmental Demand Respo	(5,344)	-	\$ (10,684,733)	\$ -	11.75%	\$ -	\$ -	86.1687719%	E20 * F20	\$ -	\$ -
22. Total for Non-Residential DSM Programs	(4,821)	412,047	\$ (10,520,037)	\$ 1,112,815		\$ (111,404)	\$ 1,001,411	86.1687719%		\$ 7,054,004	\$ 74,686
23. Total Non-Residential	17,613	138,273,177	\$ 81,487,419	\$ 26,567,609		\$ 7,680,351	\$ 34,247,961		53.1395437%	\$ 35,459,331	\$ 83,848
24. Total All Programs	90,687	339,120,836	\$ 249,619,802	\$ 77,197,134		\$ 21,489,201	\$ 98,686,335			\$ 84,428,558	\$ 296,421
[1] My Home Energy Report impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintages											
[2] Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak											
24. DSDR	281,372	33,941,086		7,944,728			\$ 7,944,728				
25. Total with DSDR	372,059	373,061,922	\$ 249,619,802	\$ 85,141,861		\$ 21,489,201	\$ 106,631,062			\$ 84,428,558	\$ 296,421

Program	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System Type of Installed Costs	Total Cost	Shared Savings %	Inertia	Unadjusted Rev Requirement*	NC Retail 100% Sales Allocation Factor	NC Allocation Factor	NC Residential Unadjusted Revenue Requirement**	NC Residential Adjusted Revenue Requirement**
Residential Programs											
EE Programs											
1 Appliances Recycling Program	395	2,331,725	\$ 1,376,447	\$ 5,585	11.75%	\$ (46)	\$ 4,930	65.5082649%	E1 * F1	\$ 4,315	\$ 119,254
2 Energy Inspection Program for Schools	4,620	29,327,887	2,927,782	\$ 10,502,479	0.00%	\$ 2,165,779	\$ 83,991	65.5082649%	E3 * F2	\$ 74,841	\$ -
3 Energy Inspection Program for Homes	1,976	12,321,887	1,232,187	\$ 4,342,117	11.75%	\$ 48,529	\$ 1,026,157	65.5082649%	E3 * F3	\$ 811,786	\$ 3,742,117
4 Smart Energy Improvement Program	2,192	16,506,507	1,650,651	\$ 5,254,419	11.75%	\$ 90,764	\$ 848,532	65.5082649%	E4 * F4	\$ 5,807,581	\$ -
5 Multi-Family	185	1,117,743	1,117,743	\$ 2,514,419	0.00%	\$ -	\$ 1,781,211	65.5082649%	E6 * F6	\$ 1,152,834	\$ 506,376
6 Multi-Family Energy Saver	910	5,447,736	4,833,959	\$ 1,683,486	11.75%	\$ 286,756	\$ 2,580,281	65.5082649%	E7 * F7	\$ 1,330,644	\$ -
7 Residential Energy Assessments	6,022	13,996,035	1,399,604	\$ 11,617,774	11.75%	\$ 1,516,617	\$ 13,198,530	65.5082649%	E7 * F7	\$ 11,277,338	\$ -
8 Residential New Construction	8,377	25,021,451	1,187,736	\$ 888,889	11.75%	\$ 1,915,952	\$ 2,091,911	65.5082649%	E8 * F8	\$ 2,297,985	\$ -
9 Residential Energy Saver	3,177	17,187,736	94,655,498	\$ 37,477,073	11.75%	\$ 6,713,340	\$ 44,140,219	65.5082649%	E8 * F8	\$ 7,745,297	\$ 19,8176
10 Residential Energy Saver	26,212	102,441,997	94,655,498	\$ 37,477,073	11.75%	\$ 6,713,340	\$ 44,140,219	65.5082649%	E8 * F8	\$ 7,745,297	\$ 19,8176
11 Total for Residential Conservation Programs	79,044	117,851,518	\$ 679,729	\$ 6,793,153	11.75%	\$ 25,374	\$ 6,728,828	65.5082649%	E11 * F11	\$ 4,576,595	\$ 23,220
12 My Home Energy Report	33,438	220,293,117	\$ 62,985,850	\$ 6,507,012	11.75%	\$ 6,835,512	\$ 11,192,544	65.5082649%	E12 * F12	\$ 4,300,313	\$ 4,918,402
13 Total Residential Conservation and Behavioral Programs	43,085	270,793,117	\$ 164,933,519	\$ 50,681,205	11.75%	\$ 13,670,824	\$ 44,052,740	65.5082649%	E13 * F13	\$ 9,242,138	\$ 11,253,088
Non-Residential Programs											
EE Programs											
16 Business Energy Report	16,698	101,320,354	\$ 76,970,008	\$ 21,749,807	11.75%	\$ 5,723,374	\$ 78,431,180	65.5082649%	E16 * F16	\$ 21,384	\$ 6,943,270
17 Energy Efficiency for Business	2,024	7,747,814	\$ 9,138,119	\$ 1,846,419	11.75%	\$ 926,598	\$ 2,260,041	65.5082649%	E16 * F16	\$ 1,333,822	\$ -
18 Energy Efficient Lighting	58	435,108	\$ 35,899	\$ 147,160	11.75%	\$ 22,117	\$ 149,117	65.5082649%	E17 * F17	\$ 141,297	\$ 1,129,4
19 Non-EE SmartSwitch/Performance	8,601	48,944,135	\$ 79,219,707	\$ 8,707,795	11.75%	\$ 24,679,743	\$ 11,083,499	65.5082649%	E18 * F18	\$ 2,278,389	\$ -
20 Smart Business Energy Saver	26,620	157,860,452	\$ 117,943,970	\$ 32,077,995	11.75%	\$ 20,000,392	\$ 42,071,307	65.5082649%	E18 * F18	\$ 35,963,135	\$ 10,388,380
21 Total for Non-Residential Conservation Programs	45,307	264,932,753	\$ 235,167,825	\$ 32,826,566	11.75%	\$ 25,828,602	\$ 64,733,012	65.5082649%	E21 * F21	\$ 37,846	\$ 157,466
22 EnergyWatch for Industrial	1,380	8,351,527	\$ 3,551,527	\$ 1,393,660	11.75%	\$ -	\$ 1,393,660	65.5082649%	E22 * F22	\$ 918,920	\$ 33,850
23 Commercial, Industrial & Governmental Demand Response	4,885	161,172	\$ 4,410,642	\$ 2,784,159	11.75%	\$ 19,105	\$ 2,974,304	65.5082649%	E23 * F23	\$ 785,971	\$ 1,16,365
24 Total for Non-Residential DSM Programs	33,415	162,444,143	\$ 172,136,972	\$ 34,271,195	11.75%	\$ 19,105	\$ 2,974,304	65.5082649%	E24 * F24	\$ 10,642,215	\$ -
25 Total Non-Residential	112,008	500,217,275	\$ 283,588,110	\$ 65,497,401	11.75%	\$ 21,641,700	\$ 109,125,431	65.5082649%	E25 * F25	\$ 49,101,885	\$ 21,798,731
26 Total All Programs	112,008	500,217,275	\$ 283,588,110	\$ 65,497,401	11.75%	\$ 21,641,700	\$ 109,125,431	65.5082649%	E26 * F26	\$ 49,101,885	\$ 21,798,731
*1) My Home Energy Report impacts include cumulative rebates as of end of vintage year, including impacts for participants from prior vintage											
*2) Total System DSM program allowed to Residential and Non-Residential based on contribution to retail power peak											
24 DSM	334,505	85,518,689	\$ 283,588,110	\$ 11,164,479	11.75%	\$ 22,642,290	\$ 120,272,620	65.5082649%	E24 * F24	\$ 61,102,605	\$ 21,798,731
25 Total with DSM	466,513	416,555,960	\$ 283,588,110	\$ 96,661,880	11.75%	\$ 22,642,290	\$ 120,272,620	65.5082649%	E25 * F25	\$ 61,102,605	\$ 21,798,731

Duke Energy Progress
 Supplemental Earnings Exhibit 1, page 6
 Voltage 2017 (10/1/2017 - 12/31/2017)
 Total Impact and Estimated Revenue Requirements by Program

	A	B	C	D	E	F	G	H	I	J	K	L								
	MC Incentive	Income Tax Rate	Income Taxes	Net-of-Tax PPI - Total PPI	Discount Rate	PPI Amortization Period	Vintage Year 2017 - Year 1 PPI	Income Tax Credit Factor	Adjusted PPI	I Prior Period PPI	Vintage 2009 PPI	Vintage 2010 PPI	Vintage 2011 PPI	Vintage 2012 PPI	Vintage 2013 PPI	Vintage 2014 PPI	Vintage 2015 PPI	Vintage 2016 PPI	PPI Value for Ten-Period	
Residential Programs																				
EE Programs																				
1	\$ (501)	37.00%	\$ 208	\$ (183)	6.70%	10	\$ (157,833)	62.94%	\$ (79)	\$ (117,833)	\$ -	\$ 28,947	\$ 20,982	\$ 18,467	\$ 17,038	\$ 7,503	\$ 4,492	\$ 3,011	\$ 110,754	
2	\$ 1,852,005	37.00%	\$ (685,253)	\$ 1,166,752	6.70%	N/A	\$ 282,651	62.94%	\$ 448,253	\$ 3,201,746	\$ -	\$ 546,455	\$ 809,770	\$ 1,118,854	\$ 1,618,317	\$ 2,172,215	\$ 2,812,049	\$ 3,514,886	\$ 3,741,077	
3	\$ 175,921	37.00%	\$ (64,801)	\$ 111,120	6.70%	10	\$ (18,764)	62.94%	\$ (10,158)	\$ 183,013	\$ 10,405	\$ 28,517	\$ 11,621	\$ 10,249	\$ 9,107	\$ 7,647	\$ 6,438	\$ 5,383	\$ 4,313	\$ 20,233
4	\$ 244,700	37.00%	\$ (90,311)	\$ 154,389	6.70%	N/A	\$ -	62.94%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 244,700
5	\$ 2,297,047	37.00%	\$ (849,815)	\$ 1,447,232	6.70%	10	\$ 37,296	62.94%	\$ 19,415	\$ 161,121	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 115,536
6	\$ 1,517,528	37.00%	\$ (556,461)	\$ 961,067	6.70%	3	\$ 245,241	62.94%	\$ 166,292	\$ 330,075	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 167,787
7	\$ 5,741,093	37.00%	\$ (2,118,019)	\$ 3,623,074	6.70%	10	\$ 797,043	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
8	\$ 21,010	37.00%	\$ (7,763)	\$ 13,247	6.70%	1	\$ 11,827	62.94%	\$ 27,079	\$ 2,007,052	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,079
9	\$ 5,764,132	37.00%	\$ (2,118,007)	\$ 3,646,125	6.70%	10	\$ 810,371	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
10	\$ 2,715,152	37.00%	\$ (1,000,407)	\$ 1,714,745	6.70%	10	\$ 1,117,438	62.94%	\$ 2,094,768	\$ 5,155,127	\$ 125,151	\$ 1,001,048	\$ 701,458	\$ 1,409,140	\$ 1,717,771	\$ 2,001,450	\$ 2,253,122	\$ 2,514,813	\$ 2,781,115	\$ 4,819,545
11	\$ 11,485,292	37.00%	\$ (4,214,594)	\$ 7,270,698	6.70%	10	\$ 3,117,438	62.94%	\$ 7,293,155	\$ 9,124,274	\$ 331,554	\$ 1,700,917	\$ 1,309,140	\$ 2,617,771	\$ 3,160,450	\$ 3,644,717	\$ 4,128,813	\$ 4,612,913	\$ 5,107,013	\$ 11,315,545
12	\$ 21,010	37.00%	\$ (7,763)	\$ 13,247	6.70%	1	\$ 11,827	62.94%	\$ 27,079	\$ 2,007,052	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,079
13	\$ 5,764,132	37.00%	\$ (2,118,007)	\$ 3,646,125	6.70%	10	\$ 810,371	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
14	\$ 2,715,152	37.00%	\$ (1,000,407)	\$ 1,714,745	6.70%	10	\$ 1,117,438	62.94%	\$ 2,094,768	\$ 5,155,127	\$ 125,151	\$ 1,001,048	\$ 701,458	\$ 1,409,140	\$ 1,717,771	\$ 2,001,450	\$ 2,253,122	\$ 2,514,813	\$ 2,781,115	\$ 4,819,545
15	\$ 11,485,292	37.00%	\$ (4,214,594)	\$ 7,270,698	6.70%	10	\$ 3,117,438	62.94%	\$ 7,293,155	\$ 9,124,274	\$ 331,554	\$ 1,700,917	\$ 1,309,140	\$ 2,617,771	\$ 3,160,450	\$ 3,644,717	\$ 4,128,813	\$ 4,612,913	\$ 5,107,013	\$ 11,315,545
16	\$ 5,741,093	37.00%	\$ (2,118,019)	\$ 3,623,074	6.70%	10	\$ 797,043	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
17	\$ 21,010	37.00%	\$ (7,763)	\$ 13,247	6.70%	1	\$ 11,827	62.94%	\$ 27,079	\$ 2,007,052	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,079
18	\$ 5,764,132	37.00%	\$ (2,118,007)	\$ 3,646,125	6.70%	10	\$ 810,371	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
19	\$ 2,715,152	37.00%	\$ (1,000,407)	\$ 1,714,745	6.70%	10	\$ 1,117,438	62.94%	\$ 2,094,768	\$ 5,155,127	\$ 125,151	\$ 1,001,048	\$ 701,458	\$ 1,409,140	\$ 1,717,771	\$ 2,001,450	\$ 2,253,122	\$ 2,514,813	\$ 2,781,115	\$ 4,819,545
20	\$ 11,485,292	37.00%	\$ (4,214,594)	\$ 7,270,698	6.70%	10	\$ 3,117,438	62.94%	\$ 7,293,155	\$ 9,124,274	\$ 331,554	\$ 1,700,917	\$ 1,309,140	\$ 2,617,771	\$ 3,160,450	\$ 3,644,717	\$ 4,128,813	\$ 4,612,913	\$ 5,107,013	\$ 11,315,545
21	\$ 5,741,093	37.00%	\$ (2,118,019)	\$ 3,623,074	6.70%	10	\$ 797,043	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
22	\$ 21,010	37.00%	\$ (7,763)	\$ 13,247	6.70%	1	\$ 11,827	62.94%	\$ 27,079	\$ 2,007,052	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,079
23	\$ 5,764,132	37.00%	\$ (2,118,007)	\$ 3,646,125	6.70%	10	\$ 810,371	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
24	\$ 2,715,152	37.00%	\$ (1,000,407)	\$ 1,714,745	6.70%	10	\$ 1,117,438	62.94%	\$ 2,094,768	\$ 5,155,127	\$ 125,151	\$ 1,001,048	\$ 701,458	\$ 1,409,140	\$ 1,717,771	\$ 2,001,450	\$ 2,253,122	\$ 2,514,813	\$ 2,781,115	\$ 4,819,545
25	\$ 11,485,292	37.00%	\$ (4,214,594)	\$ 7,270,698	6.70%	10	\$ 3,117,438	62.94%	\$ 7,293,155	\$ 9,124,274	\$ 331,554	\$ 1,700,917	\$ 1,309,140	\$ 2,617,771	\$ 3,160,450	\$ 3,644,717	\$ 4,128,813	\$ 4,612,913	\$ 5,107,013	\$ 11,315,545
26	\$ 5,741,093	37.00%	\$ (2,118,019)	\$ 3,623,074	6.70%	10	\$ 797,043	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
27	\$ 21,010	37.00%	\$ (7,763)	\$ 13,247	6.70%	1	\$ 11,827	62.94%	\$ 27,079	\$ 2,007,052	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,079
28	\$ 5,764,132	37.00%	\$ (2,118,007)	\$ 3,646,125	6.70%	10	\$ 810,371	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
29	\$ 2,715,152	37.00%	\$ (1,000,407)	\$ 1,714,745	6.70%	10	\$ 1,117,438	62.94%	\$ 2,094,768	\$ 5,155,127	\$ 125,151	\$ 1,001,048	\$ 701,458	\$ 1,409,140	\$ 1,717,771	\$ 2,001,450	\$ 2,253,122	\$ 2,514,813	\$ 2,781,115	\$ 4,819,545
30	\$ 11,485,292	37.00%	\$ (4,214,594)	\$ 7,270,698	6.70%	10	\$ 3,117,438	62.94%	\$ 7,293,155	\$ 9,124,274	\$ 331,554	\$ 1,700,917	\$ 1,309,140	\$ 2,617,771	\$ 3,160,450	\$ 3,644,717	\$ 4,128,813	\$ 4,612,913	\$ 5,107,013	\$ 11,315,545
31	\$ 5,741,093	37.00%	\$ (2,118,019)	\$ 3,623,074	6.70%	10	\$ 797,043	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
32	\$ 21,010	37.00%	\$ (7,763)	\$ 13,247	6.70%	1	\$ 11,827	62.94%	\$ 27,079	\$ 2,007,052	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,079
33	\$ 5,764,132	37.00%	\$ (2,118,007)	\$ 3,646,125	6.70%	10	\$ 810,371	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
34	\$ 2,715,152	37.00%	\$ (1,000,407)	\$ 1,714,745	6.70%	10	\$ 1,117,438	62.94%	\$ 2,094,768	\$ 5,155,127	\$ 125,151	\$ 1,001,048	\$ 701,458	\$ 1,409,140	\$ 1,717,771	\$ 2,001,450	\$ 2,253,122	\$ 2,514,813	\$ 2,781,115	\$ 4,819,545
35	\$ 11,485,292	37.00%	\$ (4,214,594)	\$ 7,270,698	6.70%	10	\$ 3,117,438	62.94%	\$ 7,293,155	\$ 9,124,274	\$ 331,554	\$ 1,700,917	\$ 1,309,140	\$ 2,617,771	\$ 3,160,450	\$ 3,644,717	\$ 4,128,813	\$ 4,612,913	\$ 5,107,013	\$ 11,315,545
36	\$ 5,741,093	37.00%	\$ (2,118,019)	\$ 3,623,074	6.70%	10	\$ 797,043	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
37	\$ 21,010	37.00%	\$ (7,763)	\$ 13,247	6.70%	1	\$ 11,827	62.94%	\$ 27,079	\$ 2,007,052	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,079
38	\$ 5,764,132	37.00%	\$ (2,118,007)	\$ 3,646,125	6.70%	10	\$ 810,371	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
39	\$ 2,715,152	37.00%	\$ (1,000,407)	\$ 1,714,745	6.70%	10	\$ 1,117,438	62.94%	\$ 2,094,768	\$ 5,155,127	\$ 125,151	\$ 1,001,048	\$ 701,458	\$ 1,409,140	\$ 1,717,771	\$ 2,001,450	\$ 2,253,122	\$ 2,514,813	\$ 2,781,115	\$ 4,819,545
40	\$ 11,485,292	37.00%	\$ (4,214,594)	\$ 7,270,698	6.70%	10	\$ 3,117,438	62.94%	\$ 7,293,155	\$ 9,124,274	\$ 331,554	\$ 1,700,917	\$ 1,309,140	\$ 2,617,771	\$ 3,160,450	\$ 3,644,717	\$ 4,128,813	\$ 4,612,913	\$ 5,107,013	\$ 11,315,545
41	\$ 5,741,093	37.00%	\$ (2,118,019)	\$ 3,623,074	6.70%	10	\$ 797,043	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
42	\$ 21,010	37.00%	\$ (7,763)	\$ 13,247	6.70%	1	\$ 11,827	62.94%	\$ 27,079	\$ 2,007,052	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,079
43	\$ 5,764,132	37.00%	\$ (2,118,007)	\$ 3,646,125	6.70%	10	\$ 810,371	62.94%	\$ 1,385,357	\$ 4,287,621	\$ 38,424	\$ 27,550	\$ 78,840	\$ 202,684	\$ 270,268	\$ 347,315	\$ 436,493	\$ 531,549	\$ 635,785	\$ 6,359,392
44	\$ 2,715,152	37.00%	\$ (1,000,407)	\$ 1,714,745																

