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October 15, 2013

FILED

OCT 15 2013

Clerk's Office
N.C. Utilities Commission

VIA HAND DELIVERY

Gail L. Mount
Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4325

RE: Duke Energy Carolinas' 2013 Integrated Resource Plan and 2013
REPS Compliance Plan
Docket No. E-100, Sub 137

Dear Ms. Mount:

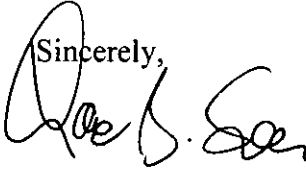
Pursuant to N.C. Gen. Stat. § 62-133.8 and Commission Rules R8-60, R8-62(p) and R8-67, I enclose Duke Energy Carolinas, LLC's ("DEC") 2013 Integrated Resource Plan ("IRP") and 2013 Renewable Energy and Energy Efficiency Portfolio Standard ("REPS") Compliance Plan, for filing in connection with the referenced matter.

Portions of the 2013 DEC IRP and 2013 REPS Compliance Plan contain certain confidential information that should be protected from public disclosure. Pages 99 through 101 of Appendix F of the IRP contain busbar screening curves which represent the confidential and proprietary levelized all-in costs of new supply-side resources, which include capital, operations and maintenance costs and fuel costs. Exhibit A of the 2013 REPS Compliance Plan contains names of counterparties with whom DEC has contracted for Renewable Energy Certificates ("RECs") and estimated RECs. Public disclosure of this information would harm DEC's ability to negotiate and procure cost-effective purchases and discourage potential bidders from participating in requests for proposals. In addition, the filing contains DEC's most recent FERC Form 715. Because the FERC Form 715 contains critical energy infrastructure information that should be kept confidential and non-public, DEC is also filing it under seal and requests that the Commission treat this information as confidential and protect it from public disclosure.

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Accordingly I am filing an original and thirty (30) complete copies of the 2013 IRP and 2013 REPS Compliance Plan under seal; they should be treated confidentially pursuant to N.C. Gen. Stat. § 132-1.2 and protected from public disclosure. I also enclose two public versions of the 2013 IRP and 2013 REPS Compliance Plan with the confidential information redacted. The Company will provide a copy of the confidential information to parties to this proceeding upon execution of an appropriate confidentiality agreement with DEC.

Thank you for your attention to this matter. If you have any questions, please let me know.

Sincerely,


Lawrence B. Somers

Enclosures
STAREG4031

cc: Parties of Record

CERTIFICATE OF SERVICE

I, Lawrence B. Somers, certify that a copy of Duke Energy Carolinas, LLC's 2013 Integrated Resource Plan and 2013 REPS Compliance Plan, in Docket No. E-100, Sub 137, has been served by electronic mail, hand delivery or by depositing a copy in the United States mail, postage prepaid to the following parties for record:

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This is the 15th day of October, 2013.

By: _____



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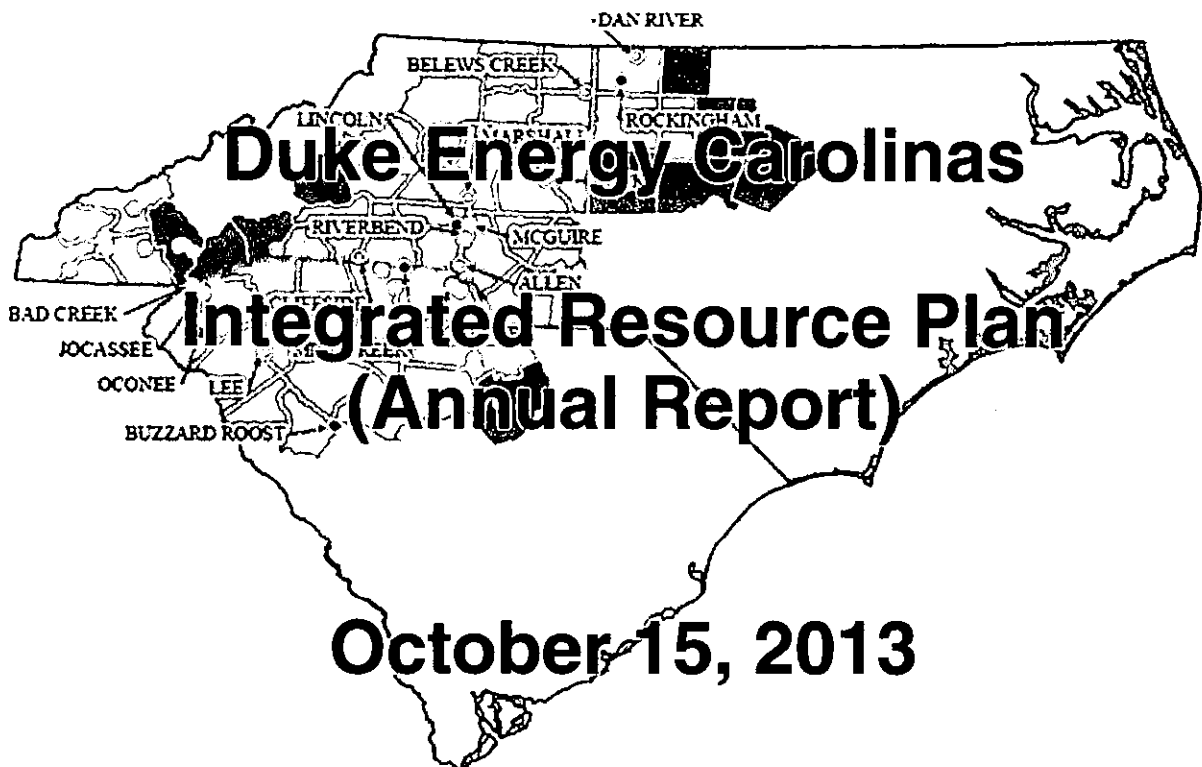
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N.C. Utilities Commission



**DUKE
ENERGY®
CAROLINAS**

E-100, S-6137



Public

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| ABBREVIATIONS | |
|-----------------|---|
| CAIR | Clean Air Interstate Rule |
| CAMR | Clean Air Mercury Rule |
| CC | Combined Cycle |
| CCR | Coal Combustion Residuals |
| CEPCN | Certificate of Environmental Compatibility and Public Convenience and Necessity |
| CFL | Compact Fluorescent Light bulbs |
| CO ₂ | Carbon Dioxide |
| COD | Commercial Operation Date |
| COL | Combined Construction and Operating License |
| COWICS | Carolinas Offshore Wind Integration Case Study |
| CPCN | Certificate of Public Convenience and Necessity |
| CSAPR | Cross State Air Pollution Rule |
| CT | Combustion Turbine |
| DC | Direct Current |
| DEC | Duke Energy Carolinas |
| DEP | Duke Energy Progress |
| DOE | Department of Energy |
| DSM | Demand Side Management |
| EE | Energy Efficiency |
| EIA | Energy Information Administration |
| EPA | Environmental Protection Agency |
| EPRI | Electric Power Research Institute |
| FERC | Federal Energy Regulatory Commission |
| FGD | Flue Gas Desulfurization |
| FLG | Federal Loan Guarantee |
| GHG | Greenhouse Gas |
| HVAC | Heating, Ventilation and Air Conditioning |
| IGCC | Integrated Gasification Combined Cycle |
| IRP | Integrated Resource Plan |
| IS | Interruptible Service |
| JDA | Joint Dispatch Agreement |
| LCR Table | Load, Capacity, and Reserve Margin Table |
| LEED | Leadership in Energy and Environmental Design |
| MACT | Maximum Achievable Control Technology |
| MATS | Mercury Air Toxics Standard |
| NAAQS | National Ambient Air Quality Standards |
| NC | North Carolina |
| NCDAQ | North Carolina Division of Air Quality |
| NCEMC | North Carolina Electric Membership Corporation |
| NCMPA1 | North Carolina Municipal Power Agency #1 |
| NCUC | North Carolina Utilities Commission |

| ABBREVIATIONS CONT. | |
|---------------------|---|
| NERC | North American Electric Reliability Corp |
| NO _x | Nitrogen Oxide |
| NPDES | National Pollutant Discharge Elimination System |
| NRC | Nuclear Regulatory Commission |
| NSPS | New Source Performance Standard |
| PD | Power Delivery |
| PEV | Plug-In Electric Vehicles |
| PMPA | Piedmont Municipal Power Agency |
| PPA | Purchase Power Agreement |
| PPB | Parts Per Billion |
| PSD | Prevention of Significant Deterioration |
| PV | Photovoltaic |
| PVDG | Solar Photovoltaic Distributed Generation Program |
| PVRR | Present Value Revenue Requirements |
| QF | Qualifying Facility |
| RCRA | Resource Conservation Recovery Act |
| REC | Renewable Energy Certificates |
| REPS | Renewable Energy and Energy Efficiency Portfolio Standard |
| RFP | Request for Proposal |
| RIM | Rate Impact Measure |
| RPS | Renewable Portfolio Standard |
| SC | South Carolina |
| SCPSC | South Carolina Public Service Commission |
| SCR | Selective Catalytic Reduction |
| SEPA | Southeastern Power Administration |
| SERC | SERC Reliability Corporation |
| SG | Standby Generation |
| SIP | State Implementation Plan |
| SO ₂ | Sulfur Dioxide |
| TAG | Technology Assessment Guide |
| TRC | Total Resource Cost |
| The Company | Duke Energy Carolinas |
| The Plan | Duke Energy Carolinas Annual Plan |
| UCT | Utility Cost Test |
| VACAR | Virginia/Carolinas |
| VAR | Volt Ampere Reactive |

1. EXECUTIVE SUMMARY

Each year Duke Energy Carolinas (DEC or the Company) is required by both the North Carolina Utilities Commission (NCUC) and the South Carolina Public Service Commission (SCPSC) to submit a planning document to ensure that it can reliably and affordably meet the energy needs of its customers well into the future.

This year, in addition to providing a traditional standalone Base Case resource plan within the 2013 Integrated Resource Plan (IRP) Update, the Company has also developed an alternative Joint Planning Scenario that examines the benefits of a coordinated energy and capacity expansion plan with Duke Energy Progress (DEP).

DEC does not currently have the regulatory approvals required to implement this joint plan, however this scenario simply begins to examine the potential benefits that would accrue to customers once DEC and DEP coordinate new resource additions between the companies. Any benefits that would accrue from new jointly planned resources would be in addition to the current merger savings already being realized through the Joint Dispatch Agreement (JDA) and fuel procurement activities associated with existing generation resources.

Increased Energy Efficiency/Demand Side Management

Duke Energy continues to expand its portfolio of energy efficiency products and services – offering customers more ways to take control of their energy usage and save money.

DEC's Energy Efficiency (EE) programs encourage customers to save electricity by installing high-efficiency measures and/or changing the way they use their electricity.

DEC also offers a variety of Demand Side Management (DSM) programs that signal customers to reduce electricity use during select peak hours as specified by the Company.

- Energy Efficiency programs and Demand Side Management, combined with the use of renewable energy resources are expected to meet approximately one third of the projected growth in customer demand over the next 15 years. This equates to over 2,400 MW of new energy efficiency, demand side management and renewable resources or the equivalent of three large natural gas-generation facilities.
- Aggressive marketing and increased adoption of energy efficiency programs reduce the annual forecast demand growth from 1.9 to 1.5%.

- DEC will continue to seek Commission approval to implement new DSM and EE programs that are cost effective and consistent with DEC's forecasted resource needs over the planning horizon.

Growth of Renewable Energy and Solar Resources

The Company continues to purchase renewable energy on behalf of our customers and make investments that support our delivery of clean, reliable and affordable electricity.