Duke Energy Progress
Supplemental Event Exhibit 1, page 7
Vintage 2019 Estimate - January 1, 2019 to December 31, 2019
Docket No. E-2, Sub 1374
Load Impacts and Estimated Revenue Requirements by Program

NO CHANGE

	A	B	C	D	E	F	G	H	I		
	(A-B)*C	(B+D)							=K (from page 2)		
System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs	Total Cost	Shared Savings %	Incentive	Unadjusted Rev Requirement ⁽¹⁾	NC Retail kWh Sales Allocation Factor	NC Allocation Factor [2]	NC Residential Unadjusted Revenue Requirement ⁽¹⁾	NC Residential Adjusted Revenue Requirement	
Residential Programs											
EE Programs											
1 Appliance Recycling Program	-	-	-	11.75%	\$ -	\$ -	85.560874%		E1 * F1	\$ -	\$ 120,467
2 Energy Education Program for Schools	980	2,314,528	1,158,100	0.00%	\$ -	\$ 753,793	85.560874%		E2 * F2	\$ 644,052	\$ -
3 Energy Efficient Lighting	4,110	24,931,577	19,928,859	11.75%	\$ 957,348	\$ 12,738,561	85.560874%		E3 * F3	\$ 10,899,223	\$ 4,281,624
4 Home Energy Improvement	1,111	4,183,859	3,427,625	11.75%	\$ (85,500)	\$ 3,919,569	85.560874%		E4 * F4	\$ 3,353,618	\$ 331,825
5 Multi-Family	2,131	15,206,371	7,953,023	11.75%	\$ 589,215	\$ 3,327,564	85.560874%		E5 * F5	\$ 2,847,093	\$ 781,251
6 Neighborhood Energy Saver	326	2,135,101	840,811	0.00%	\$ -	\$ 2,028,200	85.560874%		E6 * F6	\$ 1,735,346	\$ -
7 Residential Energy Assessments	428	2,585,215	1,655,142	11.75%	\$ 60,825	\$ 1,199,306	85.560874%		E7 * F7	\$ 1,026,137	\$ 158,392
8 Residential New Construction	7,101	16,446,576	23,483,512	11.75%	\$ 1,268,079	\$ 13,939,430	85.560874%		E8 * F8	\$ 11,943,809	\$ 904,809
9 Save Energy and Water Kit	8,915	30,940,131	17,934,660	11.75%	\$ 1,927,840	\$ 3,455,351	85.560874%		E9 * F9	\$ 2,956,428	\$ 1,310,632
10 Residential Home Advantages	-	-	-	11.75%	\$ -	\$ -	85.560874%		E10 * F10	\$ -	\$ 168,458
11 Total for Residential Conservation Programs	25,101	98,723,759	76,222,731		\$ 4,737,818	\$ 41,381,774				\$ 35,406,806	\$ 8,117,508
12 My Home Energy Report [1]	20,008	119,373,463	7,230,046	11.75%	\$ (89,772)	\$ 7,904,288	85.560874%		E11 * F11	\$ 6,762,977	\$ (76,809)
13 Total Residential Conservation and Behavioral Programs	45,109	217,997,222	\$ 83,452,777		\$ 4,648,046	\$ 49,286,062				\$ 42,169,583	\$ 8,040,699
NC Residential Peak Demand Allocation Factor											
14 EnergyWise * Home	27,116	-	48,815,454	11.75%	\$ 5,096,796	\$ 10,335,262	86.5304240%	48.5812530%	(E13+E23)*F13*G13	\$ 8,241,070	\$ 6,132,852
15 Total Residential	72,225	217,997,222	\$ 132,068,231		\$ 9,744,843	\$ 59,621,323				\$ 50,410,633	\$ 14,178,331
Non-Residential Programs											
EE Programs											
16 Energy Efficient Lighting	1,702	6,572,638	6,244,853	11.75%	\$ 565,991	\$ 1,993,897	85.560874%		E15 * F15	\$ 1,705,996	\$ 1,486,980
17 Non-Residential Smart Saver Performance (Custom)	1,584	13,879,016	6,291,089	11.75%	\$ 419,608	\$ 3,139,567	85.560874%		E16 * F16	\$ 2,686,241	\$ 335,792
18 Non-Residential Smart Saver Performance (Prescriptive)	7,337	48,474,009	26,084,465	11.75%	\$ 1,724,437	\$ 13,132,842	85.560874%		E17 * F17	\$ 11,235,574	\$ 6,326,244
19 Non-Residential Smart Saver Performance Incentive	751	6,576,526	2,581,012	11.75%	\$ 230,874	\$ 1,096,785	85.560874%		E18 * F18	\$ 938,416	\$ 54,602
20 Small Business Energy Saver	8,947	46,011,147	22,392,278	11.75%	\$ 1,538,934	\$ 10,833,900	85.560874%		E19 * F19	\$ 9,269,728	\$ 2,690,548
21 Total for Non-Residential Conservation Programs	20,321	121,513,336	\$ 63,993,697		\$ 4,499,845	\$ 30,196,992				\$ 25,836,808	\$ 11,094,106
NC Non-Residential Peak Demand Allocation Factor											
22 EnergyWise * for Business	8,886	1,536,576	1,694,124	11.75%	\$ (91,965)	\$ 2,384,843				\$ 2,244,257	\$ (84,858)
23 Commercial Industrial Governmental Demand Response	7,337	-	12,593,610	11.75%	\$ 760,475	\$ 6,883,957				\$ 6,478,150	\$ 809,758
24 Total for Non-Residential DSM Programs	16,243	1,536,576	\$ 14,288,734		\$ 668,510	\$ 9,268,800	86.5304240%	51.4187470%	(E23+E23)*F23*G23	\$ 8,722,407	\$ 724,900
25 Total Non-Residential	36,564	123,049,913	\$ 78,289,431		\$ 5,168,354	\$ 39,465,791				\$ 34,559,315	\$ 11,819,005
26 Total All Programs	108,789	341,047,135	\$ 210,351,662		\$ 14,913,197	\$ 99,087,114				\$ 84,969,868	\$ 25,997,556
DSDR											
1 DSDR	352,416	43,664,336	\$ 15,425,418	N/A	\$ -	\$ 15,425,418				\$ -	\$ -
Total All Programs with DSDR	461,204	384,711,471	\$ 210,351,662		\$ 14,913,197	\$ 114,512,533				\$ 84,969,868	\$ 25,997,556

(1) My Home Energy Report Impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintages
(2) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak

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Duke Energy Progress
For the Period January 1, 2015 - December 31, 2019
Docket Number E-2, Sub 1174
North Carolina Net Lost Revenue for Vintages 2015 - 2019

Line	Residential	Vintage 2014					2019	Total
		2014	2015	2016(a)	2017(a)	2018(a)		
1	Appliance Recycling Program	\$ 120,357	\$ 258,341	\$ 257,297	\$ 138,135	\$ -	\$ -	774,131
2	Home Energy Improvement Program	\$ 189,884	\$ 271,841	\$ 270,841	\$ 103,462	\$ -	\$ -	818,108
3	Residential Lighting Program	\$ 2,967,804	\$ 5,441,135	\$ 5,401,532	\$ 2,897,296	\$ -	\$ -	16,707,768
4	Neighborhood Energy Saver Program	\$ 37,747	\$ 78,192	\$ 78,872	\$ 41,516	\$ -	\$ -	237,327
5	Residential New Construction	\$ 184,096	\$ 271,509	\$ 270,412	\$ 89,208	\$ -	\$ -	815,226
6	Residential Energy Efficient Benchmarking	\$ 809,163	\$ (4,288)	\$ -	\$ -	\$ -	\$ -	804,895
7	Net Lost Residential Revenues	\$ 4,289,032	\$ 6,317,851	\$ 6,278,954	\$ 3,269,618	\$ -	\$ -	20,155,455

Line	Non-Residential	Vintage 2014					2019	Total
		2014	2015	2016(a)	2017(a)	2018(a)		
8	Energy Efficiency for Business	\$ 1,442,220	\$ 2,222,371	\$ 2,235,683	\$ 809,474	\$ -	\$ -	6,709,748
9	Small Business Energy Saver Program	\$ 749,823	\$ 1,496,286	\$ 1,505,249	\$ 756,072	\$ -	\$ -	4,507,530
10	Non-Residential Lighting Program	\$ 1,153,089	\$ 2,084,378	\$ 2,069,735	\$ 1,108,056	\$ -	\$ -	6,395,259
11	Net Lost Non-Residential Revenues	\$ 3,345,232	\$ 5,783,036	\$ 5,810,667	\$ 2,673,603	\$ -	\$ -	17,612,537

Line	Residential	Vintage 2015				Jan-Mar 15		Total
		2014	2015	2016(a)	2017(a)	2018	2019	
1	Appliance Recycling Program	\$ -	\$ 123,909	\$ 238,215	\$ 246,008	\$ 48,185	\$ -	654,317
2	Energy Education Program for Schools	\$ -	\$ 71,588	\$ 120,888	\$ 124,841	\$ 24,481	\$ -	341,797
3	Energy Efficient Lighting	\$ -	\$ 1,665,788	\$ 3,332,098	\$ 3,441,107	\$ 538,645	\$ -	8,975,638
4	Home Energy Improvement Program	\$ -	\$ 170,038	\$ 347,816	\$ 359,298	\$ 65,009	\$ -	942,260
5	Multi-Family	\$ -	\$ 429,296	\$ 909,897	\$ 939,665	\$ 182,264	\$ -	2,461,122
6	My Home Energy Report	\$ -	\$ 4,024,242	\$ -	\$ -	\$ -	\$ -	4,024,242
7	Neighborhood Energy Saver	\$ -	\$ 54,534	\$ 89,993	\$ 92,937	\$ 15,265	\$ -	252,729
8	Residential New Construction	\$ -	\$ 252,450	\$ 390,785	\$ 403,570	\$ 54,943	\$ -	1,101,749
9	Save Energy and Water Kit	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
10	Total Lost Revenues	\$ -	\$ 6,791,845	\$ 5,429,790	\$ 5,607,428	\$ 924,793	\$ -	18,753,654
11	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
12	Net Lost Residential Revenues	\$ -	\$ 6,791,845	\$ 5,429,790	\$ 5,607,428	\$ 924,793	\$ -	18,753,654

Line	Non-Residential	Vintage 2015					2019	Total
		2014	2015	2016(a)	2017(a)	2018		
13	Energy Efficiency for Business	\$ -	\$ 1,386,578	\$ 2,353,629	\$ 2,443,707	\$ 374,092	\$ -	6,558,006
14	Energy Efficient Lighting	\$ -	\$ 420,420	\$ 846,915	\$ 879,329	\$ 128,026	\$ -	2,272,690
15	Small Business Energy Saver	\$ -	\$ 737,092	\$ 1,703,045	\$ 1,768,224	\$ 315,792	\$ -	4,524,153
16	EnergyWise for Business	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
17	Total Lost Revenues	\$ -	\$ 2,544,090	\$ 4,903,589	\$ 5,091,260	\$ 815,910	\$ -	13,354,849
18	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
19	Net Lost Non-Residential Revenues	\$ -	\$ 2,544,090	\$ 4,903,589	\$ 5,091,260	\$ 815,910	\$ -	13,354,849

Line	DSDR	Vintage 2015					2019	Total
		2014	2015	2016(a)	2017(a)	2018		
20	DSDR	\$ -	\$ 420,831	\$ 145,979	\$ -	\$ -	\$ -	566,810

Line	Residential	Vintage 2016				Jan-Mar 15		Total
		2014	2015	2016(a)	2017(a)	2018	2019	
1	Appliance Recycling Program	\$ -	\$ -	\$ 5,095	\$ 12,308	\$ 5,330	\$ 3,265	25,998
2	Energy Education Program for Schools	\$ -	\$ -	\$ 59,240	\$ 135,532	\$ 44,845	\$ 18,760	258,377
3	Energy Efficient Lighting	\$ -	\$ -	\$ 1,033,814	\$ 2,116,981	\$ 642,767	\$ 233,337	4,025,900
4	Home Energy Improvement Program	\$ -	\$ -	\$ 163,848	\$ 370,108	\$ 104,359	\$ 31,983	670,297
5	My Home Energy Report	\$ -	\$ -	\$ 5,418,524	\$ -	\$ -	\$ -	5,418,524
6	Neighborhood Energy Saver	\$ -	\$ -	\$ 44,319	\$ 105,283	\$ 31,366	\$ 10,875	191,842
7	Multi-Family	\$ -	\$ -	\$ 332,768	\$ 658,165	\$ 180,201	\$ 50,332	1,221,466
8	Residential Energy Assessments	\$ -	\$ -	\$ 74,198	\$ 222,923	\$ 68,506	\$ 23,120	388,748
9	Residential New Construction	\$ -	\$ -	\$ 298,122	\$ 670,358	\$ 183,321	\$ 51,188	1,202,988
10	Save Energy and Water Kit	\$ -	\$ -	\$ 362,885	\$ 987,169	\$ 270,943	\$ 78,992	1,699,788
11	Total Lost Revenues	\$ -	\$ -	\$ 7,792,613	\$ 5,278,826	\$ 1,529,639	\$ 501,848	15,102,928
12	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
13	Net Lost Residential Revenues	\$ -	\$ -	\$ 7,792,613	\$ 5,278,826	\$ 1,529,639	\$ 501,848	15,102,928

Line	Non-Residential	Vintage 2016					2019	Total
		2014	2015	2016(a)	2017(a)	2018		
14	Business Energy Reports	\$ -	\$ -	\$ 191,245	\$ -	\$ -	\$ -	191,245
15	Energy Efficiency for Business	\$ -	\$ -	\$ 1,838,505	\$ 3,101,812	\$ 1,851,190	\$ 694,350	7,285,857
16	Energy Efficient Lighting	\$ -	\$ -	\$ 246,438	\$ 478,231	\$ 285,436	\$ 125,435	1,135,539
17	Small Business Energy Saver	\$ -	\$ -	\$ 1,100,746	\$ 2,221,854	\$ 1,326,012	\$ 535,303	5,183,715
18	EnergyWise for Business	\$ -	\$ -	\$ 7,298	\$ 19,733	\$ 11,778	\$ 8,032	44,841
19	Total Lost Revenues	\$ -	\$ -	\$ 3,184,232	\$ 5,821,430	\$ 3,474,415	\$ 1,381,119	13,841,197
20	Found Non-Residential Revenues	\$ -	\$ -	\$ (88,561)	\$ (113,553)	\$ -	\$ -	(295,689)
21	Net Lost Non-Residential Revenues	\$ -	\$ -	\$ 3,115,672	\$ 5,707,877	\$ 3,360,863	\$ 1,361,119	13,545,531

Line	DSDR	Vintage 2016					2019	Total
		2014	2015	2016(a)	2017(a)	2018		
22	DSDR	\$ -	\$ -	\$ 115,745	\$ 66,983	\$ -	\$ -	182,728

Line	Residential	Vintage 2017			2018	2019	Total
		2014	2015	2016(a)			
1	Appliance Recycling Program				\$ -	\$ -	\$ -
2	Energy Education Program for Schools				\$ 75,158	\$ 178,876	\$ 254,034
3	Energy Efficient Lighting				\$ 649,785	\$ 1,108,222	\$ 1,758,007
4	Home Energy Improvement Program				\$ 235,278	\$ 273,767	\$ 509,045
5	Multi-Family				\$ 458,691	\$ 632,090	\$ 1,090,781
6	My Home Energy Report				\$ 8,016,176	\$ -	\$ 8,016,176
7	Neighborhood Energy Saver				\$ 42,561	\$ 58,972	\$ 101,533
8	Residential Energy Assessments				\$ 147,827	\$ 187,215	\$ 335,042
9	Residential New Construction				\$ 425,229	\$ 571,056	\$ 996,285
10	Save Energy and Water Kit				\$ 754,565	\$ 905,753	\$ 1,660,318
11	Total Lost Revenues	\$ -	\$ -	\$ -	\$ 8,805,290	\$ 3,815,952	\$ 12,621,242
12	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Net Lost Residential Revenues	\$ -	\$ -	\$ -	\$ 8,805,290	\$ 3,815,952	\$ 12,621,242
Non-Residential							
		2014	2015	2016(a)	2017(a)	2018	2019
14	Business Energy Report				\$ 577	\$ -	\$ -
15	Energy Efficiency for Business				\$ 2,392,469	\$ 4,469,059	\$ 4,486,854
16	Energy Efficient Lighting				\$ 140,167	\$ 327,687	\$ 314,218
17	Small Business Energy Saver				\$ 1,079,154	\$ 1,987,679	\$ 1,886,908
18	Non-Res SmartSaver Performance				\$ 8,652	\$ 21,025	\$ 21,017
19	EnergyWise for Business				\$ 29,965	\$ 46,781	\$ 46,773
20	Total Lost Revenues	\$ -	\$ -	\$ -	\$ 3,851,284	\$ 6,852,241	\$ 6,835,770
21	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ (72,844)	\$ (106,296)	\$ (108,296)
22	Net Lost Non-Residential Revenues	\$ -	\$ -	\$ -	\$ 3,578,640	\$ 6,745,945	\$ 6,727,474
DSDR							
22	DSDR	\$ -	\$ -	\$ -	\$ 85,125	\$ 2,329	\$ -

Line	Residential	Vintage 2018			2018 (a)	2019	Total
		2014	2015	2016(a)			
1	Appliance Recycling Program				\$ 59,968	\$ -	\$ 59,968
2	Energy Education Program for Schools				\$ 39,410	\$ 99,626	\$ 139,037
3	Energy Efficient Lighting				\$ 616,478	\$ 1,172,842	\$ 1,789,321
4	Home Energy Improvement Program				\$ 74,905	\$ 193,400	\$ 268,305
5	My Home Energy Report				\$ 7,382,388	\$ -	\$ 7,382,388
6	Neighborhood Energy Saver				\$ 55,190	\$ 103,639	\$ 158,829
7	Multi-Family Energy Efficiency				\$ 379,048	\$ 769,220	\$ 1,148,268
8	Residential Energy Assessments				\$ 77,398	\$ 140,525	\$ 217,923
9	Residential New Construction				\$ 439,885	\$ 888,107	\$ 1,328,092
10	Save Energy and Water Kit				\$ 591,129	\$ 1,495,300	\$ 2,086,429
11	Total Lost Revenues	\$ -	\$ -	\$ -	\$ 9,715,899	\$ 4,862,660	\$ 14,578,558
12	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Net Lost Residential Revenues	\$ -	\$ -	\$ -	\$ 9,715,899	\$ 4,862,660	\$ 14,578,558
Non-Residential							
		2014	2015	2016(a)	2017	2018 (a)	2019
14	Business Energy Reports				\$ -	\$ -	\$ -
15	Energy Efficiency for Business				\$ 832,065	\$ 1,771,404	\$ 2,603,469
16	Energy Efficient Lighting				\$ 163,369	\$ 250,652	\$ 414,021
17	Non-Residential Smart Saver Performance Incentive				\$ -	\$ 71,032	\$ 71,032
18	Small Business Energy Saver				\$ 1,166,751	\$ 2,196,937	\$ 3,363,688
19	EnergyWise for Business				\$ 47,865	\$ 34,279	\$ 82,144
20	Total Lost Revenues	\$ -	\$ -	\$ -	\$ 2,210,049	\$ 4,324,304	\$ 6,534,354
21	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ (78,327)	\$ (144,787)	\$ (223,094)
22	Net Lost Non-Residential Revenues	\$ -	\$ -	\$ -	\$ 2,131,722	\$ 4,179,537	\$ 6,311,259

(a) Lost revenues were estimated by applying forecasted lost revenue rates for residential and non-residential customers to state specific forecasted program participation.

Line	Residential	Vintage 2019			2018 (a)	2019	Total
		2014	2015	2016(a)			
1	Appliance Recycling Program				\$ -	\$ -	\$ -
2	Energy Education Program for Schools				\$ 45,498	\$ -	\$ 45,498
3	Energy Efficient Lighting				\$ 660,301	\$ -	\$ 660,301
4	Home Energy Improvement Program				\$ 109,946	\$ -	\$ 109,946
5	My Home Energy Report				\$ 6,365,499	\$ -	\$ 6,365,499
6	Neighborhood Energy Saver				\$ 54,545	\$ -	\$ 54,545
7	Multi-Family Energy Efficiency				\$ 456,925	\$ -	\$ 456,925
8	Residential Energy Assessments				\$ 77,791	\$ -	\$ 77,791
9	Residential New Construction				\$ 47,875	\$ -	\$ 47,875
10	Save Energy and Water Kit				\$ 912,388	\$ -	\$ 912,388
11	Total Lost Revenues	\$ -	\$ -	\$ -	\$ 8,730,758	\$ -	\$ 8,730,758
12	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Net Lost Residential Revenues	\$ -	\$ -	\$ -	\$ 8,730,758	\$ -	\$ 8,730,758
Non-Residential							
		2014	2015	2016(a)	2017	2018 (a)	2019
14	Business Energy Reports				\$ -	\$ -	\$ -
15	Energy Efficiency for Business				\$ -	\$ 1,003,105	\$ 1,003,105
16	Energy Efficient Lighting				\$ -	\$ 174,071	\$ 174,071
17	Non-Residential Smart Saver Performance Incentive				\$ -	\$ 120,492	\$ 120,492
18	Small Business Energy Saver				\$ -	\$ 960,827	\$ 960,827
19	EnergyWise for Business				\$ -	\$ 32,780	\$ 32,780
20	Total Lost Revenues	\$ -	\$ -	\$ -	\$ -	\$ 2,291,275	\$ 2,291,275
21	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ (79,389)	\$ (79,389)
22	Net Lost Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ 2,211,886	\$ 2,211,886

Line	Residential	Vintage 2015 as Filed Lost Revenue kWh \$				Total
		2015	2016(a)	2017(a)	2018	
1	Appliance Recycling Program	\$ 123,909	\$ 238,215	\$ 227,380	\$ -	\$ 589,505
2	Energy Education Program for Schools	\$ 62,859	\$ 106,148	\$ 101,287	\$ -	\$ 270,272
3	Energy Efficient Lighting	\$ 1,665,788	\$ 3,322,098	\$ 4,238,474	\$ -	\$ 9,236,360
4	Home Energy Improvement Program	\$ 170,038	\$ 347,918	\$ 331,043	\$ -	\$ 848,999
5	Multi-Family	\$ 456,463	\$ 971,916	\$ 847,368	\$ -	\$ 2,275,747
6	My Home Energy Report	\$ 5,020,104	\$ -	\$ -	\$ -	\$ 5,020,104
7	Neighborhood Energy Saver	\$ 54,634	\$ 89,993	\$ 73,350	\$ -	\$ 217,977
8	Residential New Construction	\$ 212,546	\$ 329,015	\$ 314,051	\$ -	\$ 855,612
9	Save Energy and Water Kit	\$ -	\$ -	\$ -	\$ -	\$ -
10	Lost Residential Revenues	\$ 7,766,241	\$ 5,415,298	\$ 6,132,933	\$ -	\$ 19,314,472
11	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
12	Net Lost Residential Revenues	\$ 7,766,241	\$ 5,415,298	\$ 6,132,933	\$ -	\$ 19,314,472
Non-Residential		2015	2016(a)	2017(a)	2018	Total
13	Energy Efficiency for Business	\$ 1,385,578	\$ 2,353,629	\$ 2,229,685	\$ -	\$ 5,969,892
14	Energy Efficient Lighting	\$ 420,420	\$ 846,815	\$ 1,621,816	\$ -	\$ 2,889,251
15	Small Business Energy Saver	\$ 737,092	\$ 1,703,045	\$ 1,613,361	\$ -	\$ 4,053,498
16	EnergyWise for Business	\$ -	\$ -	\$ 69	\$ -	\$ 69
17	Net Lost Non-Residential Revenues	\$ 2,544,090	\$ 4,903,589	\$ 5,465,031	\$ -	\$ 12,912,710
18	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
19	Net Lost Non-Residential Revenues	\$ 2,544,090	\$ 4,903,589	\$ 5,465,031	\$ -	\$ 12,912,710
DSDR		2015	2016(a)	2017(a)	2018	Total
20	DSDR	\$ 420,831	\$ 145,979	\$ -	\$ -	\$ 566,810
Residential		Vintage 2016 as Filed Lost Revenue kWh \$				Total
		2015	2016(a)	2017(a)	2018	
1	Appliance Recycling Program	\$ -	\$ 5,095	\$ 203,747	\$ -	\$ 208,843
2	Energy Education Program for Schools	\$ -	\$ 52,016	\$ 97,012	\$ -	\$ 149,028
3	Energy Efficient Lighting	\$ -	\$ 1,033,814	\$ 2,253,342	\$ -	\$ 3,287,156
3	Home Energy Improvement Program	\$ -	\$ 163,889	\$ 122,724	\$ -	\$ 286,613
4	My Home Energy Report	\$ -	\$ 6,776,039	\$ -	\$ -	\$ 6,776,039
5	Neighborhood Energy Saver	\$ -	\$ 44,319	\$ 84,254	\$ -	\$ 128,573
5	Multi-Family	\$ -	\$ 361,415	\$ 535,662	\$ -	\$ 897,077
7	Residential Energy Assessments	\$ -	\$ 74,198	\$ 81,525	\$ -	\$ 155,723
8	Residential New Construction	\$ -	\$ 294,653	\$ 436,336	\$ -	\$ 730,991
9	Save Energy and Water Kit	\$ -	\$ 332,610	\$ 621,659	\$ -	\$ 954,269
10	Lost Residential Revenues	\$ -	\$ 9,138,049	\$ 4,416,263	\$ -	\$ 13,554,312
11	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
12	Net Lost Residential Revenues	\$ -	\$ 9,138,049	\$ 4,416,263	\$ -	\$ 13,554,312
Non-Residential		2015	2016(a)	2017(a)	2018	Total
11	Business Energy Reports	\$ -	\$ -	\$ -	\$ -	\$ -
12	Energy Efficiency for Business	\$ -	\$ 1,638,561	\$ 1,895,405	\$ -	\$ 3,533,966
13	Energy Efficient Lighting	\$ -	\$ 246,438	\$ 1,251,716	\$ -	\$ 1,498,155
14	Small Business Energy Saver	\$ -	\$ 1,107,111	\$ 1,557,986	\$ -	\$ 2,665,097
15	EnergyWise for Business	\$ -	\$ 18,814	\$ 27,113	\$ -	\$ 45,927
16	Net Lost Non-Residential Revenues	\$ -	\$ 3,010,924	\$ 4,732,221	\$ -	\$ 7,743,145
17	Found Non-Residential Revenues	\$ -	\$ (88,561)	\$ (113,553)	\$ -	\$ (182,114)
18	Net Lost Non-Residential Revenues	\$ -	\$ 2,942,363	\$ 4,618,668	\$ -	\$ 7,551,031
DSDR		2015	2016(a)	2017(a)	2018	Total
19	DSDR	\$ -	\$ 115,746	\$ 66,983	\$ -	\$ 182,728