DEC's strategy to comply with the North Carolina Renewable Energy and Energy Efficiency Portfolio Standard (NC REPS) is to develop a diverse portfolio of cost-effective renewable resources including long-term Purchase Power Agreements (PPAs), utility-owned generation, and energy efficiency.

DEC is committed to meeting the requirements established under the NC REPS and to procuring renewable energy in a way that minimizes costs for customers. The Company remains on target to meet these standards within the cost caps established under NC REPS. The Base Case also assumes the addition of future S.C. renewable resources that could be driven by regulatory mandates or market-based forces.

Solar energy is an important part of the energy future for the Carolinas. As the net price of solar technologies including tax incentives continues to decrease, customer use of solar continues to increase.

- The growth of solar energy has been spurred by several factors, including state and federal subsidies that are expected to be in place through 2015 and 2017, respectively.
- Substantial tax subsidies and declining costs make solar energy the Company's primary renewable resource projected within the NC REPS compliance plan.
- The Company's plan currently projects that by the end of the planning horizon, the Company will have met over 700 MW of peak demand through solar resources - the equivalent of one large natural gas facility.

Retiring Older, Less Efficient Coal Units

Duke Energy Carolinas is investing in a brighter energy future for its more than 2.4 million customers in North and South Carolina. The Company has built some of the cleanest, most efficient natural gas plants to replace aging, less efficient generation facilities in order to provide essential

power to the communities that DEC serves. This advanced generation technology helps the Company comply with more stringent air, water and waste rules.

- Since 2011, DEC has retired 15 coal units, totaling 1,300 MW, in addition to 400 MW of older oil units.
- In April 2015, the last of DEC's coal stations that lack advanced emission controls is scheduled to be retired. Lee Steam Station Units 1 and 2, located in Pelzer, S.C. are currently planned for retirement to correspond with the effective date of the federal Mercury Air Toxics Standard (MATS) while Unit 3 is scheduled to be repowered to run on natural gas.
- In December 2012, following the retirement of the Dan River coal units, the Dan River Combined Cycle (CC) facility became operational. This 620 MW natural gas-fired CC generating station located in Eden, N.C. achieves high operational flexibility and high thermal efficiency, while utilizing advanced environmental control technology to minimize plant emissions.
- The 825 MW Cliffside Steam Station Unit 6 in Mooresboro, N.C., which was completed at the end of 2012 is one of the cleanest coal units in the United States and has advanced emission controls that remove more than 99% of sulfur dioxide and 90% of nitrogen and mercury.

Improved Emissions

The combination of investments in advanced emission controls, retirements of older units and the addition of efficient clean natural gas units has culminated in dramatic reductions in power plant emissions over the last decade.

- Projected SO₂ emission levels in 2014 are expected to be 96% less than they were a decade earlier in 2005.
- Projected NO_x emission levels in 2014 are expected to be 76% less than they were in 2005.

This positions Duke Energy Carolinas as an industry leader in emission reductions. DEC is currently on track to exceed pending federal air emission standards.

Natural Gas: Meeting Future Customer Demand

Modernizing the power plant fleet is an important investment in the Carolinas' environment and its future. Because the Company continues to retire older, less efficient coal plants, new incremental resources must be added to the DEC system. New resources are also required to keep up with increasing customer demand.

After accounting for the previously-discussed impacts of DEC's EE, DSM and renewable resources, the Company projects it will meet its customers' remaining requirements with a combination of natural gas and nuclear resources.

The 2013 IRP identifies the need for new natural gas plants that are economic, highly efficient and reliable. The following natural gas resources are included in the plan for the 2014 through 2028 planning horizon:

- **2015** – Convert a 170 MW coal unit to natural gas at the Lee Steam Station in S.C.
- **2017** – Construct a new 680 MW natural gas CC generation facility
- **2019** – Procure or construct 843 MW of natural gas CC generation
- **2022** – Procure or construct 403 MW of simple cycle combustion turbines (CTs)

Nuclear Generation

Duke Energy Carolinas believes nuclear generation is important for the long-term benefits of its customers – today and in the future. The 2013 IRP continues to support new nuclear generation as a carbon-free, cost-effective option within the Company's resource portfolio.

- **W.S. Lee Nuclear Station, Cherokee, S.C.** - DEC continues to pursue nuclear expansion options at the proposed site. Currently a new and updated site-specific seismic analysis is being conducted at the request of the Nuclear Regulatory Commission. Completion of this report delays licensing and pushes the project completion date to 2024.
- **V.C. Summer Nuclear Plant, Fairfield, S.C.** - Discussions also continue with Santee Cooper to possibly purchase an interest in two units under construction at the V.C. Summer Nuclear Plant in Fairfield County, S.C. in the 2018 through 2020 timeframe.

The table below illustrates the Company's optimal Base Case resource plan that includes the gas and nuclear additions described above. As discussed, in addition to these traditional resources, the Base Case also includes approximately 2,400 MW of EE, DSM and renewable resources.

Table 1-A DEC Base Case

| Duke Energy Carolinas Resource Plan Base Case | | |
|--|--------------------------------------|--------|
| Year | Resource | MW |
| 2014 | Nuclear Upgrades | 20 |
| 2015 | Lee 3 NG Conversion Nuclear Upgrades | 170 32 |
| 2016 | - | - |
| 2017 | New CC Nuclear Upgrades | 680 45 |
| 2018 | VC Summer Nuclear | 66 |
| 2019 | New CC | 843 |
| 2020 | VC Summer Nuclear | 66 |
| 2021 | - | - |
| 2022 | New CC | 403 |
| 2023 | - | - |
| 2024 | New Nuclear | 1117 |
| 2025 | - | - |
| 2026 | New Nuclear | 1117 |
| 2027 | - | - |
| 2028 | - | - |

Note: Table includes both designated and undesignated capacity additions

One Company: The Benefits of Shared Capacity

DEC also examines a Joint Planning Scenario which shows the impact of capacity sharing between DEC and DEP. This exercise starts by combining the future load obligations of the two companies and combining the existing and projected resources from both DEC's and DEP's independent Base Case plans. However, rather than maintaining utility-specific individual minimum reserve margins, the Joint Planning Scenario simply ensures that the combined system maintains adequate reserves when viewed in the aggregate.

The sharing of capacity between the systems defers the need for new additions of generation. If DEC and DEP receive the appropriate regulatory approvals to allow for the sharing of resources, the Joint Planning Scenario illustrates how benefits would accrue to both companies' customers by delaying investment in new generation.

Federal Regulations and Future Market Conditions

With the information and data currently available, the 2013 IRP is a best projection of what the Company's energy portfolio will look like 15 years from now. This projection can change and will change depending on changing load forecasts, energy prices, new environmental regulations and other outside factors.

Environmental Focus Scenario

What if there is an aggressive new carbon tax in 10 years? Or additional new government mandates are required of electric utilities? The Company has created an Environmental Focus Scenario that factors in significant increases in EE and renewable resources that would influence the plan if regulatory, legislative, or market conditions changed from today's base assumptions to support such increases. This scenario examines how the amount of traditional supply-side resources would change if future market conditions and/or state and federal regulations resulted in higher levels of energy efficiency and renewable resources.

The following chapters give an overview of the inputs incorporated into the 2013 IRP. Chapter 8 provides insight into the planning process itself and reviews the results of the Base Case resource plan as well as the two alternative scenarios developed in this planning cycle. Finally, the appendices to this document give even greater detail and specifics regarding the input development and analytic process that produced the resource plans contained in this year's IRP filing.

2. SYSTEM OVERVIEW

DEC provides electric service to an approximately 24,000-square-mile service area in central and western North Carolina and western South Carolina. In addition to retail sales to approximately 2.41 million customers, the Company also sells wholesale electricity to incorporated municipalities and to public and private utilities. Recent historical values for the number of customers and sales of electricity by customer groupings may be found in Appendix C.

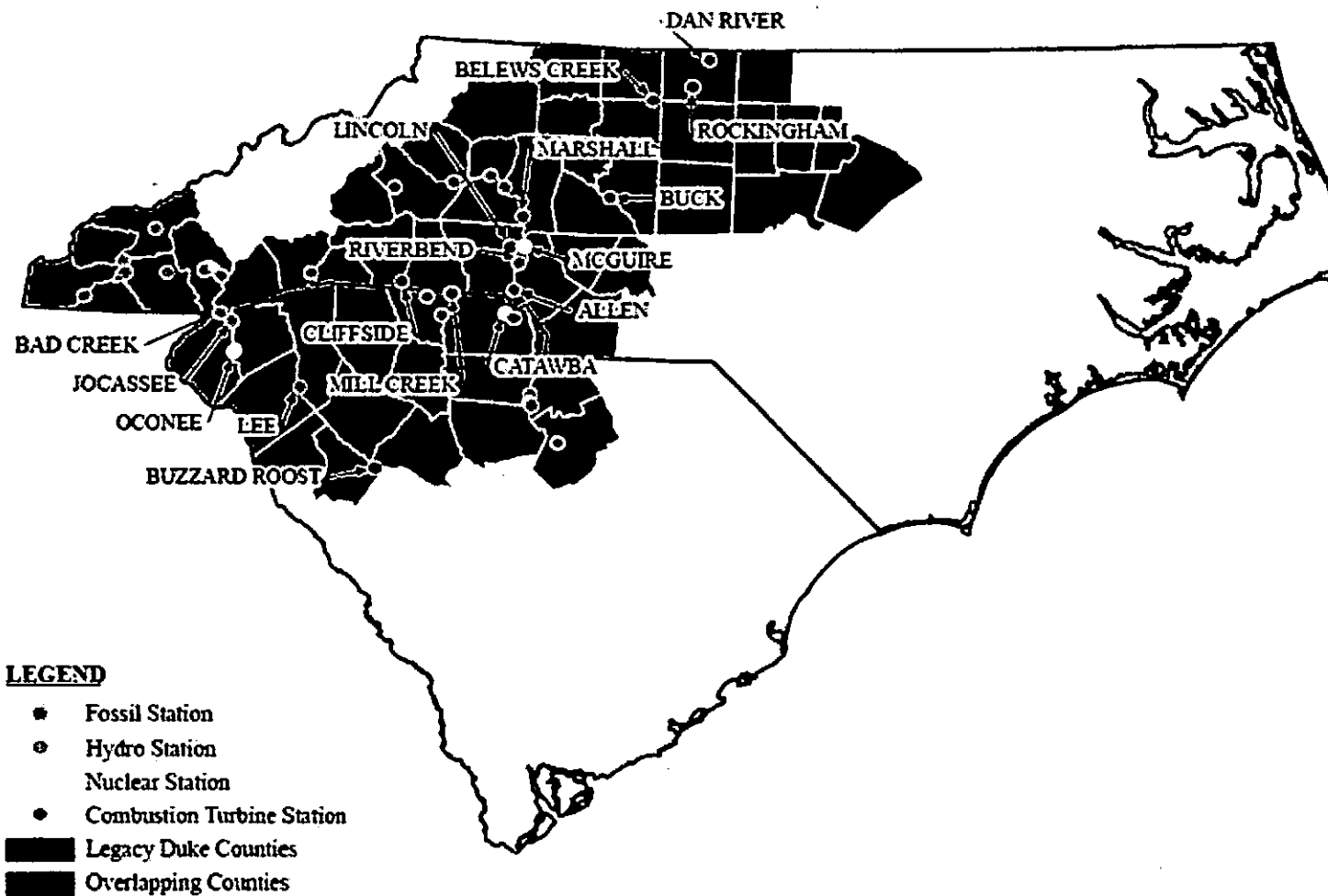
DEC currently meets energy demand, in part, by purchases from the open market, through longer-term purchased power contracts and from the following electric generation assets:

- Three nuclear generating stations with a combined capacity of 7,054 MW
- Five coal-fired stations with a combined capacity of 7,172 MW
- 29 hydroelectric stations (including two pumped-storage facilities) with a combined capacity of 3,229 MW
- Six CT stations and two CC stations with a combined capacity of 4,010 MW

The Company's power delivery system consists of approximately 101,700 miles of distribution lines and 13,100 miles of transmission lines. The transmission system is directly connected to all of the utilities that surround the DEC service area. There are 36 circuits connecting with nine different utilities: DEP, American Electric Power, Tennessee Valley Authority, Smokey Mountain Transmission, Southern Company, Yadkin, Southeastern Power Administration (SEPA), South Carolina Electric & Gas (SCE&G) and Santee Cooper. These interconnections allow utilities to work together to provide an additional level of reliability. The strength of the system is also reinforced through coordination with other electric service providers in the Virginia-Carolinas (VACAR) sub-region, SERC Reliability Corporation (SERC) (formerly Southeastern Electric Reliability Council) and North American Electric Reliability Corporation (NERC).