Line	Residential	Vintage 2015 True Up Lost Revenue kWh \$				Total
		2015	2016(a)	2017(a)	2018	
1	Appliance Recycling Program	\$ 123,909	\$ 238,215	\$ 248,008	\$ 48,185	\$ 654,317
2	Energy Education Program for Schools	\$ 71,588	\$ 120,868	\$ 124,841	\$ 24,481	\$ 341,797
3	Energy Efficient Lighting	\$ 1,665,788	\$ 3,332,098	\$ 3,441,107	\$ 536,645	\$ 8,975,638
4	Home Energy Improvement Program	\$ 170,038	\$ 347,916	\$ 359,298	\$ 65,009	\$ 942,260
5	Multi-Family	\$ 429,296	\$ 809,897	\$ 939,665	\$ 182,264	\$ 2,461,122
6	My Home Energy Report	\$ 4,024,242	\$ -	\$ -	\$ -	\$ 4,024,242
7	Neighborhood Energy Saver	\$ 54,534	\$ 89,993	\$ 92,937	\$ 15,265	\$ 252,729
8	Residential New Construction	\$ 252,450	\$ 390,765	\$ 403,570	\$ 64,943	\$ 1,101,749
9	Save Energy and Water Kit	\$ -	\$ -	\$ -	\$ -	\$ -
10	Lost Residential Revenues	\$ 6,791,845	\$ 5,429,790	\$ 5,607,426	\$ 924,793	\$ 18,753,854
11	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
12	Net Lost Residential Revenues	\$ 6,791,845	\$ 5,429,790	\$ 5,607,426	\$ 924,793	\$ 18,753,854

Line	Non-Residential	Vintage 2015 True Up Lost Revenue kWh \$				Total
		2015	2016(a)	2017(a)	2018	
13	Energy Efficiency for Business	\$ 1,386,578	\$ 2,353,629	\$ 2,443,707	\$ 374,092	\$ 6,558,005.89
14	Energy Efficient Lighting	\$ 420,420	\$ 846,915	\$ 879,329	\$ 126,026	\$ 2,272,690.21
15	Small Business Energy Saver	\$ 737,092	\$ 1,703,045	\$ 1,768,224	\$ 315,792	\$ 4,524,162.76
16	EnergyWise for Business	\$ -	\$ -	\$ -	\$ -	\$ -
17	Net Lost Non-Residential Revenues	\$ 2,544,090	\$ 4,903,589	\$ 5,091,260	\$ 815,910	\$ 13,354,849
18	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
19	Net Lost Non-Residential Revenues	\$ 2,544,090	\$ 4,903,589	\$ 5,091,260	\$ 815,910	\$ 13,354,849
20	DSDR	\$ 420,831	\$ 145,979	\$ -	\$ -	\$ 566,810

Line	Residential	Vintage 2016 True Up Lost Revenue kWh \$				Total
		2015	2016(a)	2017(a)	2018	
1	Appliance Recycling Program	\$ -	\$ 5,095	\$ 12,309	\$ 2,515	\$ 19,918
2	Energy Education Program for Schools	\$ -	\$ 59,240	\$ 135,632	\$ 27,693	\$ 222,465
3	Energy Efficient Lighting	\$ -	\$ 1,033,814	\$ 2,116,981	\$ 432,665	\$ 3,583,361
4	Home Energy Improvement Program	\$ -	\$ 163,848	\$ 370,108	\$ 75,625	\$ 609,580
5	My Home Energy Report	\$ -	\$ 5,418,524	\$ -	\$ 134,484	\$ 5,553,007
6	Neighborhood Energy Saver	\$ -	\$ 44,319	\$ 105,283	\$ -	\$ 149,602
7	Multi-Family	\$ -	\$ 332,768	\$ 658,165	\$ 21,513	\$ 1,012,445
8	Residential Energy Assessments	\$ -	\$ 74,198	\$ 222,923	\$ 45,550	\$ 342,671
9	Residential New Construction	\$ -	\$ 298,122	\$ 670,358	\$ 136,975	\$ 1,105,455
10	Save Energy and Water Kit	\$ -	\$ 362,686	\$ 987,169	\$ 201,709	\$ 1,551,563
11	Lost Residential Revenues	\$ -	\$ 7,792,613	\$ 5,278,826	\$ 1,078,628	\$ 14,150,067
12	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
13	Net Lost Residential Revenues	\$ -	\$ 7,792,613	\$ 5,278,826	\$ 1,078,628	\$ 14,150,067
					\$ (451,010.51)	

Line	Non-Residential	Vintage 2016 True Up Lost Revenue kWh \$				Total
		2015	2016(a)	2017(a)	2018	
11	Business Energy Reports	\$ -	\$ 191,245	\$ -	\$ -	\$ 191,244.69
12	Energy Efficiency for Business	\$ -	\$ 1,638,505	\$ 3,101,812	\$ 632,371	\$ 5,372,688.80
13	Energy Efficient Lighting	\$ -	\$ 246,438	\$ 478,231	\$ 97,498	\$ 822,166.50
14	Small Business Energy Saver	\$ -	\$ 1,100,745	\$ 2,221,654	\$ 452,932	\$ 3,775,331.82
15	EnergyWise for Business	\$ -	\$ 7,298	\$ 19,733	\$ 4,023	\$ 31,054.46
16	Net Lost Non-Residential Revenues	\$ -	\$ 3,184,232	\$ 5,821,430	\$ 1,186,824	\$ 10,192,486
17	Found Non-Residential Revenues	\$ -	\$ (68,561)	\$ (113,553)	\$ (113,563)	\$ (295,666)
18	Net Lost Non-Residential Revenues	\$ -	\$ 3,115,672	\$ 5,707,877	\$ 1,073,272	\$ 9,896,820
					\$ (2,287,591.16)	
19	DSDR	\$ -	\$ 115,745	\$ 66,993	\$ -	\$ 182,728

Line	Residential	Vintage 2015 Variance Lost Revenue kWh \$				
		2015	2016(a)	2017(a)	2018	Total
1	Appliance Recycling Program	\$ -	\$ -	\$ 18,628	\$ 46,185	\$ 64,812
2	Energy Education Program for Schools	\$ 8,729	\$ 14,741	\$ 23,574	\$ 24,481	\$ 71,526
3	Energy Efficient Lighting	\$ -	\$ -	\$ (797,366)	\$ 536,645	\$ (260,721)
4	Home Energy Improvement Program	\$ -	\$ -	\$ 28,255	\$ 65,009	\$ 93,264
5	Multi-Family	\$ (27,168)	\$ (62,018)	\$ 92,297	\$ 182,264	\$ 185,375
6	My Home Energy Report	\$ (995,862)	\$ -	\$ -	\$ -	\$ (995,862)
7	Neighborhood Energy Saver	\$ -	\$ -	\$ 19,587	\$ 15,265	\$ 34,852
8	Residential New Construction	\$ 39,904	\$ 61,770	\$ 89,519	\$ 54,943	\$ 246,137
9	Save Energy and Water Kit	\$ -	\$ -	\$ -	\$ -	\$ -
10	Lost Residential Revenues	\$ (974,396)	\$ 14,493	\$ (525,507)	\$ 924,793	\$ (560,617)
11	Found Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
12	Net Lost Residential Revenues	\$ (974,396)	\$ 14,493	\$ (525,507)	\$ 924,793	\$ (560,617)
Non-Residential		2015	2016(a)	2017(a)	2018	Total
13	Energy Efficiency for Business	-	-	214,022	374,052	588,114
14	Energy Efficient Lighting	-	-	(742,587)	128,026	(616,561)
15	Small Business Energy Saver	-	-	154,863	315,792	470,655
16	EnergyWise for Business	-	-	(69)	-	(69)
17	Net Lost Non-Residential Revenues	0	0	(373,771)	815,910	442,139
18	Found Non-Residential Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
19	Net Lost Non-Residential Revenues	\$ -	\$ -	\$ (373,771)	\$ 815,910	\$ 442,139
20	DSDR	2015	2016(a)	2017(a)	2018	Total
		-	-	-	-	\$ -

Line	Residential	Vintage 2016 Variance Lost Revenue kWh \$				
		2015	2016(a)	2017(a)	2018	Total
1	Appliance Recycling Program	\$ -	\$ -	\$ (191,440)	\$ 2,515	\$ (188,925)
2	Energy Education Program for Schools	\$ -	\$ 7,224	\$ 38,520	\$ 27,693	\$ 73,437
3	Energy Efficient Lighting	\$ -	\$ -	\$ (136,360)	\$ 432,565	\$ 296,205
4	Home Energy Improvement Program	\$ -	\$ (41)	\$ 247,384	\$ 75,625	\$ 322,967
5	My Home Energy Report	\$ -	\$ (1,357,515)	\$ -	\$ 134,484	\$ (1,223,032)
6	Neighborhood Energy Saver	\$ -	\$ -	\$ 21,028	\$ -	\$ 21,028
7	Residential Energy Assessments	\$ -	\$ (28,648)	\$ 122,503	\$ 21,513	\$ 115,368
8	Residential New Construction	\$ -	\$ -	\$ 161,398	\$ 45,550	\$ 206,948
9	Save Energy and Water Kit	\$ -	\$ 3,469	\$ 234,020	\$ 136,975	\$ 374,464
10	Lost Residential Revenues	\$ -	\$ 30,075	\$ 365,510	\$ 201,709	\$ 597,294
11	Found Residential Revenues	\$ -	\$ (1,345,437)	\$ 862,563	\$ 1,078,628	\$ 595,755
12	Net Lost Residential Revenues	\$ -	\$ (1,345,437)	\$ 862,563	\$ 1,078,628	\$ 595,755
Non-Residential		2015	2016(a)	2017(a)	2018	Total
11	Business Energy Reports	-	191,245	-	-	191,245
12	Energy Efficiency for Business	-	(56)	1,206,407	632,371	1,838,722
13	Energy Efficient Lighting	-	-	(773,486)	97,498	(676,988)
14	Small Business Energy Saver	-	(6,366)	663,668	452,932	1,110,236
15	EnergyWise for Business	-	(11,515)	(7,380)	4,023	(14,872)
16	Net Lost Non-Residential Revenues	0	173,308	1,089,209	1,186,824	2,449,341
17	Found Non-Residential Revenues	-	0	0	(113,553)	(113,552)
18	Net Lost Non-Residential Revenues	\$ -	\$ 173,308	\$ 1,089,209	\$ 1,073,272	\$ 2,335,789
19	DSDR	2015	2016(a)	2017(a)	2018	Total
		-	-	-	-	\$ -

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R8-68 Filing Requirements	
Bring Your Own Thermostat ("BYOT") / EnergyWise Home (Summer)	
Filing Requirements	
(c)(2)(i)(a)	<p>Measure / Program Name</p> <p>Bring Your Own Thermostat ("BYOT") Measure / EnergyWise Home (Summer)</p>
(c)(2)(i)(b)	<p>Consideration to be Offered</p> <p><u>BYOT Measure Related Program Modifications:</u></p> <p>Residential customers of Duke Energy Progress, LLC ("DEP" or "Company"), by enrolling in the EnergyWise Home program, agree to allow the Company to temporarily remotely control their eligible thermostats via the internet as a means of direct load control at any time the Company has capacity problems, including generation, transmission or distribution capacity problems or reactive power problems.</p> <ul style="list-style-type: none"> Residential customers who meet specific criteria (see (c)(2)(ii)(c) below) will receive an invitation via a third-party vendor on behalf of the Company to enroll in the BYOT measure. Enrollees are compensated for their voluntary participation in the program and retain the ability to override (opt-out of) individual events or exit the program.
(c)(2)(i)(c)	<p>Anticipated Total Cost of the Measure / Program</p> <p>See Attachment B, Line 12.</p>
(c)(2)(i)(d)	<p>Source and Amount of Funding Proposed to be Used</p> <p>All program costs will be funded from the Company's general funds, consisting of all sources of capital.</p> <ul style="list-style-type: none"> These costs will be subject to cost recovery through a DSM/EE annual cost recovery rider consistent with Commission Rule R8-69(b). See Attachment B, line 12 for the estimated level of required funding.
(c)(2)(i)(e)	<p>Proposed Classes of Persons to Whom This Will be Offered</p> <p>The BYOT measure is available to residential customers served by the Company in single-family homes, condos or townhomes who already possess, have installed and have registered/activated one or more of the supported smart thermostat devices. Customer must own or occupy the residence or occupy and provide owner's consent.</p>
(c)(2)(ii)(a)	<p>Describe the Measure / Program's Objective</p> <p><u>BYOT Measure Related Program Modifications:</u></p> <p>BYOT provides the Company with an additional Demand Response ("DR") measure for its EnergyWise Home (Summer) program. Rather than utilizing traditional paging or cellular load control switches which must be installed at the customer's residence, BYOT manages load by remotely accessing the customers' eligible thermostats and by making automated adjustments to reduce kW demand in near-real time.</p>

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(c)(2)(ii)(b)	<p>Describe the Measure / Program Duration</p> <p>Duration – see Attachment A, line 1.</p>
(c)(2)(ii)(c)	<p>Describe the Measure / Program Sector and Eligibility Requirements</p> <p><u>BYOT Measure Related Program Modifications:</u></p> <p>DEP residential customers as described in (c)(2)(i)(e) above with active accounts and eligible thermostats will be invited to participate in the Program. Customers that are already enrolled in EnergyWise® will not be actively recruited at this time.</p>
(c)(2)(ii)(d)	<p>Examples of Communication Materials and Related Cost</p> <p><u>BYOT Related Program Modifications:</u></p> <p>The Company will engage a BYOT vendor (third-party aggregator) to provide, implement and support a BYOT measure which includes marketing and recruitment services provided by the vendor (subject to the Company's branding and messaging policies). Charges for these services are typically included in specified program fees, paid to the vendor by the utility.</p> <p>Methods of recruitment may include, but are not limited to:</p> <ul style="list-style-type: none"> • Direct customer engagement via the thermostat manufacturer's online web portal • Invitation to enroll by direct email, interactive PDF or link to enrollment portal • Invitation to enroll by text or other mobile application • Company public website (at a later time in the program)
(c)(2)(ii)(e)	<p>Estimated Number of Participants</p> <p>Estimated DEP Participation – see Attachment A, lines 3 - 12.</p>
(c)(2)(ii)(f)	<p>Impact that each measure or program is expected to have on the electric public utility or electric membership corporation, its customer body as a whole, and its participating North Carolina customers</p> <p>Estimated DEP Impact – see Attachment A, lines 13 - 49.</p>
(c)(2)(ii)(g)	<p>Any other information the electric public utility or electric membership corporation believes is relevant to the application, including information on competition known by the electric public utility or the electric membership corporation</p> <p>Not applicable.</p>
(c)(2)(iii)(a)	<p>Proposed Marketing Plan Including Market Barriers and how the Electric Public Utility Plans to Address Them</p> <p><u>BYOT Measure Related Program Modifications:</u></p>

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BYOT vendors typically establish direct relationships with selected thermostat manufacturers, who in turn notify the vendor when a customer within a specified territory (usually identified by zip code) has activated his/her thermostat via the manufacturer's online activation portal.