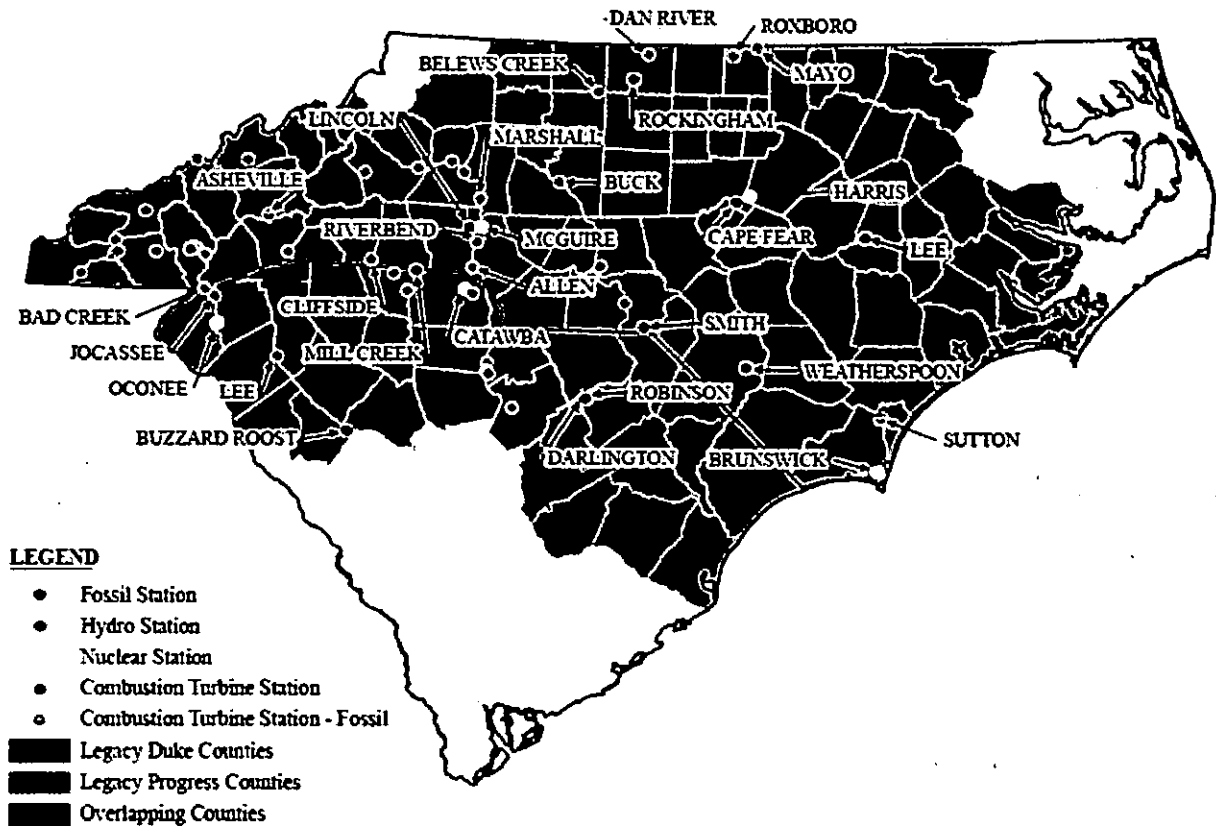
The map on the following page provides a high-level view of the DEC service area.

Chart 2-A Duke Energy Carolinas Service Area



With the closing of the Duke Energy Corporation and Progress Energy Corporation merger, the service territories for both DEC and DEP lend to future opportunities for collaboration and potential sharing of capacity to create additional savings for North Carolina and South Carolina customers of both utilities. An illustration of the service territory of the Companies is shown in the map below.

Chart 2-B DEC and DEP Service Area



3. ELECTRIC LOAD FORECAST

The Duke Energy Carolinas' spring 2013 forecast provides projections of the energy and peak demand needs for its service area. The forecast covers the time period of 2014 through 2028 and represents the needs of the retail classes and the wholesale buyers with whom DEC has a contractual obligation to serve.

Long-term electricity usage is determined by economic and demographic trends. The 2013 spring forecast was developed using industry-standard linear regression techniques, which relate electricity usage to such variables as income, electricity prices and the industrial production index along with weather and population. DEC has used regression analysis since 1979 and this technique has yielded consistently reasonable results over the years.

The economic projections used in the spring 2013 forecast are obtained from Moody's Analytics, a nationally recognized economic forecasting firm, and include economic forecasts for the states of North Carolina and South Carolina.

The retail forecast consists of the three major classes: residential, commercial and industrial.

The residential class sales forecast is comprised of two projections. The first is the number of residential customers, which is driven by population. The second is energy usage per customer, which is driven by weather, regional economic and demographic trends, electricity price and appliance efficiencies. The usage per customer forecast is essentially flat through much of the forecast horizon, so most growth is primarily due to customer increases. The projected growth rate of residential sales in the spring 2013 forecast from 2014-2028 is 1.2% annually.

Commercial electricity usage changes with the level of regional economic activity, such as personal income or commercial employment, and the impact of weather. The three largest sectors in the commercial class are offices, education and retail. Commercial is expected to be the fastest growing class, with a projected sales growth rate of 1.8%.

The industrial class forecast is impacted by the level of manufacturing output, exchange rates, electric prices and weather. The long-term structural decline that has occurred in the textile industry is expected to moderate in the forecast horizon, with an overall projected sales decline of 1.2%, compared to an average decline of 7.2% from 1997-2012. In the other industrial sector, several industries such as autos, rubber and plastics and primary metals, are projected to show strong growth. Overall, other industrial sales are expected to grow 0.9% over the forecast horizon. Including all industrial classes, the overall sales growth rate of the total industrial class is 0.6% over the forecast horizon.

Including the impacts of DEC's EE programs, the projected average annual growth rate from 2014 through 2028 is 1.5% for summer peak, 1.5% for winter peak and 1.5% for energy. These growth rates represent a 4,164 MW increase in capacity and 20,826 MWh increase in energy by 2028.

Compared to the spring 2012 forecast, the spring 2013 forecast reflects lower growth, due to a slightly slower economic outlook. For example, the growth rate of the summer peak after all adjustments in the spring 2012 forecast is 1.7% versus 1.5% in the new forecast.

The load forecast projection for energy and capacity including the impacts of EE that was utilized in the 2013 IRP is shown in Table 3-A.

Table 3-A Load Forecast with Energy Efficiency Programs

| YEAR | SUMMER (MW) | ENERGY (GWh) |
|-------------|------------------------|-------------------------|
| 2014 | 18,332 | 92,943 |
| 2015 | 18,691 | 94,721 |
| 2016 | 19,053 | 96,475 |
| 2017 | 19,398 | 98,226 |
| 2018 | 19,741 | 100,032 |
| 2019 | 20,117 | 101,678 |
| 2020 | 20,359 | 102,948 |
| 2021 | 20,598 | 104,187 |
| 2022 | 20,848 | 105,469 |
| 2023 | 21,104 | 106,748 |
| 2024 | 21,378 | 108,089 |
| 2025 | 21,643 | 109,418 |
| 2026 | 21,922 | 110,825 |
| 2027 | 22,209 | 112,294 |
| 2028 | 22,496 | 113,769 |

Note: Table 8-C differs from these values due to a 150 MW firm sale in 2014 and a 47 MW Piedmont Municipal Power Agency (PMPA) backstand contract through 2020.

A detailed discussion of the electric load forecast is provided in Appendix C.

4. ENERGY EFFICIENCY AND DEMAND SIDE MANAGEMENT

DEC is committed to making sure electricity remains available, reliable and affordable and that it is produced in an environmentally sound manner and, therefore, advocates a balanced solution to meeting future energy needs in the Carolinas. That balance includes a strong commitment to demand side management and energy efficiency.

Since 2009, DEC has been actively developing and implementing new DSM and EE programs throughout its North Carolina and South Carolina service areas to help customers reduce their electricity demands. DEC's DSM and EE plan was designed to be flexible, with programs being evaluated on an ongoing basis so that program refinements and budget adjustments can be made in a timely fashion to maximize benefits and cost-effectiveness. Initiatives are aimed at helping all customer classes and market segments use energy more wisely. The potential for new technologies and new delivery options is also reviewed on an ongoing basis in order to provide customers with access to a comprehensive and current portfolio of programs.

DEC's EE programs encourage customers to save electricity by installing high efficiency measures and/or changing the way they use their existing electrical equipment. DEC evaluates the cost-effectiveness of DSM/EE programs from the perspective of program participants, non-participants, all customers as a whole and total utility spending using the four California Standard Practice tests (i.e., Participant Test, Rate Impact Measure (RIM) Test, Total Resource Cost (TRC) Test and Utility Cost Test (UCT), respectively) to ensure the programs can be provided at a lower cost than building supply-side alternatives. The use of multiple tests can ensure the development of a reasonable set of programs and indicate the likelihood that customers will participate. DEC will continue to seek Commission approval to implement DSM and EE programs that are cost-effective and consistent with DEC's forecasted resource needs over the planning horizon. DEC currently has approval from the NCUC and SCPSC to offer a large variety of EE and DSM programs and measures to help reduce electricity consumption across all types of customers and end-uses.

For IRP purposes, these EE-based demand and energy savings are treated as a reduction to the load forecast, which also serves to reduce the associated need to build new supply-side generation, transmission and distribution facilities. DEC also offers a variety of DSM (or demand response) programs that signal customers to reduce electricity use during select peak hours as specified by the Company. The IRP treats these "dispatchable" types of programs as a resource option that can be dispatched to meet system capacity needs during periods of peak demand.

To better understand the long-term EE savings potential, DEC commissioned an update to the 2011 market potential study performed by Forefront Economics Inc. for the purpose of estimating the achievable potential for EE on an annual basis over a 20-year forecast period. The results of the market potential study are suitable for integrated resource planning purposes and use in long-range

system planning models. However, the study did not attempt to closely forecast short-term EE achievements from year to year. Therefore, the Base Case EE/DSM savings contained in this IRP were projected by blending DEC's five-year program planning forecast into the long-term achievable potential projections from the updated market potential study.

DEC also prepared a high EE savings projection designed to meet the five-year EE performance targets set forth in the December 8, 2011 Settlement Agreement. The savings in this high EE projection are well beyond the levels historically attained by DEC and forecasted in the market potential study. As a result, there is too much uncertainty regarding the possibility of actually realizing this level of EE savings to risk using the high projection in the base assumptions for developing the 2013 integrated resource plan. However, it is being treated as an aspirational target for the development of future EE plans and programs. This level of EE is included as a resource planning sensitivity in the Environmental Focus Scenario.

All of these investments are essential to building customer awareness about EE and, ultimately, reducing energy resource needs by driving large-scale, long-term participation in efficiency programs. Significant and sustained customer participation is critical to the success of DEC's EE and DSM programs. To support this effort, DEC has focused on planning and implementing programs that work well with customer lifestyles, expectations and business needs.

Finally, DEC is setting a conservation example by converting its own buildings and plants, as well as distribution and transmission systems, to new technologies that increase operational efficiency. One example of Duke Energy's dedication to conservation is that the Duke Energy corporate headquarters in Charlotte, N.C., is located in a Leadership in Energy and Environmental Design (LEED) platinum building, the highest LEED rating. LEED is a suite of rating systems for the design, construction, operation and maintenance of green buildings, homes and neighborhoods. Buildings that have attained the LEED platinum certification are among the greenest in the world. See Appendix D for further detail on DEC's DSM, EE and consumer education programs.

5. RENEWABLE ENERGY REQUIREMENTS

DEC's plans regarding renewable energy resources within this IRP are based primarily upon the presence of existing renewable energy requirements and the potential introduction of additional renewable energy requirements in the future.

Regarding existing renewable requirements, the Company is committed to meeting the requirements of the NC REPS. This is a statutory requirement enacted in 2007 mandating that Duke Energy Carolinas supply the equivalent of 12.5% of retail electricity sales in North Carolina from eligible renewable energy resources and/or EE savings by 2021. NC REPS allows for compliance utilizing not only renewable energy resources supplying bundled energy and renewable energy certificates (RECs) and EE, but also the purchase of unbundled RECs (both in-state and out-of-state) and thermal RECs. Therefore, the actual renewable energy delivered to the DEC system is impacted by the amount of EE, unbundled RECs and thermal RECs utilized for compliance.

With respect to potential new renewable energy portfolio standard requirements, the Company's plans in this IRP account for the possibility of future requirements that will result in additional renewable resource development beyond the NC REPS requirements. Renewable requirements have been adopted in many states across the nation, and have also been contemplated as a federal mandate. As such, the Company believes it is reasonable to plan for additional renewable requirements within the IRP beyond what presently exists with the NC REPS requirements.

Although many reasonable assumptions could be made regarding such future renewable requirements, the Company has assumed for purposes of the 2013 IRP that a new legislative requirement would be implemented in the future that would result in additional renewable resource development in South Carolina. For planning purposes, DEC has assumed that the requirement would be similar in many respects to the NC REPS requirement, but with a different implementation schedule. Specifically, the Company has assumed that this requirement would have an initial 3% milestone in 2018 and would gradually increase to a 12.5% level by 2026. Similar to NC REPS, this assumed legislative requirement would incorporate renewable energy and EE, as well as a limited capability to utilize out of state unbundled purchases of RECs. Further, this assumed requirement would not contain additional technology-specific set-asides or a cost-cap feature.

The Company has assessed the current and potential future costs of renewable and traditional technologies. Based on this analysis, the IRP modeling process shows that, for the most part, the amount of renewable energy resources that will be developed over the planning horizon will be defined by the existing and anticipated statutory renewable energy requirements

described above. In other words, under Base Case assumptions, the IRP modeling does not indicate any material quantity of renewable resource development over and above the required levels.

Summary of Expected Renewable Resource Capacity Additions

Based on the planning assumptions noted above regarding current and potential future renewable energy requirements, the Company projects that a total of approximately 1,364 MW of rated renewable capacity will be interconnected to the DEC system by 2021, with that figure growing to approximately 2,028 MW by the end of the planning horizon in 2028. Actual results could vary substantially depending on future legislative requirements, supportive tax policies, technology cost trends and other market forces.

It should be noted that many renewable technologies are intermittent in nature and that such resources may not be contributing full rated capacity (e.g. nameplate or installed capacity) at the time of peak load. In the 2013 IRP, the contribution to peak values that were utilized were 42% of nameplate for solar and 15% of nameplate for wind resources. The details of the forecasted capacity additions, including both nameplate and contribution to peak are summarized in Table 5-A below.

Table 5-A DEC Base Case Renewables

| DEC Renewables | | | | | | | | |
|----------------|--------------------------------|-------|-------------------|-------|--------------|-------|-------------------|-------|
| | MW Contribution to Summer Peak | | | | MW Nameplate | | | |
| | Wind | Solar | Biomass/ Hydro | Total | Wind | Solar | Biomass/ Hydro | Total |
| 2014 | | 124 | 62 | 185 | | 294 | 62 | 356 |
| 2015 | | 218 | 69 | 287 | | 519 | 69 | 589 |
| 2016 | | 239 | 77 | 316 | | 569 | 77 | 646 |
| 2017 | | 256 | 84 | 340 | | 609 | 84 | 693 |
| 2018 | | 307 | 118 | 425 | | 730 | 118 | 849 |
| 2019 | 23 | 355 | 141 | 519 | 150 | 845 | 141 | 1,137 |
| 2020 | 23 | 402 | 148 | 572 | 150 | 957 | 148 | 1,255 |
| 2021 | 23 | 442 | 162 | 626 | 150 | 1,052 | 162 | 1,364 |
| 2022 | 23 | 480 | 165 | 668 | 150 | 1,142 | 165 | 1,458 |
| 2023 | 23 | 516 | 180 | 718 | 150 | 1,229 | 180 | 1,558 |
| 2024 | 23 | 550 | 188 | 760 | 150 | 1,309 | 188 | 1,647 |
| 2025 | 23 | 598 | 197 | 818 | 150 | 1,424 | 197 | 1,771 |
| 2026 | 23 | 630 | 195 | 847 | 150 | 1,499 | 195 | 1,844 |
| 2027 | 23 | 653 | 191 | 866 | 150 | 1,554 | 191 | 1,895 |
| 2028 | 23 | 709 | 189 | 921 | 150 | 1,689 | 189 | 2,028 |

Summary of Renewable Energy Planning Assumptions

The Company's assumptions relating to renewable energy requirements (existing and anticipated) included in the 2013 IRP are largely similar to the assumptions in DEC's 2012 IRP. However, expectations regarding how those requirements will be met have evolved. Changes from the prior year are summarized below.

As compared to last year's IRP, DEC has assumed the development and interconnection of more solar resources over the planning horizon, along with corresponding reductions in the development of other resources.

The installed cost of solar resources has fallen dramatically over the past few years, driven by increased industry scale, standardization, and technological innovation. Many industry participants expect the cost of solar to continue a steady decline through the end of the decade, albeit at a slower pace than in recent years. Solar resources benefit from generous supportive federal and state policies that are expected to be in place through 2015 or longer. In combination with declining costs, such supportive policies have made solar resources increasingly competitive with other renewable resources, including wind and biomass, at least in the near-term. While uncertainty remains around possible alterations or extensions of policy support, as well as the pace of future cost declines, the Company fully expects solar resources to contribute to DEC's REPS compliance efforts beyond the solar set-aside minimum threshold for NC REPS, and correspondingly in South Carolina.

DEC recognizes that some land-based wind developers are presently pursuing projects of significant size in North Carolina. The Company believes it is reasonable to expect that land-based wind will ultimately be developed in both North and South Carolina. However, land-based wind in the U.S. has benefitted from supportive federal tax policies set to decline in the near future. The Company is a contributor to the U.S. Department of Energy (DOE) sponsored Carolinas Offshore Wind Integration Case Study (COWICS). Although the Company expects to rely upon wind resources for REPS compliance, the extent and timing of that reliance will likely vary commensurately with changes to supporting policies and prevailing market prices. The Company also has observed that opportunities currently exist, and may continue to exist, to transmit land-based wind energy resources into the Carolinas from other regions, which could supplement the amount of wind that could be developed within the Carolinas.

The Company expects biomass resources to continue to play an important and vital role in the Company's compliance efforts. However, biomass potential ultimately depends upon how key uncertainties, such as permitting and fuel supply risks, are resolved, as well as the projected availability of other forms of renewable resources to offset the needs for biomass.

Hydro generation remains a valuable and significant part of the generating fleet for the Carolinas. The potential for additional hydro generation on a commercially viable scale is limited and the cost and feasibility are highly site-specific. Given these constraints, hydro is not included in the more detailed evaluations but may be considered when site opportunities are evidenced and the potential is identified. DEC will continue to evaluate hydro opportunities on a case-by-case basis and will include it as a resource option if appropriate.

In general, the Company expects a mix of resources will ultimately be used for meeting renewable targets, with the specifics of that mix determined in large part by policy developments over the coming five to ten years. Costs for all the resources discussed above are highly dependent upon future subsidies, or lack thereof, and the Company's procurement efforts will vary accordingly. Furthermore, the Company values portfolio diversification from a resource perspective, particularly in light of the varying production profiles of the resources in question.

Further Details on Compliance with NC REPS

A more detailed discussion of the Company's plans to comply with the NC REPS requirements can be found in the Company's NC REPS Compliance Plan (Compliance Plan), which is provided as an Attachment to this document.

Details of that Compliance Plan are not duplicated here, although it is important to note that various details of the NC REPS law have impacts on the amount of energy and capacity that the Company projects to obtain from renewable resources to help meet the Company's long-term resource needs. For instance, NC REPS contains several detailed parameters, including technology-specific set-aside requirements for solar, swine waste and poultry waste resources; capabilities to utilize EE savings and unbundled REC purchases from in-state or out-of-state resources and RECs derived from thermal (non-electrical) energy; and a statutory spending limit to protect customers from cost increases stemming from renewable energy procurement or development. Each of these features of NC REPS has implications on the amount of renewable energy and capacity the Company forecasts to obtain over the planning horizon of this IRP. Additional details on NC REPS compliance can be found in the Company's Compliance Plan.

The Company continues to see an increasing amount of alternative energy resources in the transmission and distribution queues. These resources are mostly solar resources, due to the combination of federal and state subsidies to encourage solar development. This combination of incentives has led solar to be the primary renewable resource projected in the Company's NC REPS Compliance Plan. With state incentives scheduled to end in 2015 and federal incentives scheduled to be reduced in the same time period, the exact amount of solar that will ultimately be developed is highly uncertain. If tax incentives were to be extended or significant additional cost reductions in

the technology realized, incremental solar contribution above NC REPS requirements could be achieved.

The Environmental Focus Scenario evaluates a resource plan under market conditions supportive of higher penetrations of renewable resources and energy efficiency as compared to the Base Case. The Environmental Focus Scenario does not envision a specific market condition, but rather merely considers the potential combined effect of a number of factors including, but not limited to, high carbon prices, low fuel costs, continuation of renewable subsidies and/or stronger renewable energy mandates. Specifically, the Environmental Focus Scenario assumes a requirement for DEC to serve approximately 8% of its total combined retail load with new renewable resources by 2028. This represents about twice the amount of renewable energy as compared to the Base Case. Additionally, EE is incorporated at an aspirational target as established in the merger settlement. As presented in the table below, the Environmental Focus Scenario includes additional renewables of approximately 1,850 MW nameplate (734 MW contribution to peak) in DEC as compared to the Base Case. Table 5-B below provides the renewable energy resources assumed in the Environmental Focus Scenario.