- Upon validation by the utility, the customer is then extended an invitation by the vendor (on behalf of the utility) to enroll in the BYOT measure and participate in DR "events" as initiated by the utility. Invitations are extended via the methods listed in section (c)(2)(ii)(d) above.

Bring Your Own Thermostat	
Market Barrier	Actions to Address
Lack of awareness/understanding on the part of the customer regarding DR programs in general, how they work and what the benefits are (for the customer, the utility and the community).	Ensure that messaging includes clear, easy to understand information regarding the program and DR as a whole. Provide clear channels to customer support via phone, email or direct online chat.
Fear on the part of the customer that the utility may be eavesdropping on them, controlling their thermostat against their will, damaging the thermostat device, causing discomfort to the customer or some other unwanted intrusive action.	These concerns should be anticipated when third parties such as utilities request remote access to appliances within customers' homes. All messaging and customer support must proactively provide assurance and education about each issue, including the customers' right to opt-out or exit the program at any time, and after the first year of participation without penalty.
Disruptive or competing programs/incentives on the part of the thermostat manufacturer(s) that may lessen or adversely affect the utility's DR capabilities/efforts.	Partnering with BYOT vendors allows the utility to leverage the vendors' relationships with the thermostat manufacturers and to cooperatively design DR programs that are to everyone's benefit. The utility is also in the position to cross-market additional energy efficiency measures or programs to the customers which thermostats manufacturers cannot provide.

(c)(2)(iii)(b) Total Market Potential and Estimated Market Growth throughout the Duration of the Program

BYOT Measure Related Program Modifications:

Market potential represents the number of eligible customers based on eligibility requirements defined in the program tariff. There are approximately 74,000 residential customers that meet the criteria for this program as of 2017.

Estimated Market Growth (Participation) – see Attachment A, lines 3 - 12.

(c)(2)(iii)(c) Estimated Summer and Winter Peak Demand Reduction by Unit Metric and in the Aggregate by Year

Estimated Summer and Winter Peak Demand Reduction – see Attachment A, lines 13 - 17 and lines 23 – 24, and Attachment E, lines 1 - 10.

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(c)(2)(iii)(d)	<p>Estimated Energy Reduction per Appropriate Unit Metric and in the Aggregate by Year</p> <p>Estimated Energy Reduction – see Attachment A, lines 18 - 22 and lines 25 - 29.</p>
(c)(2)(iii)(e)	<p>Estimated Lost Energy Sales per Appropriate Unit metric and in the Aggregate by Year</p> <p>Not applicable.</p>
(c)(2)(iii)(f)	<p>Estimated Load Shape Impacts</p> <p>See sections (c)(2)(iii)(c) and (c)(2)(iii)(d).</p>
(c)(2)(iv)(a)	<p>Estimated Total and Per Unit Cost and Benefit of the Measure / Program and the Planned Accounting Treatment for Those Costs and Benefits</p> <p>Costs associated with this program will be subject to deferral and amortization. DEP is also eligible to recover a return on any outstanding deferred balance [R8-69(b)(6)].</p> <p>Total estimated cost by category – see Attachment B, lines 6 - 9. Total estimated benefit – see Attachment B line 11. Total estimated per unit cost by category – see Attachment D, lines 1 - 25.</p> <p>Data shown on Attachment B represents present value of cost and benefits over the life of the program.</p>
(c)(2)(iv)(b)	<p>Type, Amount, and Reason for Any Participation Incentives and Other Consideration and to Whom They Will be Offered, Including Schedules Listing Participation Incentives and Other Consideration to be Offered</p> <p><u>BYOT Measure Related Program Modifications:</u></p> <p>Participants in the BYOT measure will receive a one-time enrollment incentive of \$75 at the time of enrollment.</p> <ul style="list-style-type: none"> Participants who continue to remain in the program will also receive an annual incentive of \$25, paid at the end of each completed year of participation.
(c)(2)(iv)(c)	<p>Service Limitations or Conditions Planned to be Imposed on Customers Who do not Participate in the Measure / Program</p> <p><u>BYOT Measure Related Program Modifications:</u></p> <p>There are no service limitations or conditions to be imposed on customers who do not participate in the measure/program.</p> <p>Program participants who voluntarily opt-out of a maximum of 2 (two) DR events within a</p>

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	<p>peaking season may be asked to leave the program and, as such, receive no further compensation from that point onward.</p> <ul style="list-style-type: none"> • Additionally, participants whose thermostat remains chronically offline or unavailable for any reason will be notified by the Company of the situation and provided with an opportunity to remedy. Failure to remedy the situation allows the Company to ask the customer to leave the program, as above. • If the Company is unable to communicate with the Customer's thermostat(s) during a load control event, it will be counted as a control event override.
(c)(2)(v)	<p>Cost-Effectiveness Evaluation (including the results of all cost-effectiveness tests and should include, at a minimum, an analysis of the Total Resource Cost Test, the Participant Test, the Utility Cost Test, and the Ratepayer Impact Measure Test) Description of the Methodology Used to Produce the Impact Estimates, as well as, if Appropriate, Methodologies Considered and Rejected in the Interim Leading to the Final Model Specification</p> <p>See Attachment B, line 13.</p>
(c)(2)(vi)	<p>Commission Guidelines Regarding Incentive Programs (provide the information necessary to comply with the Commission's Revised Guidelines for Resolution of Issues Regarding Incentive Programs, issued by Commission Order on March 27, 1996, in Docket No. M-100, Sub 124, set out as an Appendix to Chapter 8 of these rules)</p> <p>The EnergyWise Home program and the BYOT measure do not provide any inducement or incentive affecting participant's decision to install or adopt natural gas or electric service.</p>
(c)(2)(vii)	<p>Integrated Resource Plan (explain in detail how the measure is consistent with the electric public utility's or electric membership corporation's integrated resource plan filings pursuant to Rule R8-60)</p> <p>Energy and capacity reductions from this program will be included for planning purposes in future integrated resource plans.</p>
(c)(2)(viii)	<p>Other (any other information the electric public utility or electric membership corporation believes relevant to the application, including information on competition known by the electric public utility or the electric membership corporation)</p> <p>Not applicable.</p>
Additional Filing Requirements	
(c)(3)(i)(a)	<p>Costs and Benefits- Any Costs Incurred or Expected to be Incurred in Adopting and Implementing a Measure / Program to be Considered for Recovery Through the Annual Rider Under G.S. 62-133.9</p> <p>See Attachment C, lines 11 - 35.</p>
(c)(3)(i)(b)	<p>Estimated total costs to be avoided by the measure by appropriate capacity, energy and measure unit metric and in the aggregate by year</p>

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	See Attachment A, lines 40 - 49.
(c)(3)(i)(c)	Estimated participation incentives by appropriate capacity, energy, and measure unit metric and in the aggregate by year
	Incentive per cumulative kW – see Attachment E, lines 21 - 25. Incentive per cumulative kWh – see Attachment F, lines 16 - 20. Incentive per participant – see Attachment D, lines 11 - 15.
(c)(3)(i)(d)	How the electric public utility proposes to allocate the costs and benefits of the measure among the customer classes and jurisdictions it serves
	The program costs for DSM/DR programs targeted at North Carolina and South Carolina residential customers are allocated to North Carolina retail jurisdiction based on the ratio of North Carolina one-hour coincident peak. Rate Class Allocation (allocated jurisdictional costs will be further allocated to all rates classes, based upon one-hour coincident peak) then recovered only from North Carolina residential customers.
(c)(3)(i)(e)	The capitalization period to allow the utility to recover all costs or those portions of the costs associated with a new program or measure to the extent that those costs are intended to produce future benefits as provided in G.S. 62-133.9(d)(1)
	No costs from this program will be capitalized.
(c)(3)(i)(f)	The electric public utility shall also include the estimated and known costs of measurement and verification activities pursuant to the Measurement and Verification Reporting Plan described in paragraph (ii)
	The Company's estimated evaluation, measurement and verification ("EM&V") costs for this program is estimated to be 5% of total portfolio costs.
(c)(3)(ii)(a)	Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: Describe the industry-accepted methods to be used to evaluate, measure, verify, and validate the energy and peak demand savings estimated in (2)(iii)c and d above
	The Company will use an independent, third-party evaluator specializing in the EM&V of demand reduction program impacts to provide the appropriate EM&V support. The independent, third-party consultant will customize an EM&V plan with specific activities to carry out the evaluation approach described below. Objectives Impact evaluation activities verify demand reduction impacts attributable to the program. Process evaluation activities assess the effectiveness of program processes and their impact on the broader program market. Specific objectives for the evaluation of the program include the following:

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- Estimate the average (kW) and aggregate (MW) load reductions that are achieved during load control events and the overall average event.
- Forecast load impacts under different event conditions (i.e., time of day, temperature) to create a time/temperature matrix for use by the program.
- Evaluate effectiveness of program design and processes.

Impact Evaluation

The goal of the impact evaluation is to assess the average (kW) and aggregate (MW) load reductions attributable to the program. The independent, third-party EM&V consultant will determine the detailed analysis methodologies, sample design and data collection activities. The target level for precision is 90/10.

For the impact evaluation, the consultant will utilize data loggers that will be installed on air conditioning units to estimate end use load impacts during load control events. Load impact estimation will be accomplished using regression models in order to obtain accurate and precise estimates.

Process Evaluation

The goal of the process evaluation is to assess program design and implementation processes to improve effectiveness or operational efficiencies. Through the process evaluation, the evaluation contractor will document significant components of the program including program accomplishments, administrative processes and participant experiences during load events, customer satisfaction, program successes and opportunities for improvement to program design and delivery. Ultimately, the process evaluation will provide guidance regarding opportunities for more effective program implementation.

Process Evaluation Activities

The evaluation team will complete in-depth interviews with participant households and program staff and implementers to understand program processes.

Process Evaluation Interviews/Surveys

Market Actor	Research Issues (Illustrative)	Approximate Sample Size
Program Implementers and Associated Staff Interviews	<ul style="list-style-type: none"> • Understand program processes, particularly event notification procedures, how incentives are paid and how the program is communicated to customers • Develop a program logic model that depicts program processes • Identify areas where processes could be improved 	TBD*
Participant Households Surveys	<ul style="list-style-type: none"> • Determine participant satisfaction, particularly post-event • Determine participation satisfaction, 	TBD*

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	<p>particularly during non-events</p> <p><i>*Sample size will be determined based on the number of program participants.</i></p>
(c)(3)(ii)(b)	<p>Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: Provide a schedule for reporting the savings to the Commission</p> <p>The schedule for the EM&V actions will begin after the program has a sufficient amount of participation from which to draw a statistically significant sample. The evaluation plan may be modified based on the actual participation in the Program, as needed to provide a cost effectiveness evaluation, and as agreed to by the independent third-party.</p>
(c)(3)(ii)(c)	<p>Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: describe the methodologies used to produce the impact estimates, as well as, if appropriate, the methodologies it considered and rejected in the interim leading to final model specification</p> <p>Please refer to section R8-68 (c)(3)(ii)a which provides information regarding the methodologies used to produce impact estimates associated with this program.</p>
(c)(3)(ii)(d)	<p>Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: Identify any third party and include all of the costs of that third party, if the electric public utility plans to utilize an independent third party for purposes of measurement and verification</p> <p>An independent, third-party consultant will be engaged to provide EM&V services.</p>
(c)(3)(iii)	<p>Cost Recovery Mechanism- Describe the Proposed Method of Cost Recovery From its Customers</p> <p>The Company seeks to recover program costs and a utility incentive pursuant to the approved cost recovery mechanism in Commission Docket No. E-2, Sub 931.</p>
(c)(3)(iv)	<p>Tariffs or Rates- Provide Proposed Tariffs or Modifications to Existing Tariffs That Will be Required to Implement Each Measure / Program</p> <p>The tariff proposed by the Company for this program is included as Attachment G.</p>
(c)(3)(v)	<p>Utility Incentives- Indicate Whether it Will Seek to Recover Any Utility Incentives, Including, if Appropriate, Net Lost Revenues, in Addition to its Costs</p> <p>The Company seeks a utility incentive pursuant to the approved cost recovery mechanism approved by the North Carolina Utilities Commission in Docket No. E-2, Sub 931 on January 20, 2015.</p>

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**Attachment A
Participation**

Bring Your Own Thermostat / EnergyWise® Home		
1	Measure Life (Average)	1
2	Free Rider % (Average)	0%
3	Incremental Participants Year 1	21,944
4	Incremental Participants Year 2	51,544
5	Incremental Participants Year 3	79,062
6	Incremental Participants Year 4	105,351
7	Incremental Participants Year 5	133,428
8	Cumulative Participation Year 1	21,944
9	Cumulative Participation Year 2	51,544
10	Cumulative Participation Year 3	79,062
11	Cumulative Participation Year 4	105,351
12	Cumulative Participation Year 5	133,428
13	Cumulative Summer Coincident kW w/ losses (net free) Year 1	35,963
14	Cumulative Summer Coincident kW w/ losses (net free) Year 2	78,576
15	Cumulative Summer Coincident kW w/ losses (net free) Year 3	117,658
16	Cumulative Summer Coincident kW w/ losses (net free) Year 4	154,242
17	Cumulative Summer Coincident kW w/ losses (net free) Year 5	191,358
18	Cumulative kWh w/ losses (net free) Year 1	0
19	Cumulative kWh w/ losses (net free) Year 2	0
20	Cumulative kWh w/ losses (net free) Year 3	0
21	Cumulative kWh w/ losses (net free) Year 4	0
22	Cumulative kWh w/ losses (net free) Year 5	0
23	Per Participant Weighted Average Coincident Saved Winter kW w/ losses	0.05
24	Per Participant Weighted Average Coincident Saved Summer kW w/ losses	1.64
25	Per Participant Average Annual kWh w/ losses (net free) Year 1	0
26	Per Participant Average Annual kWh w/ losses (net free) Year 2	0
27	Per Participant Average Annual kWh w/ losses (net free) Year 3	0
28	Per Participant Average Annual kWh w/ losses (net free) Year 4	0
29	Per Participant Average Annual kWh w/ losses (net free) Year 5	0
30	Cumulative Lost Revenue (net free) Year 1	\$0
31	Cumulative Lost Revenue (net free) Year 2	\$0
32	Cumulative Lost Revenue (net free) Year 3	\$0
33	Cumulative Lost Revenue (net free) Year 4	\$0
34	Cumulative Lost Revenue (net free) Year 5	\$0
35	Average Lost Revenue per Participant (net free) Year 1	\$0
36	Average Lost Revenue per Participant (net free) Year 2	\$0
37	Average Lost Revenue per Participant (net free) Year 3	\$0
38	Average Lost Revenue per Participant (net free) Year 4	\$0
39	Average Lost Revenue per Participant (net free) Year 5	\$0
40	Total Avoided Costs/MW saved Year 1	\$109,196
41	Total Avoided Costs/MW saved Year 2	\$111,652
42	Total Avoided Costs/MW saved Year 3	\$114,311
43	Total Avoided Costs/MW saved Year 4	\$117,152
44	Total Avoided Costs/MW saved Year 5	\$120,084
45	Total Avoided Costs/MWh saved Year 1	N/A
46	Total Avoided Costs/MWh saved Year 2	N/A
47	Total Avoided Costs/MWh saved Year 3	N/A
48	Total Avoided Costs/MWh saved Year 4	N/A
49	Total Avoided Costs/MWh saved Year 5	N/A

Bring Your Own Thermostat / EnergyWise Home (Summer)

Attachment B
Cost-Effectiveness Evaluation

Bring Your Own Thermostat / EnergyWise® Home					
		UCT	TRC	RIM	Participant
1	Avoided T&D Electric	\$66,828,683	\$66,828,683	\$66,828,683	\$0
2	Cost-Based Avoided Elec Production	\$0	\$0	\$0	\$0
3	Cost-Based Avoided Elec Capacity	\$86,687,111	\$86,687,111	\$86,687,111	\$0
4	Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$0
5	Net Lost Revenue Net Fuel	\$0	\$0	\$0	\$0
6	EM&V Costs	\$2,812,872	\$2,812,872	\$2,812,872	\$0
7	Implementation Costs	\$30,747,601	\$30,747,601	\$30,747,601	\$0
8	Incentives	\$21,803,002	\$0	\$21,803,002	\$21,803,002
9	Other Utility Costs	\$6,478,144	\$6,478,144	\$6,478,144	\$0
10	Participant Costs	\$0	\$0	\$0	\$0
11	Total Benefits	\$153,515,794	\$153,515,794	\$153,515,794	\$21,803,002
12	Total Costs	\$61,841,619	\$40,038,617	\$61,841,619	\$0
13	Benefit/Cost Ratios	2.48	3.83	2.48	

Data represents present value of costs and benefits over the life of the program.