Table 5-B DEC Environmental Focus Scenario Renewables

| DEC Renewables | | | | | | | | |
|----------------|--------------------------------|-------|-------------------|-------|--------------|-------|-------------------|-------|
| | MW Contribution to Summer Peak | | | | MW Nameplate | | | |
| | Wind | Solar | Biomass/ Hydro | Total | Wind | Solar | Biomass/ Hydro | Total |
| 2014 | - | 124 | 62 | 185 | - | 294 | 62 | 356 |
| 2015 | - | 218 | 69 | 287 | - | 519 | 69 | 589 |
| 2016 | - | 239 | 77 | 316 | - | 569 | 77 | 646 |
| 2017 | - | 256 | 84 | 340 | - | 609 | 84 | 693 |
| 2018 | 9 | 343 | 137 | 494 | 57 | 828 | 137 | 1,023 |
| 2019 | 40 | 437 | 179 | 656 | 264 | 1,041 | 179 | 1,485 |
| 2020 | 48 | 525 | 205 | 779 | 321 | 1,251 | 205 | 1,777 |
| 2021 | 57 | 607 | 233 | 901 | 378 | 1,444 | 233 | 2,060 |
| 2022 | 65 | 686 | 260 | 1,011 | 435 | 1,632 | 260 | 2,328 |
| 2023 | 74 | 763 | 294 | 1,131 | 492 | 1,817 | 294 | 2,602 |
| 2024 | 82 | 838 | 321 | 1,241 | 549 | 1,995 | 321 | 2,865 |
| 2025 | 91 | 927 | 349 | 1,368 | 606 | 2,208 | 349 | 3,163 |
| 2026 | 99 | 1,000 | 366 | 1,465 | 663 | 2,381 | 366 | 3,410 |
| 2027 | 108 | 1,064 | 381 | 1,553 | 720 | 2,534 | 381 | 3,635 |
| 2028 | 114 | 1,149 | 392 | 1,654 | 758 | 2,735 | 392 | 3,885 |

6. SCREENING OF GENERATION ALTERNATIVES

As previously discussed, the Company develops the load forecast and adjusts for the impacts of EE that have been pre-screened for cost-effectiveness. The growth in this adjusted load forecast and associated reserve requirements, along with existing unit retirements or purchased power contract expirations, creates a need for future generation. This need is partially met with DSM resources and the renewable resources required for compliance with NC REPS. The remainder of the future generation needs can be met with a variety of potential supply-side technologies.

For purposes of the 2013 IRP, the Company considered a diverse range of technology choices utilizing a variety of different fuels, including supercritical pulverized coal (SCPC) units with carbon capture and sequestration (CCS), integrated gasification combined cycle (IGCC) with carbon capture and sequestration, CTs, CC with duct firing, and nuclear units. In addition, Duke Energy Carolinas considered renewable technologies such as wind and solar in this year's screening analysis.

For the 2013 IRP screening analyses, the Company screened technology types within their own respective general categories of baseload, peaking/intermediate and renewable, with the ultimate goal of screening to pass the best alternatives from each of these three categories to the integration process. As in past years, the reason for the initial screening analysis is to determine the most viable and cost-effective resources for further evaluation. This initial screening evaluation is necessary to narrow down options to be further evaluated in the quantitative analysis process as discussed in Appendix A.

The results of these screening processes determine a smaller, more manageable subset of technologies for detailed analysis in the expansion planning model. The following list details the technologies that were passed on to the detailed analysis phase of the IRP process. The technical and economic screening is discussed in detail in Appendix F.

- Baseload – 2 x 1,117 MW Nuclear units (AP1000)
- Baseload – 680 MW – 2 x 1 Combined Cycle (Inlet Chiller and Fired)
- Baseload – 843 MW – 2 x 1 Advanced Combined Cycle (Inlet Chiller and Fired)
- Peaking/Intermediate – 403 MW - 2 x 7FA.05 CTs
- Peaking/Intermediate – 805 MW - 4 x 7FA.05 CTs
- Renewable – 150 MW Wind - On-Shore
- Renewable – 25 MW Solar Photovoltaic (PV)

7. RESERVE CRITERIA

Background

The reliability of energy service is a primary input in the development of the resource plan. Utilities require a margin of generating capacity reserve in order to provide reliable service. Periodic scheduled outages are required to perform maintenance, inspections of generating plant equipment, and to refuel nuclear plants. Unanticipated mechanical failures may occur at any given time, which may require shutdown of equipment to repair failed components. Adequate reserve capacity must be available to accommodate these unplanned outages and to compensate for higher than projected peak demand due to forecast uncertainty and weather extremes. In addition, some capacity must also be available as operating reserve to maintain the balance between supply and demand on a real-time basis.

The amount of generating reserves needed to maintain a reliable power supply is a function of the unique characteristics of a utility system including load shape, unit sizes, capacity mix, fuel supply, maintenance scheduling, unit availabilities and the strength of the transmission interconnections with other utilities. There is no one standard measure of reserve capacity that is appropriate for all systems since these characteristics are particular to each individual utility.

In 2012, DEC and DEP hired Astrape Consulting to conduct a reserve margin study for each utility. Astrape conducted a detailed resource adequacy assessment that incorporated the uncertainty of weather, economic load growth, unit availability and transmission availability for emergency tie assistance. Astrape analyzed the optimal planning reserve margin based on providing an acceptable level of physical reliability and minimizing economic costs to customers. The most common physical metric used in the industry is to target a system reserve margin that satisfies the one day in 10 year Loss of Load Expectation (LOLE) standard. This standard is interpreted as one firm load shed event every 10 years due to a lack of generating capacity. From an economic perspective, as planning reserve margin increases, the total cost of reserves increases while the costs related to reliability events decline. Similarly, as planning reserve margin decreases, the cost of reserves decreases while the costs related to reliability events increases, including the costs to customers of loss of power. Thus, there is an economic optimum point where the cost of additional reserves plus the cost of reliability events to customers is minimized.

Based on past reliability assessments, results of the Astrape analysis, and to enhance consistency and communication regarding reserve targets, both DEC and DEP have adopted a 14.5% minimum planning reserve margin for scheduling new resource additions. Since capacity is generally added in large blocks to take advantage of economies of scale, it should be noted that planning reserve margins will often be somewhat higher than the minimum target.

Adequacy of Projected Reserves

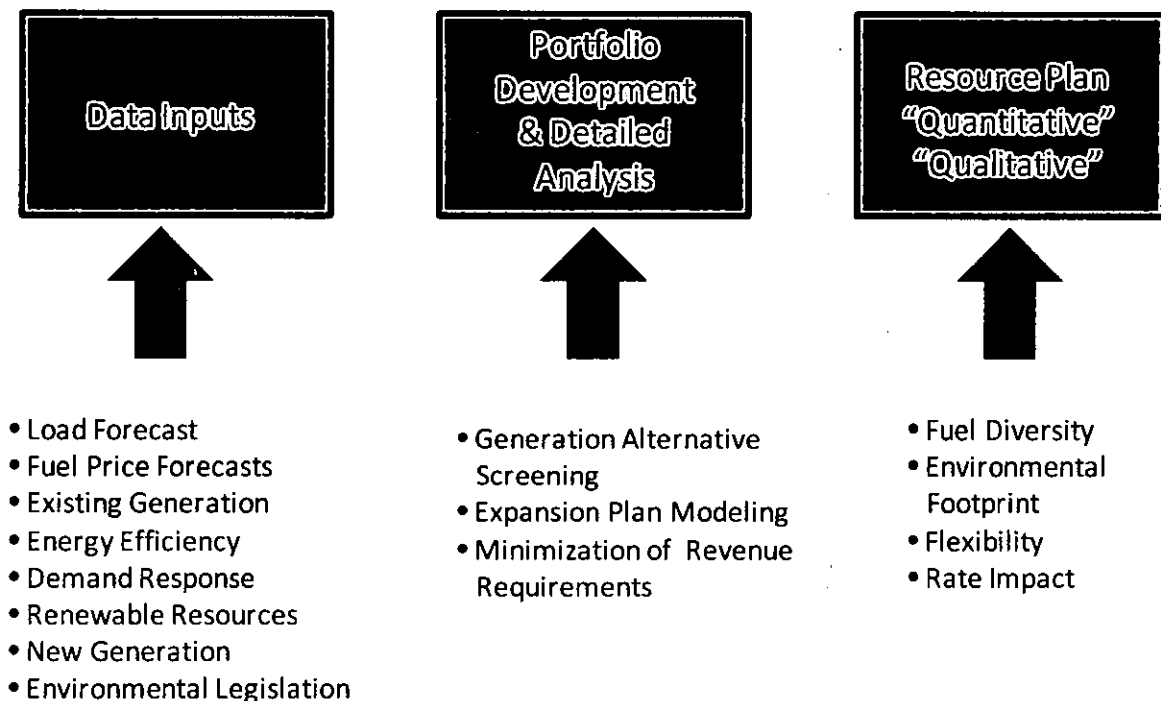
DEC's resource plan reflects reserve margins ranging from 14 to 22%. Reserves projected in DEC's IRP meet the minimum planning reserve margin target and thus satisfy the one day in 10 year LOLE criterion. Projected reserve margins exceed the minimum 14.5% target by 3% or more in 2019 as a result of the economic addition of a large combined cycle facility and in 2024-2028 as a result of the economic addition of large baseload additions in 2024 and 2026. Large resource additions are deemed economic only if they have a lower Present Value Revenue Requirement (PVRR) over the life of the asset as compared to smaller resources that better fit the short-term reserve margin need. Reserves projected in DEC's IRP are appropriate for providing an economic and reliable power supply.

8. EVALUATION AND DEVELOPMENT OF THE RESOURCE PLAN

To meet the future needs of DEC's customers, it is necessary for the Company to adequately understand the load and resource balance. For each year of the planning horizon, DEC develops a load forecast of energy sales and peak demand. To determine total resources needed, the Company considers the load obligation plus a 14.5% minimum planning reserve margin. The projected capability of existing resources, including generating units, EE and DSM, renewable resources and purchased power contracts, is measured against the total resource need. Any deficit in future years will be met by a mix of additional resources that reliably and cost-effectively meet the load obligation while complying with all environmental and regulatory obligations. It should be noted that DEC considers the non-firm energy purchases and sales associated with the JDA with DEP in the development of its independent Base Case resource plan and two alternative scenarios to be discussed later in this chapter and in Appendix A.

Figure 8-A represents a simplified overview of the resource planning process. Appendix A of the Company's 2013 IRP provides a detailed discussion of the development of the resource plan.

Figure 8-A Simplified IRP Process



DEC performed its expansion plan modeling under Base Case assumptions that were updated as compared to its 2012 IRP. In addition to an updated Base Case expansion plan, DEC also considered an Environmental Focus Scenario that includes a greater amount of renewable resources and EE, as well as changes to other assumptions, such as fuel and CO₂ prices. Finally, DEC and DEP examined the potential benefits of sharing capacity as represented in a common Joint Planning Scenario.

Data Inputs

DEC utilizes updated data to develop its resource plan. For the 2013 IRP, data inputs such as load forecast, EE and DSM, fuel prices, projected CO₂ prices, individual plant operating and cost information, and future resource information were updated. These data inputs were developed and provided by company subject matter experts and/or based upon vendor studies, where available. Furthermore, DEC and DEP benefitted from the combined experience of both utilities' subject matter experts by utilizing best practices from each utility in the development of their respective IRP inputs. Where appropriate, common data inputs were applied.

As expected, certain data elements and issues have a larger impact on the plan than others. Any changes in these elements may result in a noticeable impact to the plan, and as such, these elements are closely monitored. Some of the most consequential data elements are listed below. A detailed discussion of each of these data elements has been presented throughout this document and is examined in more detail in the appendices to this document.