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Bring Your Own Thermostat / EnergyWise Home (Summer)

**Attachment C
Program Costs by Year**

Bring Your Own Thermostat / EnergyWise® Home		
1	Incremental Participants Year 1	21,944
2	Incremental Participants Year 2	51,544
3	Incremental Participants Year 3	79,062
4	Incremental Participants Year 4	105,351
5	Incremental Participants Year 5	133,428
6	Total Participant Costs Year 1	\$0
7	Total Participant Costs Year 2	\$0
8	Total Participant Costs Year 3	\$0
9	Total Participant Costs Year 4	\$0
10	Total Participant Costs Year 5	\$0
11	EM&V Costs Year 1	\$288,751
12	EM&V Costs Year 2	\$290,381
13	EM&V Costs Year 3	\$329,540
14	EM&V Costs Year 4	\$390,996
15	EM&V Costs Year 5	\$422,300
16	Implementation Costs Year 1	\$5,820,093
17	Implementation Costs Year 2	\$5,637,636
18	Implementation Costs Year 3	\$5,361,095
19	Implementation Costs Year 4	\$5,235,508
20	Implementation Costs Year 5	\$5,185,952
21	Total Incentives Year 1	\$1,167,712
22	Total Incentives Year 2	\$1,736,556
23	Total Incentives Year 3	\$2,558,717
24	Total Incentives Year 4	\$3,122,237
25	Total Incentives Year 5	\$3,884,601
26	Other Utility Costs Year 1	\$384,451
27	Other Utility Costs Year 2	\$508,400
28	Other Utility Costs Year 3	\$646,050
29	Other Utility Costs Year 4	\$710,556
30	Other Utility Costs Year 5	\$820,327
31	Total Utility Costs Year 1	\$7,661,007
32	Total Utility Costs Year 2	\$8,172,973
33	Total Utility Costs Year 3	\$8,895,402
34	Total Utility Costs Year 4	\$9,459,297
35	Total Utility Costs Year 5	\$10,313,180

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Bring Your Own Thermostat / EnergyWise Home (Summer)

Attachment D
Program Costs per Participant

Bring Your Own Thermostat / EnergyWise® Home		
1	Average Per Participant EM&V Costs Year 1	\$13
2	Average Per Participant EM&V Costs Year 2	\$6
3	Average Per Participant EM&V Costs Year 3	\$4
4	Average Per Participant EM&V Costs Year 4	\$4
5	Average Per Participant EM&V Costs Year 5	\$3
6	Average Per Participant Implementation Costs Year 1	\$265
7	Average Per Participant Implementation Costs Year 2	\$109
8	Average Per Participant Implementation Costs Year 3	\$68
9	Average Per Participant Implementation Costs Year 4	\$50
10	Average Per Participant Implementation Costs Year 5	\$39
11	Average Per Participant Incentives Year 1	\$53
12	Average Per Participant Incentives Year 2	\$34
13	Average Per Participant Incentives Year 3	\$32
14	Average Per Participant Incentives Year 4	\$30
15	Average Per Participant Incentives Year 5	\$29
16	Average Per Participant Other Utility Costs Year 1	\$18
17	Average Per Participant Other Utility Costs Year 2	\$10
18	Average Per Participant Other Utility Costs Year 3	\$8
19	Average Per Participant Other Utility Costs Year 4	\$7
20	Average Per Participant Other Utility Costs Year 5	\$6
21	Average Per Participant Total Utility Costs Year 1	\$349
22	Average Per Participant Total Utility Costs Year 2	\$159
23	Average Per Participant Total Utility Costs Year 3	\$113
24	Average Per Participant Total Utility Costs Year 4	\$90
25	Average Per Participant Total Utility Costs Year 5	\$77

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Bring Your Own Thermostat / EnergyWise Home (Summer)

Attachment E
Program Costs per kW

Bring Your Own Thermostat / EnergyWise® Home		
1	Cumulative Winter Coincident kW w/ losses (net free) Year 1	1,189
2	Cumulative Winter Coincident kW w/ losses (net free) Year 2	2,469
3	Cumulative Winter Coincident kW w/ losses (net free) Year 3	3,661
4	Cumulative Winter Coincident kW w/ losses (net free) Year 4	4,793
5	Cumulative Winter Coincident kW w/ losses (net free) Year 5	5,861
6	Cumulative Summer Coincident kW w/ losses (net free) Year 1	35,963
7	Cumulative Summer Coincident kW w/ losses (net free) Year 2	78,576
8	Cumulative Summer Coincident kW w/ losses (net free) Year 3	117,658
9	Cumulative Summer Coincident kW w/ losses (net free) Year 4	154,242
10	Cumulative Summer Coincident kW w/ losses (net free) Year 5	191,358
11	EM&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$8
12	EM&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$4
13	EM&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$3
14	EM&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$3
15	EM&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$2
16	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$162
17	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$72
18	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$46
19	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$34
20	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$27
21	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$32
22	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$22
23	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$22
24	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$20
25	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$20
26	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$11
27	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$6
28	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$5
29	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$5
30	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$4
31	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$213
32	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$104
33	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$76
34	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$61
35	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$54

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Bring Your Own Thermostat / EnergyWise Home (Summer)

Attachment F
Program Costs per kWh

Bring Your Own Thermostat / EnergyWise® Home		
1	Cumulative kWh w/ losses (net free) Year 1	0
2	Cumulative kWh w/ losses (net free) Year 2	0
3	Cumulative kWh w/ losses (net free) Year 3	0
4	Cumulative kWh w/ losses (net free) Year 4	0
5	Cumulative kWh w/ losses (net free) Year 5	0
6	EM&V Costs / Cumulative kWh w/ losses (net free) Year 1	N/A
7	EM&V Costs / Cumulative kWh w/ losses (net free) Year 2	N/A
8	EM&V Costs / Cumulative kWh w/ losses (net free) Year 3	N/A
9	EM&V Costs / Cumulative kWh w/ losses (net free) Year 4	N/A
10	EM&V Costs / Cumulative kWh w/ losses (net free) Year 5	N/A
11	Implementation Costs / Cumulative kWh w/ losses (net free) Year 1	N/A
12	Implementation Costs / Cumulative kWh w/ losses (net free) Year 2	N/A
13	Implementation Costs / Cumulative kWh w/ losses (net free) Year 3	N/A
14	Implementation Costs / Cumulative kWh w/ losses (net free) Year 4	N/A
15	Implementation Costs / Cumulative kWh w/ losses (net free) Year 5	N/A
16	Incentives / Cumulative kWh w/ losses (net free) Year 1	N/A
17	Incentives / Cumulative kWh w/ losses (net free) Year 2	N/A
18	Incentives / Cumulative kWh w/ losses (net free) Year 3	N/A
19	Incentives / Cumulative kWh w/ losses (net free) Year 4	N/A
20	Incentives / Cumulative kWh w/ losses (net free) Year 5	N/A
21	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 1	N/A
22	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 2	N/A
23	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 3	N/A
24	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 4	N/A
25	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 5	N/A
26	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 1	N/A
27	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 2	N/A
28	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 3	N/A
29	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 4	N/A
30	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 5	N/A

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Dec 28 2017

Duke Energy Progress, LLC
(North Carolina Only)

RP-7

RESIDENTIAL SERVICE - LOAD CONTROL
RIDER LC-SUM-5

AVAILABILITY

This Rider is available in conjunction with all residential service schedules. Participating Customers may choose to employ (1) Company-provided Load Control Device(s) or (2) eligible Customer-owned thermostat(s) to interrupt service to each installed, approved electric central air conditioning unit and/or electric heat pump and to monitor their operation under the provisions of this Rider.

Customers choosing to employ Company-provided Load Control Device(s) contracts for Company or its representative to install and operate the necessary control equipment in a location provided by Customer and suitable to Company in or about the residential dwelling unit. This option is only available where Company has the necessary communications equipment installed and where load control signal can be satisfactorily received at Company's specified location on Customer's residence.

Customers choosing to employ their own eligible thermostat(s), listed on the Company's website, must have the thermostat(s) configured in a manner which allows the Company to remotely communicate and control Customer's equipment.

Company shall be allowed to monitor Customer's load or any part thereof and the operation of controlled appliances, at no charge, to Customer under the provisions of this Rider. To participate in the program, Customer must either own and occupy the residence or occupy and provide Company with owner-consent.

PARTICIPATION INCENTIVES

Customer shall receive an Initial Incentive Payment following the successful installation and testing of the Load Control Device(s). Following each twelve months of continuous participation on the program Customer shall receive an additional Annual Incentive. Customer leaving the program may return anytime to the program, but shall not receive the Initial Incentive Payment and must complete a twelve-month continuous participation on the program to receive an additional Annual Incentive.

REFERRAL INCENTIVE

A participating Customer shall receive a \$25 Incentive for each new program participant that provides a referral code and successfully enrolls in either Rider LC-WIN or Rider LC-SUM, or both. Successful enrollment shall include installation of the necessary control equipment in or about the new Customer's residential dwelling unit, to interrupt service to each installed, approved electric central air conditioning unit and/or electric heat pump. The maximum referral Incentive available to any participating Customer shall not exceed \$100 (or four referrals) per calendar year. The participating Customer will be provided the referral Incentive within 30 days of successful installation at the new Customer's premise. Company will verify and track referrals by unique referral codes provided to participating Customers. New Customers will be required to provide a referral code at the time of enrollment.

PAYMENT OF INCENTIVES

The Company's payment of Incentives may be offered in a variety of ways, including, but not limited to, bill credits, checks, and prepaid credit cards as follows:

- Initial Incentive for Company-provided Load Control Device(s) - \$25 per residence
- Initial Incentive for Customer-provided eligible Thermostat(s) - \$75 per residence

- Annual Incentive for Company-provided Load Control Device(s) - \$25 per residence
- Annual Incentive for Customer-provided eligible Thermostat(s) - \$25 per residence

APPROVED CENTRAL AIR CONDITIONING UNIT

An approved electric central air conditioning and/or electric heat pump unit is a central electric air conditioning unit used to cool the residence through a ducted system. All central air conditioning and/or electric heat pump units installed at the residence must participate in load control in order to receive the Annual Incentive.

INTERRUPTION

Company shall be allowed, at its discretion, to interrupt service to each air conditioner for up to four hours during each day of the summer control season months of May through September. Company reserves the right for longer interruption in the event continuity of service is threatened. Air conditioner interruptions shall be limited to a total of 60 hours during any one summer season. The Company reserves the right to test the load control equipment at any time, and such test periods shall be counted towards the maximum hourly interruption limit. Customer shall have the option to override an air conditioner based control event; however, if Customer exceeds two (2) control event overrides in a single control season of May through September, Customer may be subject to removal from the program and shall forfeit the next subsequent Annual Incentive for that controlled device. A control event override is defined as Customer requesting exemption from part or whole of the interruption time period. If Company is unable to communicate with Customer's thermostat(s) during a load control event, it will be counted as a control event override.

EQUIPMENT INSPECTION AND SERVICING

Company or its agents shall have the right of ingress and egress to Customer's premises at all reasonable hours for the purpose of inspecting Company's wiring and apparatus; changing, exchanging, or repairing its property, as necessary; or removing its property after termination of service. Company and Customer shall schedule a convenient time for such purposes whenever it is necessary to service Company's equipment installed inside the residence. If any tampering with Company-owned equipment occurs, Company may adjust the billing and take other action in accordance with the Rules and Regulations of the North Carolina Utilities Commission and the laws of the State of North Carolina as applicable to meter tampering.

CONTRACT PERIOD

The Contract Period shall not be less than one year. Customer or Company may terminate participation under the Rider by providing 30 days prior notice to the other party. If within the first year, the Customer wishes to discontinue participation in this Program, the Customers using Company provided Load Control Device(s) will pay a \$25 service charge and Customers who have received initial thermostat based incentive will pay a \$75 service charge. Upon termination, the load control device(s), at Customer's residence will be remotely disabled to prevent further load control.

SALES TAX

To the above charges will be added any applicable North Carolina Sales Tax.

COMPANY RETENTION OF PROGRAM BENEFITS

Incentives and other considerations offered under the terms of this Program are understood to be an essential element in the recipient's decision to participate in the Program. Upon payment of these considerations, Company will be entitled to any and all environmental, energy efficiency, and demand reduction benefits and attributes, including all reporting and compliance rights, associated with participation in the Program.

Supersedes LC-SUM-3B
Effective for service rendered on and after
NCUC Docket No. E-2, Sub 927

1A

FILED

JUN 20 2018

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1174

Clerk's Office

N.C. Utilities Commission

In the Matter of)	APPLICATION OF
Application of Duke Energy Progress, LLC)	DUKE ENERGY PROGRESS,
for Approval of Demand-Side Management)	LLC FOR APPROVAL OF
and Energy Efficiency Cost Recovery Rider)	DEMAND-SIDE
Pursuant to N.C. Gen. Stat. § 62-133.9 and)	MANAGEMENT AND
Commission Rule R8-69)	ENERGY EFFICIENCY COST
)	RECOVERY RIDER

Duke Energy Progress, LLC ("DEP" or the "Company"), pursuant to N.C. Gen. Stat. § 62-133.9 and Rule R8-69 of the Rules and Regulations of the North Carolina Utilities Commission (the "Commission"), hereby applies to the Commission for approval of its demand-side management ("DSM") and energy efficiency ("EE") cost recovery rider for 2019. In support of this Application, DEP respectfully shows the Commission the following:

1. The Applicant's general offices are located at 410 South Wilmington Street, Raleigh, North Carolina 27601, and its mailing address is Post Office Box 1551, Raleigh, North Carolina 27602-1551.

2. The attorneys for the Company, to whom all communications and pleadings should be addressed, are:

Kendrick Fentress
 Associate General Counsel
 Duke Energy Corporation
 P.O. Box 1551/NCR11 20
 Raleigh, North Carolina 27602
 Telephone: (919) 546-6733
Kendrick.Fentress@duke-energy.com

Molly McIntosh Jagannathan
 Troutman Sanders LLP
 301 South College Street, Suite 3400
 Charlotte, North Carolina 28202

Telephone: (704) 998-4074
Molly.Jagannathan@troutman.com

3. N.C. Gen. Stat. § 62-133.9(d) authorizes the Commission to approve an annual rider to the rates of electric public utilities to recover all reasonable and prudent costs incurred for the adoption and implementation of new DSM and EE programs. Recoverable costs include, but are not limited to, all capital costs, including cost of capital and depreciation expense, administrative costs, implementation costs, incentive payments to program participants, and operating costs. Such rider shall consist of the utility's forecasted costs during the rate period and an Experience Modification Factor ("EMF") to collect the difference between the utility's actual reasonable and prudent costs incurred during the test period and actual revenues realized during the test period. The Commission is also authorized to approve incentives to utilities for adopting and implementing new DSM and EE programs, including rewards based on the sharing of savings achieved by the programs.

4. Rule R8-69(b) provides that the Commission will each year conduct a proceeding for each electric public utility to establish an annual DSM/EE rider to recover DSM- and EE-related costs.

5. According to Rule R8-69(c), the electric public utility is to file its application for recovery of DSM and EE costs at the same time it files the information required by Rule R8-55, and the Commission is to conduct an annual DSM/EE rider hearing as soon as practicable after the hearing required by Rule R8-55.

6. Pursuant to the provisions of N.C. Gen. Stat. § 62-133.9 and Commission Rule R8-69, the Company requests the establishment of a rider to recover its reasonable and prudent DSM and EE costs, including program costs, net lost revenues, incentives, and an EMF. All costs, including net lost revenues and Portfolio Performance Incentive,

are calculated pursuant to the *Order Approving Revised Cost Recovery and Incentive Mechanism and Granting Waivers* issued by the Commission in Docket No. E-2, Sub 931 on January 20, 2015. The calculations of these costs, and the associated rider and EMF rates, are described in the Direct Testimony and Exhibits of Carolyn T. Miller. The rider and EMF are intended to allow DEP to recover \$186,955,504 of DSM and EE expenses, net lost revenues, and incentives. This amount includes the estimated under-collection of \$10,783,557 associated with test period activities during the period beginning January 1, 2017 and ending December 31, 2017, and an estimated \$176,171,947 for expenses, net lost revenues, and incentives to be incurred during the rate period from January 1, 2019 through December 31, 2019.

7. Pursuant to the provisions of N.C. Gen. Stat. § 62-133.9 and Commission Rule R8-69, the Company requests Commission approval of the annual billing adjustments as follows (all shown on a cents per kilowatt-hour (“kWh”) basis with and without NC regulatory fee):

Excluding regulatory fee:

Rate Class	DSM Rate (¢/kWh)	EE Rate (¢/kWh)	DSM/EE EMF (¢/kWh)	EE EMF Rate (¢/kWh)	DSM/EE Annual Rider (¢/kWh)
Residential	0.120	0.530	0.009	(0.006)	0.653
General Service EE		0.684		0.122	0.806
General Service DSM	0.062		(0.018)		0.044
Lighting		0.099		0.001	0.100

Including regulatory fee:

Rate Class	DSM Rate (¢/kWh)	EE Rate (¢/kWh)	DSM:EMF (¢/kWh)	EE EMF Rate (¢/kWh)	DSM/EE Annual Rider (¢/kWh)
Residential	0.120	0.531	0.009	(0.006)	0.654
General Service EE		0.685		0.122	0.807
General Service DSM	0.062		(0.018)		0.044
Lighting		0.099		0.001	0.100

The DSM/EE rider will be in effect for the twelve-month period January 1, 2019 through December 31, 2019.

8. Pursuant to Commission Rule R8-69(b)(6), DEP requests approval to defer prudently incurred costs to FERC account 182.3, "Other Regulatory Assets," until recovered. In addition, pursuant to Commission Rule R8-69(b)(6), DEP requests approval to defer the costs it incurs in adopting and implementing new DSM and EE measures up to six months prior to DEP filing for Commission approval of such measures in accordance with Commission Rule R8-68.

9. The Company has included herewith, as required by Commission Rule R8-69, the direct testimony and exhibits of witnesses Carolyn T. Miller and Robert P. Evans in support of its filing and the requested change in rates.

WHEREFORE, the Company respectfully prays:

That, consistent with this Application, the Commission approve the changes to its rates as set forth in paragraph 7 above.

Respectfully submitted this 20th day of June 2018.

By: *Molly M. Jagannathan*
Kendrick Fentress
Associate General Counsel
Duke Energy Corporation
P.O. Box 1551/NCRH 20
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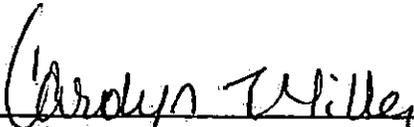
ATTORNEYS FOR DUKE ENERGY
PROGRESS, LLC

STATE OF NORTH CAROLINA)
)
COUNTY OF MECKLENBURG)

VERIFICATION

Carolyn T. Miller, being first duly sworn, deposes and says:

That she is MANAGER, RATES AND REGULATORY STRATEGY of DUKE ENERGY PROGRESS, LLC, applicant in the above-titled action; that she has read the foregoing Application and knows the contents thereof; that the same is true except as to the matters stated therein on information and belief; and as to those matters, she believes it to be true.

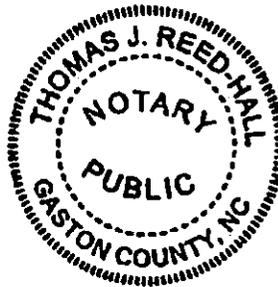


Carolyn T. Miller

Sworn to and subscribed before me
this the 20th day of June, 2018.



Notary Public



My Commission Expires: 7-30-2022

**CHRISTOPHER NEME, PRINCIPAL****EDUCATION**

M.P.P., University of Michigan, 1986

B.A., Political Science, University of Michigan, 1985

EXPERIENCE

2010-present: Principal (and Co-Founder), Energy Futures Group, Hinesburg, VT

1999-2010: Director of Planning & Evaluation, Vermont Energy Investment Corp., Burlington, VT

1993-1999: Senior Analyst, Vermont Energy Investment Corp., Burlington, VT

1992-1993: Energy Consultant, Lawrence Berkeley National Laboratory, Gaborone, Botswana

1986-1991: Senior Policy Analyst, Center for Clean Air Policy, Washington, DC

PROFESSIONAL SUMMARY

Chris specializes in analysis of markets for energy efficiency, renewable energy and strategic electrification measures and the design and evaluation of programs and policies to promote them. During his 25+ years in the clean energy industry, Mr. Neme has worked for energy regulators, utilities, government agencies and advocacy organizations in nearly 30 states, 5 Canadian provinces and several European countries. He has defended expert witness testimony before regulatory commissions in ten different jurisdictions; he has also testified before several state legislatures.

SELECTED PROJECTS

- **Green Mountain Power (Vermont).** Support development and implementation of GMP's plan for reducing customers' direct consumption of fossil fuels. Also developed 10-year forecast different levels of promotion of residential heat pumps and electric vehicles. (2016 to present)
- **Ontario Energy Board:** Serve on gas DSM Evaluation Committee, advisory committee on gas efficiency potential study and advisory committee on carbon price forecast. (2015-present)
- **Alberta Energy Efficiency Alliance.** Drafting white paper on key ways in which consideration of "efficiency as a resource" could be institutionalized. Paper followed presentations to government agencies and others on behalf of the Pembina Institute. (2017 to present)
- **Green Energy Coalition (Ontario).** Represent coalition of environmental groups in regulatory proceedings, utility negotiations and stakeholder meetings on DSM policies (including integrated resource planning on pipeline expansions) and utility proposed DSM Plans. (1993 to present)
- **New Jersey Board of Public Utilities.** Serve on management team responsible for statewide delivery of New Jersey Clean Energy Programs. Lead strategic planning; support regulatory filings, cost-effectiveness analysis & evaluation work. (2015 to present)
- **Natural Resources Defense Council (Illinois, Michigan and Ohio).** Critically review multi-year DSM plans and IRPs of Illinois, Michigan and Ohio utilities. Draft and defend regulatory testimony. Represent NRDC in stakeholder-utility processes governing development of efficiency policy manuals, annual TRM updates, annual NTG updates, etc. (2010 to present)
- **Toronto Atmospheric Fund.** Helped draft an assessment of efficiency potential from retrofitting of cold climate heat pumps into electrically heated multi-family buildings (2017).



CHRISTOPHER NEME, PRINCIPAL

- ***E4TheFuture.*** One of five authors of a new 2017 National Standard Practice Manual for cost-effectiveness analysis of energy efficiency and other distributed resources. (2016-present)
- ***Regulatory Assistance Project - U.S.*** Provide guidance on efficiency policy and programs. Lead author on strategic reports on achieving 30% electricity savings in 10 years, using efficiency to defer T&D system investments, & bidding efficiency into capacity markets. (2010 to present)
- ***Regulatory Assistance Project - Europe.*** Provide support on efficiency policies in the UK, Germany, and other countries. Reviewed EU policies on Energy Savings Obligations, EM&V protocols, and related issues. Drafted policy brief on efficiency feed-in-tariffs. (2009 to present)
- ***Northeast Energy Efficiency Partnerships.*** Helped manage Regional EM&V forum project estimating savings for emerging technologies, including field study of cold climate heat pumps. Led assessment of best practices on use of efficiency to defer T&D investment. (2009 to 2015)
- ***Ontario Power Authority.*** Managed jurisdictional scans on leveraging building efficiency labeling requirements and non-energy benefits. Led staff workshop on efficiency as an alternative to T&D investment. (2012-2015)
- ***Vermont Public Interest Research Group.*** Conducted comparative analysis of the economic and environmental impacts of fuel-switching from oil/propane heating to either natural gas or efficient, cold climate electric heat pumps. Filed regulatory testimony on findings. (2014-2015)
- ***National Association of Regulatory Utility Commissioners (NARUC).*** Assessed alternatives to first year savings goals to better promote longer-lived savings. (2013)
- ***California Investor-Owned Utility.*** Senior advisor on EFG project to compare the cost of saved energy across ~10 leading U.S. utility portfolios. The research sought to determine if there are discernable differences in the cost of saved energy related to utility spending in specific non-incentive categories, including administration, marketing, and EM&V. (2013)
- ***New York State Energy Research and Development Authority (NYSERDA).*** Led residential & renewables portions of several statewide efficiency potential studies. (2001 to 2010)
- ***DC Department of the Environment (Washington DC).*** Part of VEIC team administering the DC Sustainable Energy Utility (SEU). Helped characterize the DC efficiency market and supported the design of efficiency programs that the SEU will be implementing. (2011 to 2012)
- ***Ohio Public Utilities Commission.*** Senior Advisor to a project to develop a web-based Technical Reference Manual (TRM). The TRM includes deemed savings assumptions, deemed calculated savings algorithms and custom savings protocols. It was designed to serve as the basis for all electric and gas efficiency program savings claims in the state. (2009 to 2010)
- ***Vermont Electric Power Company.*** Led residential portion of efficiency potential study to assess alternatives to new transmission line. Testified before Public Service Board. (2001-2003)
- ***Efficiency Vermont.*** Served on Sr. Management team. Supported initial project start-up. Oversaw residential planning, input to regulators on evaluation, input to regional EM&V forum, development of M&V plan and other aspects of bidding efficiency into New England's Forward Capacity Market (FCM), and development and updating of nation's first TRM. (2000 to 2010)

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Exhibit CN-2

p. 1 of 48
dtd w/
docket.



EVALUATION OF DUKE ENERGY'S HELPING HOME FUND

October 15, 2017



P. 127 41
Add in docket

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**COST RECOVERY AND INCENTIVE MECHANISM FOR DEMAND-SIDE
MANAGEMENT AND ENERGY EFFICIENCY PROGRAMS**

(Docket No. E-2, Sub 931, as Modified by the Commission, to be Effective January 1, 2016, and as revised by the Commission in Docket No. E-2, Sub 1145)

(NOTE: EXCLUDES ATTACHMENTS)

The purpose of this Mechanism is (1) to allow Duke Energy Progress, Inc. (DEP or Company), to recover all reasonable and prudent costs incurred for adopting and implementing demand-side management (DSM) and energy efficiency (EE) Measures defined as new under G.S. 62-133.9, Commission Rules R8-68 and R8-69, the Commission's orders, and the additional principles set forth below; (2) to establish the terms, conditions, and methodology to be used for the recovery of Net Lost Revenues (NLR) and a Portfolio Performance Incentive (PPI) to reward DEP for adopting and implementing DSM and EE Measures and Programs, based on the sharing of dollar savings achieved by those Measures and Programs, if the Commission deems such recovery and reward appropriate; (3) to provide for an additional incentive to further encourage kilowatt-hour (kWh) savings achievements; and (4) to establish certain terms, requirements, and guidelines that will govern and/or guide (a) requests by DEP for Commission approval of DSM and EE Programs, (b) Program management and modifications, (c) Evaluation, Measurement, and Verification (EM&V) of Programs, (d) procedural matters and the general structure of the DSM/EE and DSM/EE EMF riders, (e) regulatory reporting requirements, and (f) DEP's Stakeholder Collaborative. The definitions set out in G.S. 62-133.8 and G.S. 62-133.9 and Commission Rules R8-68 and R8-

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Maness Exhibit II
Schedule 1

Duke Energy Progress, LLC
Docket No. E-7, Sub 1174
CALCULATION OF PUBLIC STAFF RECOMMENDED BILLING FACTORS
REFLECTING THE REMOVAL OF THE RESIDENTIAL SMART SAVER EE PROGRAM AND THE PUBLIC STAFF AVOIDED
CAPACITY COST ZEROS ADJUSTMENT

Line No.	Item	Public Staff Recommended Rates (cents/kWh) - Reflecting Removal of Residential Smart Saver EE Pgm. and Public Staff Avoided Capacity Cost Zeros Adjustment			Billing Rates Per Company 4/	Public Staff Adjustment 5/
		Rate (cents/kWh) 1/	Regulatory Fee 2/	Billing Rate 3/		
		(a)	(b)	(c)	(d)	(e)
1	Residential Rate:					
2	EMF Rate - DSM	0.009	-	0.009	0.009	-
3	EMF Rate - EE	(0.006)	-	(0.006)	(0.006)	-
4	Projected Rate - DSM	0.119 7/	-	0.119	0.120	(0.001)
5	Projected Rate - EE	0.515 6/	0.001	0.516	0.521	(0.005)
6	Total Residential Rate	<u>0.637</u>		<u>0.638</u>	<u>0.644</u>	<u>(0.006)</u>
7	General Service EE Rate:					
8	EE EMF Rate	0.122	-	0.122	0.122	-
9	EE Projected Rate	0.695 6/	0.001	0.696	0.698	(0.002)
10	Total General Service EE Rate	<u>0.817</u>		<u>0.818</u>	<u>0.820</u>	<u>(0.002)</u>
11	General Service DSM Rate:					
12	DSM EMF Rate	(0.018)	-	(0.018)	(0.018)	-
13	DSM Projected Rate	0.061 7/	-	0.061	0.063	(0.002)
14	Total General Service DSM Rate	<u>0.043</u>		<u>0.043</u>	<u>0.045</u>	<u>(0.002)</u>
15	Lighting EE Rate:					
16	Lighting EE EMF Rate	0.001	-	0.001	0.001	-
17	Lighting EE Projected Rate	0.099 6/	-	0.099	0.099	-
18	Total Lighting EE Rate	<u>0.100</u>		<u>0.100</u>	<u>0.100</u>	<u>-</u>

- 1/ Supplemental Miller Exhibit 1 (Revised), unless otherwise noted.
- 2/ Reflects regulatory fee rate of 0.140%.
- 3/ Column (a) + Column (b).
- 4/ Supplemental Miller Exhibit 1 (Revised).
- 5/ Column (c) - Column (d).
- 6/ Maness Exhibit II, Schedule 3-1, Column (j).
- 7/ Maness Exhibit II, Schedule 3-2, Column (i).