- Load Forecast
- EE/DSM
- Renewable Resource Projections
- Fuel Costs
- Technology Costs and Operating Characteristics
- Environmental Legislation
- Nuclear Issues

Generation Alternative Screening

DEC reviews generation resource alternatives on a technical and economic basis. Resources also must be demonstrated to be commercially available for utility scale operations. The resources that are found both technically and economically viable are then passed to the detailed analysis process for further analysis.

Portfolio Development and Detailed Analysis

The portfolio development and detailed analysis phase utilizes the information compiled in the data input step to derive resource portfolios or resource plans. This step in the IRP process utilizes expansion planning models and detailed production costing models. The goal of the modeling is to determine the best mix of capacity additions for the Company's short- and long-term resource plans with an objective of selecting a robust plan that minimizes the Present Value of Revenue Requirements and is environmentally sound complying with all state and federal regulations.

In the 2013 IRP, a Base Case along with an Environmental Focus Scenario and a Joint Planning Scenario were analyzed.

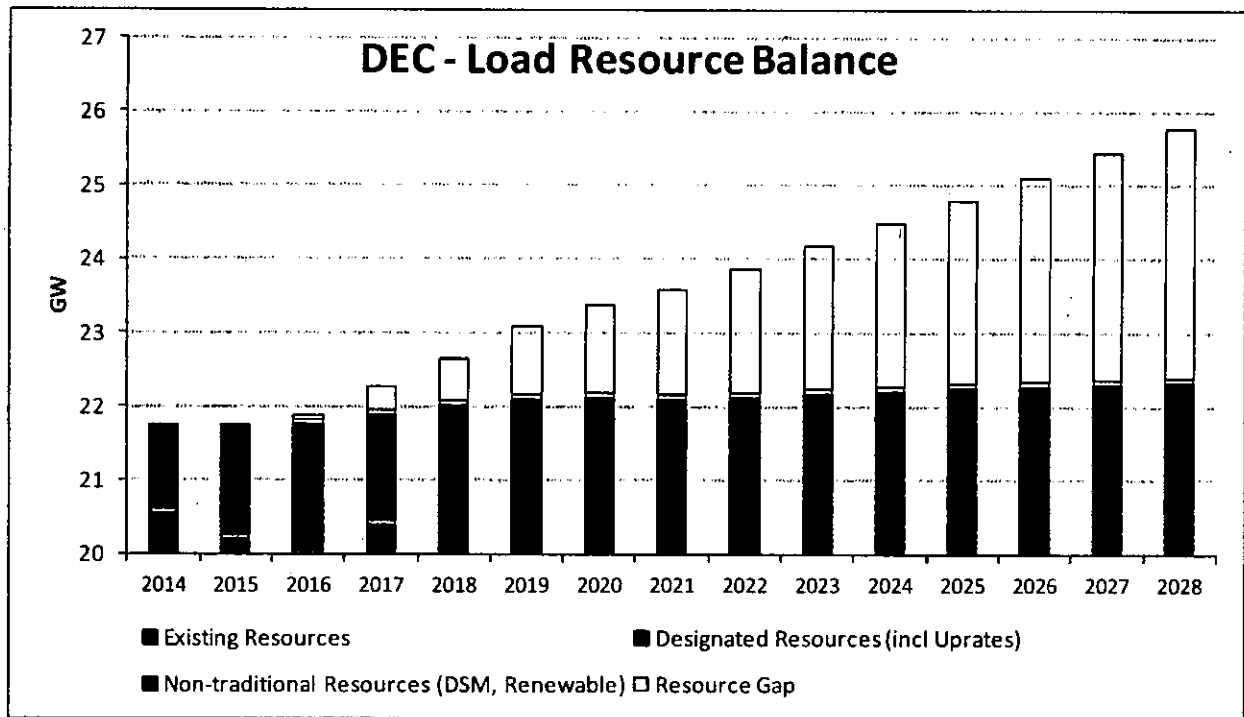
Resource Plans

Base Case

DEC produced an updated Base Case resource plan utilizing consistent assumptions and analytic methods between DEC and DEP where appropriate. This plan represents an update to the Company's 2012 IRP filing and does not take into account the sharing of capacity between DEC and DEP. However, the Base Case incorporates the JDA between DEC and DEP which represents a non-firm energy only commitment between the companies.

The Load and Resource Balance Chart shown in Chart 8-B illustrates the resource need that is required for DEC to meet its load obligation plus required reserves. The existing generating resources, designated resource additions and EE resources do not meet the required load and reserves and thus, the resource plan analysis will determine the most robust plan to meet this resource gap.

Chart 8-B DEC Load Resource Balance



Cumulative Resource Additions to Meet Load Obligation and Reserve Margin (MW)

| Year | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Resource Need | - | - | 37 | 317 | 573 | 941 | 1,172 | 1,425 |
| Year | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | |
| Resource Need | 1,682 | 1,935 | 2,218 | 2,463 | 2,753 | 3,064 | 3,358 | |

Tables 8-C and 8-D present the Load, Capacity and Reserves tables for the Base Case analysis that was completed for DEC's 2013 IRP.

Table 8-C Load, Capacity and Reserves Table - Summer

Summer Projections of Load, Capacity, and Reserves
for Duke Energy Carolinas 2013 Annual Plan

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| Load Forecast | | | | | | | | | | | | | | | |
| 1 Duke System Peak | 18,490 | 18,922 | 19,375 | 19,827 | 20,278 | 20,764 | 21,114 | 21,417 | 21,776 | 22,143 | 22,488 | 22,862 | 23,240 | 23,613 | 23,974 |
| 2 Firm Sale | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 Cumulative New EE Programs | (111) | (184) | (275) | (382) | (490) | (600) | (708) | (819) | (929) | (1,040) | (1,110) | (1,219) | (1,318) | (1,404) | (1,477) |
| 4 Adjusted Duke System Peak | 18,529 | 18,738 | 19,100 | 19,445 | 19,788 | 20,164 | 20,406 | 20,598 | 20,848 | 21,104 | 21,378 | 21,643 | 21,922 | 22,209 | 22,496 |
| Existing and Designated Resources | | | | | | | | | | | | | | | |
| 5 Generating Capacity | 20,366 | 20,386 | 20,218 | 20,218 | 20,263 | 20,263 | 20,263 | 20,259 | 20,259 | 20,259 | 20,259 | 20,259 | 20,259 | 20,259 | 20,259 |
| 6 Designated Additions / Upgrades | 20.3 | 202 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 Retirements / Derates | 0 | (370) | 0 | 0 | 0 | 0 | (4) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 Cumulative Generating Capacity | 20,386 | 20,218 | 20,218 | 20,263 | 20,263 | 20,263 | 20,259 | 20,259 | 20,259 | 20,259 | 20,259 | 20,259 | 20,259 | 20,259 | 20,259 |
| Purchase Contracts | | | | | | | | | | | | | | | |
| 9 Cumulative Purchase Contracts | 251 | 238 | 230 | 227 | 227 | 169 | 166 | 79 | 66 | 56 | 46 | 46 | 46 | 45 | 25 |
| Undesignated Future Resources | | | | | | | | | | | | | | | |
| 10 Nuclear | 0 | 0 | 0 | 0 | 66 | 0 | 66 | 0 | 0 | 0 | 1,117 | 0 | 1,117 | 0 | 0 |
| 11 Fossil | 0 | 0 | 0 | 680 | 0 | 843 | 0 | 0 | 403 | 0 | 0 | 0 | 0 | 0 | 0 |
| Renewables | | | | | | | | | | | | | | | |
| 12 Cumulative Renewables Capacity | 185 | 287 | 316 | 340 | 425 | 519 | 572 | 626 | 668 | 718 | 760 | 818 | 847 | 866 | 921 |
| 13 Cumulative Production Capacity | 20,823 | 20,744 | 20,764 | 21,510 | 21,661 | 22,540 | 22,653 | 22,619 | 23,051 | 23,091 | 24,240 | 24,298 | 25,444 | 25,462 | 25,497 |
| Demand Side Management (DSM) | | | | | | | | | | | | | | | |
| 14 Cumulative DSM Capacity | 911 | 1,010 | 1,068 | 1,118 | 1,169 | 1,196 | 1,198 | 1,196 | 1,196 | 1,196 | 1,196 | 1,196 | 1,196 | 1,196 | 1,196 |
| 15 Cumulative Capacity w/ DSM | 21,733 | 21,754 | 21,832 | 22,628 | 22,830 | 23,736 | 23,848 | 23,815 | 24,246 | 24,287 | 25,435 | 25,493 | 26,640 | 26,658 | 26,692 |
| Reserves w/ DSM | | | | | | | | | | | | | | | |
| 16 Generating Reserves | 3,204 | 3,016 | 2,732 | 3,183 | 3,042 | 3,572 | 3,442 | 3,217 | 3,399 | 3,183 | 4,057 | 3,850 | 4,718 | 4,448 | 4,196 |
| 17 % Reserve Margin | 17.3% | 16.1% | 14.3% | 16.4% | 15.4% | 17.7% | 16.9% | 15.6% | 16.3% | 15.1% | 19.0% | 17.8% | 21.5% | 20.0% | 18.7% |

Table 8-D Load, Capacity and Reserves Table – Winter

Winter Projections of Load, Capacity and Reserves
for Duke Energy Carolinas 2013 Annual Plan

| | 13/14 | 14/15 | 15/16 | 16/17 | 17/18 | 18/19 | 19/20 | 20/21 | 21/22 | 22/23 | 23/24 | 24/25 | 25/26 | 26/27 | 27/28 |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Load Forecast | | | | | | | | | | | | | | | |
| 1 Duke System Peak | 17,717 | 18,177 | 18,595 | 19,000 | 19,410 | 19,818 | 20,165 | 20,463 | 20,803 | 21,150 | 21,510 | 21,866 | 22,234 | 22,589 | 22,938 |
| 2 Firm Sale | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 Cumulative New EE Programs | (64) | (123) | (194) | (276) | (397) | (486) | (572) | (661) | (748) | (837) | (923) | (1,013) | (1,094) | (1,164) | (1,225) |
| 4 Adjusted Duke System Peak | 17,678 | 18,053 | 18,401 | 18,724 | 19,013 | 19,332 | 19,593 | 19,802 | 20,054 | 20,313 | 20,588 | 20,853 | 21,140 | 21,425 | 21,713 |
| Existing and Designated Resources | | | | | | | | | | | | | | | |
| 5 Generating Capacity | 21,927 | 21,219 | 21,239 | 21,071 | 21,071 | 21,116 | 21,116 | 21,116 | 21,112 | 21,112 | 21,112 | 21,112 | 21,112 | 21,112 | 21,112 |
| 6 Designated Additions / Upgrades | 2 | 20 | 202 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 Retirements / Derates | (710) | 0 | (370) | 0 | 0 | 0 | 0 | (4) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 Cumulative Generating Capacity | 21,219 | 21,239 | 21,071 | 21,071 | 21,116 | 21,116 | 21,116 | 21,112 | 21,112 | 21,112 | 21,112 | 21,112 | 21,112 | 21,112 | 21,112 |
| Purchase Contracts | | | | | | | | | | | | | | | |
| 9 Cumulative Purchase Contracts | 229 | 216 | 210 | 210 | 210 | 152 | 149 | 56 | 43 | 33 | 23 | 23 | 23 | 23 | 23 |
| Undesignated Future Resources | | | | | | | | | | | | | | | |
| 10 Nuclear | 0 | 0 | 0 | 0 | 0 | 66 | 0 | 66 | 0 | 0 | 0 | 1,117 | 0 | 1,117 | 0 |
| 11 Fossil | 0 | 0 | 0 | 0 | 711 | 0 | 875 | 0 | 0 | 443 | 0 | 0 | 0 | 0 | 0 |
| Renewables | | | | | | | | | | | | | | | |
| 12 Cumulative Renewables Capacity | 62 | 112 | 119 | 127 | 134 | 168 | 214 | 221 | 234 | 238 | 252 | 260 | 270 | 268 | 263 |
| 13 Cumulative Production Capacity | 21,509 | 21,567 | 21,400 | 22,119 | 22,171 | 23,088 | 23,131 | 23,107 | 23,550 | 23,544 | 23,548 | 24,673 | 24,683 | 25,797 | 25,793 |
| Demand Side Management (DSM) | | | | | | | | | | | | | | | |
| 14 Cumulative DSM Capacity | 561 | 584 | 604 | 626 | 649 | 649 | 649 | 649 | 649 | 649 | 649 | 649 | 649 | 649 | 649 |
| 15 Cumulative Capacity w/ DSM | 22,070 | 22,151 | 22,004 | 22,745 | 22,820 | 23,737 | 23,780 | 23,756 | 24,199 | 24,193 | 24,197 | 25,322 | 25,332 | 26,446 | 26,442 |
| Reserves w/ DSM | | | | | | | | | | | | | | | |
| 16 Generating Reserves | 4,392 | 4,098 | 3,603 | 4,021 | 3,807 | 4,405 | 4,187 | 3,954 | 4,145 | 3,880 | 3,610 | 4,469 | 4,191 | 5,021 | 4,729 |
| 17 % Reserve Margin | 24.8% | 22.7% | 19.6% | 21.5% | 20.0% | 22.8% | 21.4% | 20.0% | 20.7% | 19.1% | 17.5% | 21.4% | 19.8% | 23.4% | 21.8% |

DEC - Assumptions of Load, Capacity, and Reserves Table

The following notes are numbered to match the line numbers on the Summer Projections of Load, Capacity, and Reserves tables. All values are MW except where shown as a Percent.

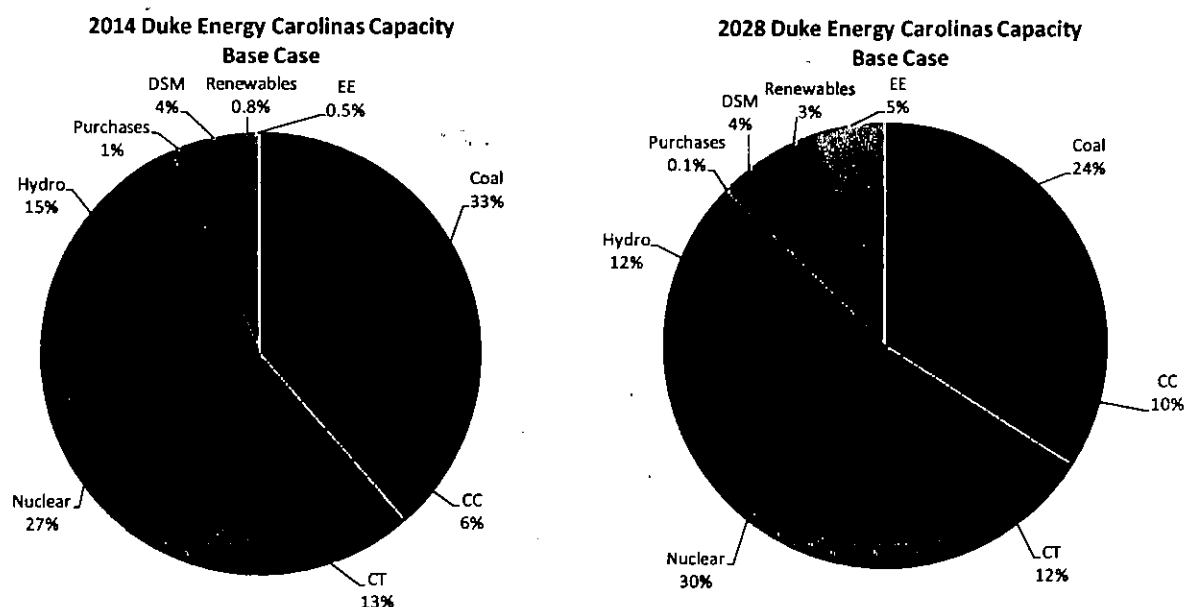
1. Planning is done for the peak demand for the Duke System including Nantahala. Nantahala became a division of Duke Energy Carolinas in 1998.
A firm wholesale backstand agreement for 47 MW between Duke Energy Carolinas and PMPA starts on 1/1/2014 and continues through the end of 2020.
2. A firm sale of 150 MW summer and 25 MW winter for FERC market power mitigation in 2014.
3. Cumulative energy efficiency and conservation programs (does not include demand response programs)
4. Peak load adjusted for firm sale and cumulative energy efficiency
5. Existing generating capacity reflecting designated additions, planned uprates, retirements and derates
Includes 101 MW Nantahala hydro capacity, and total capacity for Catawba Nuclear Station less 832 MW to account for NCMPA1 firm capacity sale.
6. Capacity Additions include the conversion of Lee Steam Station unit 3 from coal to natural gas in 2015 (170 MW).
Capacity Additions include Duke Energy Carolinas hydro units scheduled to be repaired and returned to service. These units are returned to service in the 2012-2015 timeframe and total 2 MW.
Also included is a 96.5 MW capacity increase due to nuclear uprates at Catawba, McGuire, and Oconee.
Timing of these uprates is shown from 2014-2017
7. The 370 MW capacity retirement in summer 2015 represents the projected retirement date for Lee Steam Station.
Capacity Derate of 4 MW associated with Marshall 4 SCR is included in 2020
The NRC has issued renewed energy facility operating licenses for all Duke Energy Carolinas' nuclear facilities.
The Hydro facilities for which Duke has submitted an application to FERC for licence renewal are assumed to continue operation through the planning horizon.
All retirement dates are subject to review on an ongoing basis.
8. Sum of lines 5 through 7
9. Cumulative Purchase Contracts including purchased capacity from PURPA Qualifying Facilities,
an 88 MW Cherokee County Cogeneration Partners contract which began in June 1998 and expires June 2020 and miscellaneous other QF projects.
10. New nuclear resources economically selected to meet load and minimum planning reserve margin
Capacity must be on-line by June 1 to be included in available capacity for the summer peak of that year
and by December 1 to be included in available capacity for the winter peak of that year.
10% share (allocated by load ratio basis with DEP) V.C. Summer Nuclear facility in 2018 and 2020
(66 MW in each year)
1117 MW Lee Nuclear Unit additions in 2024 and 2026

DEC - Assumptions of Load, Capacity, and Reserves Table cont.

11. New fossil fuel resources economically selected to meet load and minimum planning reserve margin
Capacity must be on-line by June 1 to be included in available capacity for the summer peak of that year
and by December 1 to be included in available capacity for the winter peak of that year.
Addition of 680 MW of Combined Cycle capacity in 2017 (based on the need determined in 2012 IRP)
Addition of 843 MW Advanced Combined Cycle units in 2019
Addition of 403 MW of Combustion Turbine capacity in 2022
12. Cumulative solar, biomass, hydro and wind resources to meet NC REPS compliance
Also includes a compliance plan for South Carolina as a placeholder to reflect a possible state or federal
renewable standard beginning in 2018
13. Sum of lines 8 through 12
14. Cumulative Demand Side Management programs including load control and DSDR
15. Sum of lines 13 and 14
16. The difference between lines 4 and 15
17. Reserve Margin = $(\text{Cumulative Capacity} - \text{System Peak Demand}) / \text{System Peak Demand}$
Minimum target planning reserve margin is 14.5%

The following charts illustrate both the current and forecasted capacity by fuel type for the DEC system, as projected by the Base Case expansion plan. As demonstrated in Chart 8-E, the capacity mix for the DEC system changes with the passage of time. In 2028, the Base Case projects that DEC will have a smaller reliance on coal and a higher reliance on gas-fired resources, nuclear, renewable resources and EE as compared to the current state. Gas price projections continue to make natural gas an attractive resource for future capacity needs.

Chart 8-E Duke Energy Carolinas Capacity by Fuel Type – Base Case ¹



A detailed discussion of the assumptions, inputs and analytics used in the development of the Base Case is contained within Appendix A.

Environmental Focus Scenario

DEC also developed an Environmental Focus Scenario that includes aspirational EE targets, as well as contributions from renewable resources at levels approximately twice the level considered in the Base Case resource plan. This scenario illustrates the amount of traditional supply-side resources that would be eliminated or deferred if future market conditions and/or state and federal regulations resulted in higher levels of efficiency and renewable resources.

The supply-side resources were analyzed in light of the higher EE contributions and accounting for additional renewable resources. The Environmental Focus Scenario also assumed higher carbon prices

¹ In 2021, the REPS compliance plan of 12.5% is comprised of approximately 25% Energy Efficiency, 25% purchases of out-of-state RECs, 5-10% from RECs not associated with electrical energy (including animal waste resources), and the balance from purchases of renewable electricity.

and slightly lower fuel prices due to declining demand for fossil fuels. Table 8-F below represents the annual incremental additions reflected in the Environmental Focus Scenario expansion plan contrasted with the Base Case expansion plan.

Table 8-F DEC Environmental Focus Scenario

| Duke Energy Carolinas Resource Plan Base Case | | |
|--|-------------------|------|
| Year | Resource | MW |
| 2018 | VC Summer Nuclear | 66 |
| 2019 | New CC | 843 |
| 2020 | VC Summer Nuclear | 66 |
| 2021 | - | - |
| 2022 | New CT | 403 |
| 2023 | - | - |
| 2024 | New Nuclear | 1117 |
| 2025 | - | - |
| 2026 | New Nuclear | 1117 |
| 2027 | - | - |
| 2028 | - | - |

| Duke Energy Carolinas Resource Plan Environmental Focus Scenario | | |
|---|-------------------|------|
| Year | Resource | MW |
| 2018 | VC Summer Nuclear | 66 |
| 2019 | - | - |
| 2020 | VC Summer Nuclear | 66 |
| 2021 | - | - |
| 2022 | New CC | 843 |
| 2023 | - | - |
| 2024 | New Nuclear | 1117 |
| 2025 | - | - |
| 2026 | New Nuclear | 1117 |
| 2027 | - | - |
| 2028 | - | - |