Duke Energy Progress, LLC
Docket No. E-7, Sub 1174

**CALCULATION OF PUBLIC STAFF RECOMMENDED BILLING FACTORS
REFLECTING ONLY THE ADJUSTMENT TO REMOVE THE RESIDENTIAL SMART SAVER EE PROGRAM**

Line No.	Item	Public Staff Recommended Rates (cents/kWh) - Reflecting Only Adjustment to Remove Residential Smart Saver EE Pgm.			Billing Rates Per Company 4/	Public Staff Adjustment 5/
		Rate (cents/kWh) 1/	Regulatory Fee 2/	Billing Rate 3/		
		(a)	(b)	(c)	(d)	(e)
1	Residential Rate:					
2	EMF Rate - DSM	0.009	-	0.009	0.009	-
3	EMF Rate - EE	(0.006)	-	(0.006)	(0.006)	-
4	Projected Rate - DSM	0.120	-	0.120	0.120	-
5	Projected Rate - EE	0.517 6/	0.001	0.518	0.521	(0.003)
6	Total Residential Rate	<u>0.640</u>		<u>0.641</u>	<u>0.644</u>	<u>(0.003)</u>
7	General Service EE Rate:					
8	EE EMF Rate	0.122	-	0.122	0.122	-
9	EE Projected Rate	0.697 6/	0.001	0.698	0.698	-
10	Total General Service EE Rate	<u>0.819</u>		<u>0.820</u>	<u>0.820</u>	<u>-</u>
11	General Service DSM Rate:					
12	DSM EMF Rate	(0.018)	-	(0.018)	(0.018)	-
13	DSM Projected Rate	0.063	-	0.063	0.063	-
14	Total General Service DSM Rate	<u>0.045</u>		<u>0.045</u>	<u>0.045</u>	<u>-</u>
15	Lighting EE Rate:					
16	Lighting EE EMF Rate	0.001	-	0.001	0.001	-
17	Lighting EE Projected Rate	0.099 6/	-	0.099	0.099	-
18	Total Lighting EE Rate	<u>0.100</u>		<u>0.100</u>	<u>0.100</u>	<u>-</u>

- 1/ Supplemental Miller Exhibit 1 (Revised), unless otherwise noted.
2/ Reflects regulatory fee rate of 0.140%.
3/ Column (a) + Column (b).
4/ Supplemental Miller Exhibit 1 (Revised).
5/ Column (c) - Column (d).
6/ Maness Exhibit II, Schedule 2, Column (j).

Duke Energy Progress, LLC
Docket No. E-7, Sub 1174
**CALCULATION OF PUBLIC STAFF RECOMMENDED VINTAGE 2019 REVENUE
REQUIREMENT - REMOVAL OF RESIDENTIAL SMART SAVER EE PROGRAM ONLY**

Line No.	NC Rate Class (a)	Adjusted NC Rate Class kWh Sales (b)	Rate Class Energy Allocation Factor (c)	EE Revenue Requirements							Total EE Rate (j)
				Residential Programs (d)	CIG Programs (e)	DSDR (f)	Non-DSDR Allocated A&G and Carrying Costs (g)	DSDR Allocated A&G and Carrying Costs (h)	Total of Allocated Costs (i)		
1	Residential	15,740,238,953	60.65%	\$ 58,996,084	2/ \$ -	\$ 14,597,379	\$ 6,751,733	4/ \$ 977,130	\$ 81,322,326	0.517	
2	General Service	9,852,771,378	37.96%	-	53,311,105	9,137,386	5,598,552	4/ 611,645	68,658,687	0.697	
3	Lighting	361,265,217	1.39%	-	-	335,035	-	4/ 22,427	357,461	0.099	
4	NC Retail	25,954,275,548	100.00%	\$ 58,996,084	\$ 53,311,105	\$ 24,069,799	\$ 12,350,284	3/ \$ 1,611,202	\$ 150,338,474		

1/ Supplemental Miller Exhibit 2, Page 1 (Revised).

2/ Reflects the removal of \$424,305 in rate period 2019 revenue requirements associated with the Residential Smart Saver EE Program.

3/ Reflects a reduction of \$88,189 in carrying costs due to removal of Vintage 2019 Residential Smart Saver EE Program costs from deferred program cost base.

4/ N.C. retail costs totaled in this column are allocated to customer classes on the basis of non-DSDR revenue requirements (excluding PPI and net lost revenues).

5/ Sum of Columns (d) - (h).

6/ Column (i) divided by Column (b).

Duke Energy Progress, LLC
Docket No. E-7, Sub 1174
**CALCULATION OF PUBLIC STAFF RECOMMENDED VINTAGE 2019 EE REVENUE
REQUIREMENT - REMOVAL OF RESIDENTIAL SMART SAVER EE PROGRAM AND AVOIDED
CAPACITY COST ZEROS ADJUSTMENT**

Line No.	NC Rate Class (a)	Adjusted NC Rate Class kWh Sales (b)	Rate Class Energy Allocation Factor (c)	EE Revenue Requirements						
				Residential Programs (d)	CIG Programs (e)	DSDR (f)	Non-DSDR Allocated A&G and Carrying Costs (g)	DSDR Allocated A&G and Carrying Costs (h)	Total of Allocated Costs (i)	Total EE Rate (j)
1	Residential	15,740,238,953	60.65%	\$ 58,787,351	\$ -	\$ 14,597,379	\$ 6,751,733	\$ 977,130	\$ 81,113,592	0.515
2	General Service	9,852,771,378	37.96%	-	53,178,060	9,137,386	5,598,552	611,645	68,525,642	0.695
3	Lighting	361,265,217	1.39%	-	-	335,035	-	22,427	357,461	0.099
4	NC Retail	25,954,275,548	100.00%	\$ 58,787,351	\$ 53,178,060	\$ 24,069,799	\$ 12,350,284	\$ 1,611,202	\$ 149,996,696	

1/ Supplemental Miller Exhibit 2, Page 1 (Revised).

2/ Reflects the removal from rate period 2019 revenue requirements of \$208,733 in amortized Vintage 2019 PPI associated with Public Staff "zeros" adjustment and \$424,305 associated with the Residential Smart Saver EE Program.

3/ Reflects the removal from rate period 2019 revenue requirements of \$133,045 in amortized Vintage 2019 PPI associated with Public Staff "zeros" adjustment.

4/ Reflects a reduction of \$88,189 in carrying costs due to removal of Vintage 2019 Residential Smart Saver EE Program costs from deferred program cost base.

5/ N.C. retail costs totaled in this column are allocated to customer classes on the basis of non-DSDR revenue requirements (excluding PPI and net lost revenues).

6/ Sum of Columns (d) - (h).

7/ Column (i) divided by Column (b).

Duke Energy Progress, LLC
Docket No. E-7, Sub 1174

**CALCULATION OF PUBLIC STAFF RECOMMENDED VINTAGE 2019 EE REVENUE
REQUIREMENT - REMOVAL OF RESIDENTIAL SMART SAVER EE PROGRAM AND AVOIDED
CAPACITY COST ZEROS ADJUSTMENT**

Line No.	NC Rate Class	Adjusted NC Rate Class kWh Sales 1/	Rate Class Demand Allocation Factor 1/	DSM Revenue Requirements						
				EnergyWise Program Costs 1/	CIG DR Program 3/	Allocated A&G Costs 1/	Allocated Carrying Costs 1/	Total of Allocated Costs 1/	Total EE Rate 5/	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	
1	Residential	15,740,238,953	67.12%	\$ 15,793,668 2/	\$ -	\$ 538,120	\$ 2,475,417	\$ 18,807,205	0.119	
2	General Service	9,737,467,991	32.88%	-	4,721,174 3/	222,164	1,021,980	5,965,318	0.061	
3	Lighting	360,425,890	0.00%	-	-	-	-	-	-	
4	NC Retail	<u>25,838,132,834</u>	<u>100.00%</u>	<u>\$ 15,793,668</u>	<u>\$ 4,721,174</u>	<u>\$ 760,284</u>	<u>\$ 3,497,397</u>	<u>\$ 24,772,524</u>		

1/ Supplemental Miller Exhibit 2, Page 2 (Revised).

2/ Reflects the removal from rate period 2019 revenue requirements of \$26,019 in amortized Vintage 2019 PPI associated with Public Staff "zeros" adjustment.

3/ Reflects the removal from rate period 2019 revenue requirements of \$120,753 in amortized Vintage 2019 PPI associated with Public Staff "zeros" adjustment.

4/ Sum of Columns (d) - (g).

5/ Column (h) divided by Column (b).

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Public Staff
Williamson Exhibit #1

Duke Energy Progress, LLC
Timeline of Cost-Effectiveness for the Residential Smart Saver EE Program (formerly known as HEIP)
Docket Number E-2, Sub 1174

Filing Year	2012	2013	2014	2015	2016	2017	2018
Vintage Year	V2013	V2014	V2015	V2016	V2017	V2018	V2019
Rider filing projections for the Vintage year (projection)	-	1.20	0.90	0.80	0.49	0.67	0.57
Modification TRC values (projection)	-	-	-	0.91	-	1.23	-
Actual performance for the Vintage year	0.90	0.80	0.89	0.64	0.48	-	-

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Duke Energy Progress, LLC
 Comparison of "As-Filed" Cost-Effectiveness Scores to Previous DSM/EE Riders
 Docket Number E-2, Sub 1174

Public Staff
 Williamson Exhibit #2

Changes from Sub
 1145 to Sub 1174

Program	Evans Exhibit 7 In Sub 1108				Evans Exhibit 7 In Sub 1145				Evans Exhibit 7 In Sub 1174				TRC % Change	
	UCT	TRC	RIM	PCT	UCT	TRC	RIM	PCT	UCT	TRC	RIM	PCT		
Residential Programs														
Appliance Recycling Program	1.15	1.67	0.39	-	1.07	1.43	0.50	-	-	-	-	-	-	-
Energy Education Program for Schools	0.97	1.33	0.53	-	1.15	1.62	0.54	-	1.62	2.24	0.76	-	-	38.4%
Energy Efficient Lighting	2.63	3.54	0.50	8.08	2.36	4.09	0.74	8.77	1.79	2.58	0.57	6.36	-	-36.8%
Home Energy Improvement	0.83	0.49	0.51	0.86	0.91	0.67	0.57	1.30	0.91	0.57	0.48	1.36	-	-14.7%
Multi-Family	2.15	3.08	0.66	-	3.39	6.19	0.81	-	3.00	5.58	0.64	-	-	-9.7%
Neighborhood Energy Saver	0.50	1.87	0.35	-	0.57	1.60	0.37	-	0.46	1.55	0.31	-	-	-2.8%
Residential Energy Assessments	1.80	2.03	0.75	-	2.23	2.53	0.77	-	1.54	1.71	0.60	-	-	-32.7%
Residential New Construction	1.11	1.20	0.71	1.95	2.27	1.26	0.97	1.89	1.96	1.03	0.86	1.85	-	-17.8%
Save Energy and Water Kit	6.76	13.11	0.71	6.76	7.77	19.81	0.84	-	12.43	27.29	0.95	-	-	39.2%
Residential Home Advantage	-	-	-	-	-	-	-	-	-	-	-	-	-	-
My Home Energy Report	1.08	1.08	0.57	6.76	1.42	1.42	0.08	-	0.96	0.96	0.48	-	-	-32.7%
EnergyWise Home	10.10	55.80	10.10	6.76	10.06	94.65	10.06	-	9.28	58.30	9.28	-	-	-38.4%
Residential Total	2.28	2.73	0.83	5.53	3.07	3.16	0.86	10.66	2.79	2.70	1.03	5.28	-	-14.5%
Non-Residential Programs														
Business Energy Reports	1.03	1.03	0.64	-	-	-	-	-	-	-	-	-	-	-
SmartSaver EE Products and Assessment (formally EE for Business)	3.15	1.57	1.22	1.72	-	-	-	-	-	-	-	-	-	-
Energy Efficient Lighting	19.03	5.85	0.94	8.38	6.13	10.61	1.92	8.77	4.63	7.98	1.21	12.09	-	-24.8%
Smart Saver Performance (Custom) ¹	-	-	-	-	3.94	0.98	1.22	1.33	2.45	1.07	0.77	1.99	-	8.8%
Smart Saver Performance (Prescriptive) ¹	-	-	-	-	2.64	1.19	1.02	1.79	-	-	-	-	-	-10.2%
Smart Saver Performance Incentive	-	-	-	-	0.54	0.40	0.42	1.58	3.75	0.92	0.95	1.64	-	126.7%
Small Business Energy Saver	2.36	5.45	1.06	9.01	3.13	2.00	1.13	2.83	2.57	1.60	0.87	2.87	-	-19.9%
EnergyWise® for Business	1.29	1.82	1.00	1.72	1.80	2.32	1.25	-	0.72	1.07	0.62	-	-	-53.8%
Commercial Industrial Governmental Demand Response	2.62	42.22	2.62	2.81	2.67	4.33	2.67	-	2.06	33.28	2.06	-	-	668.7%
Non-Residential Total	2.86	3.10	1.35	3.20	2.87	1.77	1.25	2.36	2.41	1.56	1.01	2.37	-	-12.0%
Overall Portfolio total	2.50	2.88	1.00	4.42	2.99	2.45	0.79	5.94	2.63	2.12	1.03	3.67	-	-13.5%

¹ Similar to what DEC has done, DEP is combining the Performance Custom and Performance Prescriptive programs due to their similarities in participants and renaming them Non-Residential Smart Saver (formerly known as EE for Business)

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Public Staff
Williamson Exhibit #3

Duke Energy Progress, LLC
Comparison of Program/Portfolio Cost Effectiveness - Program Year 2019
Docket Number E-2, Sub 1174

Original - As Filed

Program	Evans Exhibit 7			
	UCT	TRC	RIM	PCT
Residential Programs				
• Appliance Recycling Program				
• Energy Education Program for Schools	1.62	2.24	0.76	
• EnergyWise Home	9.28	58.30	9.28	
• Home Energy Improvement	0.91	0.57	0.48	1.36
• Neighborhood Energy Saver	0.46	1.55	0.31	
• Multi-Family Energy Efficiency Program	3.00	5.58	0.64	
• My Home Energy Report	0.96	0.96	0.48	
• Residential Energy Assessments	1.54	1.71	0.60	
• Residential New Construction	1.96	1.03	0.86	1.85
• Energy Efficient Lighting	1.79	2.58	0.57	6.36
• Save Energy and Water Kit	12.43	27.29	0.95	
Residential Total	2.79	2.70	1.03	5.28
Non-Residential Programs				
• Energy Efficiency for Business	2.45	1.07	0.94	1.51
• Performance Incentive	3.75	0.92	0.95	1.64
• CIG DRA	2.06	33.28	2.06	
• EnergyWise for Business	0.72	1.07	0.62	
• Energy Efficient Lighting	4.63	7.98	1.21	12.09
• Small Business Energy Saver	2.57	1.60	0.87	2.87
Non-Residential Total	-2.41	1.56	1.01	2.37
Overall Portfolio Total	2.63	2.12	1.03	3.67

Public Staff position on applying
zeros to avoided capacity

Evans Exhibit 7			
UCT	TRC	RIM	PCT
1.31	1.77	0.63	
8.93	56.11	8.93	
0.81	0.52	0.44	1.36
0.41	1.21	0.28	
2.69	4.79	0.60	
0.75	0.75	0.39	
1.39	1.53	0.56	
1.75	0.95	0.80	1.85
1.63	2.29	0.54	6.36
10.71	22.05	0.86	
2.50	2.42	0.96	5.28
2.18	0.99	0.87	1.51
3.37	0.86	0.90	1.64
1.84	29.83	1.84	
0.42	0.61	0.37	
4.16	6.89	1.13	12.09
2.24	1.43	0.79	2.87
2.12	1.40	0.92	2.37
2.34	1.91	0.94	3.67