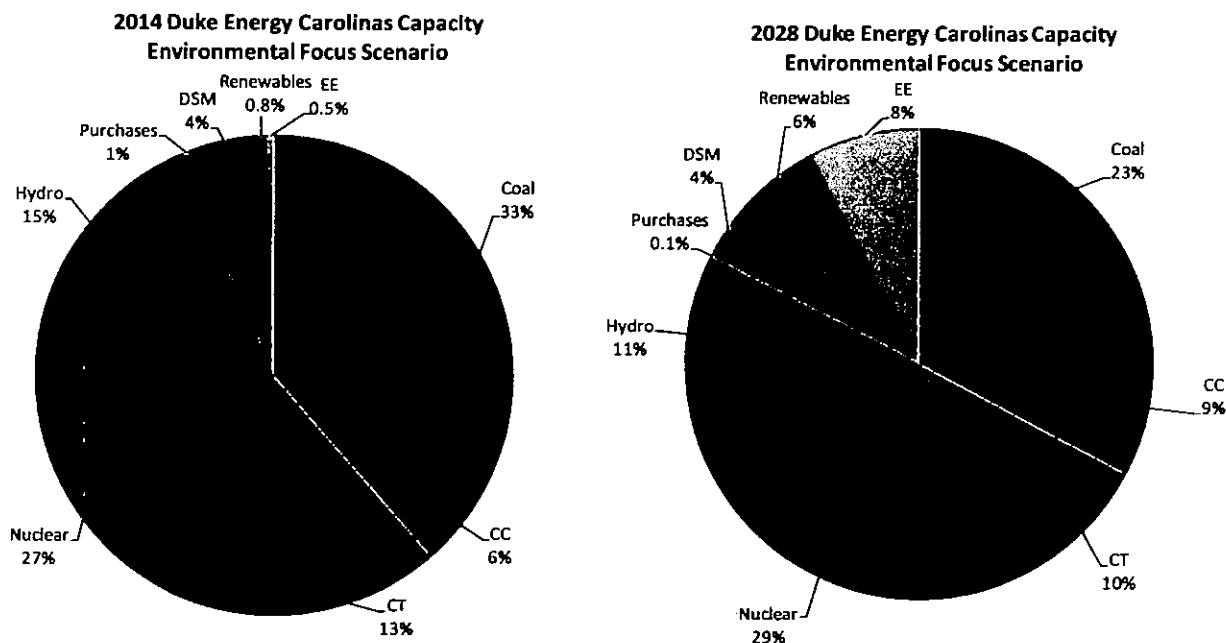
Note: Tables represent only undesignated resources from 2018 through 2028; no changes to the Base Case build plan occurred in prior years

The Environmental Focus Scenario results in the following changes as compared to the Base Case resource plan:

- Incremental increase in renewable energy resources of 1,857 MW nameplate (734 MW contribution to peak) by 2028
- Increase in EE of 724 MW by 2028
- Delay in the need for the new CC resource from 2019 to 2022
- CT resource in 2022 moves beyond 2028 timeframe

The following charts illustrate both the current and forecasted capacity by fuel type for the DEC system, as projected by the Environmental Focus Scenario expansion plan. Chart 8-G demonstrates the impacts of doubling the renewable resources as compared to the Base Case and including aspirational EE goals. The increase in EE and renewable resources reduce the Company's reliance on coal, hydro and CT resources. Natural gas CC and nuclear capacity is still economically selected in the Environmental Focus Scenario, thus increasing the impact that those baseload resources have on the system capacity mix.

Chart 8-G Duke Energy Carolinas Capacity by Fuel Type – Environmental Focus Scenario



Joint Planning Scenario

A Joint Planning Scenario that begins to explore the potential for DEC and DEP to share firm capacity between the companies was also developed. The focus of this scenario is to illustrate the potential for the utilities to collectively defer generation investment by utilizing each other's capacity when available and by jointly owning new capacity. This plan does not address the specific implementation methods or issues required to implement shared capacity. Rather, this scenario illustrates the benefits of joint planning between DEC and DEP with the understanding that the actual execution of capacity sharing would require separate regulatory proceedings and approvals.

Table 8-H below represents the annual non-renewable incremental additions reflected in the Joint Planning Scenario system expansion plan for the combined DEC and DEP Base Cases as compared to the Joint Planning Scenario. The plan contains the undesignated additions for DEC and DEP over the planning horizon.

Table 8-H DEC and DEP Joint Planning Scenario

| Duke Energy Carolinas and Duke Energy Progress Base Case Combined Resource Plans | | | | Duke Energy Carolinas and Duke Energy Progress Joint Planning Scenario Resource Plan | | |
|---|----------------------------------|-------------|-------------------------------------|---|---|-------------------|
| Year | Resource | MW | | Year | Resource | MW |
| 2014 | - | - | | 2014 | - | - |
| 2015 | - | - | | 2015 | - | - |
| 2016 | - | - | | 2016 | - | - |
| 2017 | New CT | 650 | Delays 1 year | 2017 | - | - |
| 2018 | Gas Steam CT VP Summer Nuclear | 135 66/40 | | 2018 | Gas Steam CT New CT VP Summer Nuclear | 135 650 66/40 |
| 2019 | New CT New CT | 600 600 | Delays 2 years & Need changes to CT | 2019 | New CT | 600 |
| 2020 | VP Summer Nuclear | 66/40 | | 2020 | VP Summer Nuclear | 66/40 |
| 2021 | New CT | 600 | Delays 1 year | 2021 | New CT New CT | 600 600 |
| 2022 | New CT New CT | 600 600 | | 2022 | New CT | 600 |
| 2023 | - | - | | 2023 | New CT | 600 |
| 2024 | New Nuclear | 1107 | | 2024 | New Nuclear | 650/650 |
| 2025 | - | - | | 2025 | - | - |
| 2026 | New Nuclear | 1107 | | 2026 | New Nuclear | 650/650 |
| 2027 | New CT | 600 | | 2027 | - | - |
| 2028 | - | - | | 2028 | - | - |

Outside Study Period

The following charts illustrate both the current and forecasted energy and capacity by fuel type for the DEC system, as projected by the Joint Planning Scenario. In this Joint Planning Scenario, the Companies continue to rely upon nuclear, CT and coal resources, but the reliance on natural gas CC resources increases due to the favorable natural gas prices. The Companies' renewable energy and EE impacts continue to grow over time, as also reflected in the Base Cases.

Chart 8-I DEC and DEP Capacity by Fuel Type – Joint Planning Scenario

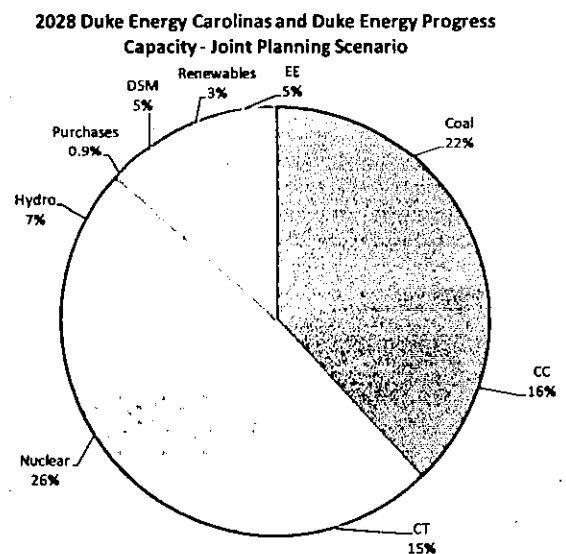
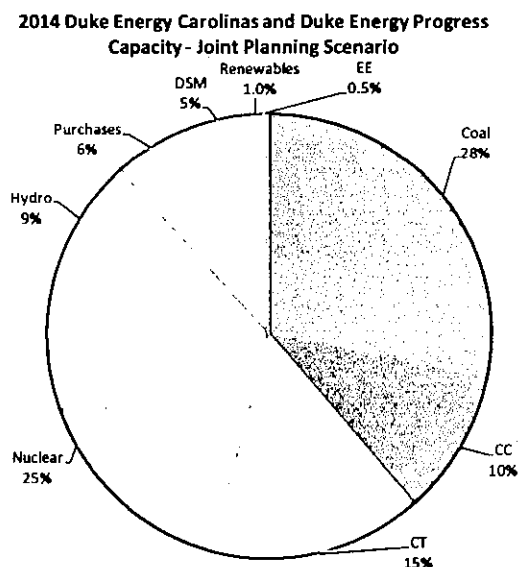
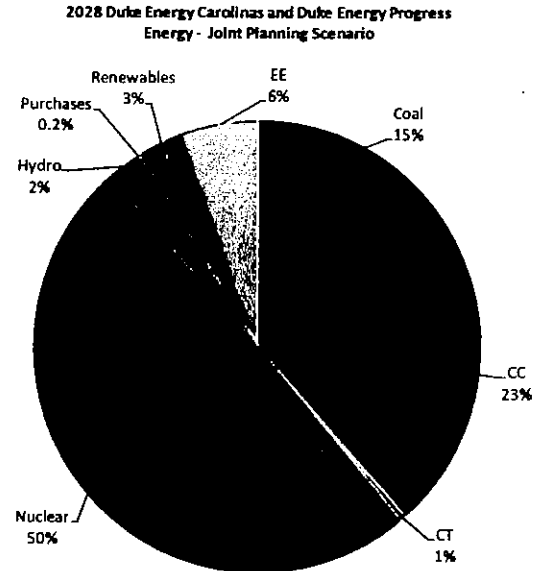
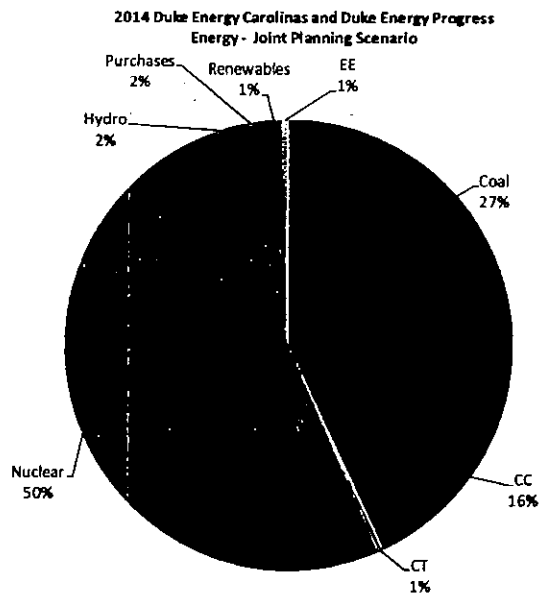


Chart 8-J DEC and DEP Energy by Fuel Type – Joint Planning Scenario



9. SHORT-TERM ACTION PLAN

The Company's Short-Term Action Plan, which identifies accomplishments in the past year and actions to be taken over the next five years, is summarized below:

- Take actions to ensure capacity needs beginning in 2017 are met.² As discussed later in this chapter, DEC issued a Request for Proposals (RFP) to address the 2017 capacity need. After evaluating multiple bids including a self-build option, the Company has determined the most economic alternative to meet the 2017 need is to construct a new natural gas combined cycle facility at the Lee Steam Station site in Anderson County S.C.
- Retire older coal generation. Buck Steam Station Units 3 and 4 were retired in May 2011. Cliffside Units 1 through 4 and Dan River Units 1 and 2 were retired in October 2011 and April 2012, respectively, in advance of the initial testing of new generation at those locations. The remaining un-scrubbed coal units at Buck and Riverbend were retired in April 2013, nearly two years earlier than previously planned. The retirement of Lee Steam Station is currently planned for April 2015 to correspond with the compliance requirements of the Mercury and Air Toxics Standard. Duke Energy Carolinas also retired 350 MWs of its older CTs in October 2012.
- Continue to execute the Company's EE and DSM plan, which includes a diverse portfolio of EE and DSM programs, and continue on-going collaborative work to develop and implement additional cost-effective EE and DSM products and services.
- Continue to seek enhancements to the Company's DSM/EE portfolio by: (1) adding new or expanding existing programs to include additional measures, (2) program modifications to account for changing market conditions and new measurement and verification (M&V) results and (3) other EE research and development pilots.
- Completed construction of the new Dan River Combined Cycle unit. The unit was operational December 2012. The 620 MW natural gas-fired CC generating station achieves high operational flexibility and high thermal efficiency while utilizing state-of-the-art environmental control technology to minimize plant emissions.
- Completed construction of the 825 MW Cliffside Unit 6, at the existing Cliffside Steam Station. As of December 2012, Cliffside Unit 6 began commercial operation.
- Move forward with the conversion of Lee Steam Station Unit 3 from coal to natural gas fuel.

² While there is a slight capacity need in 2016, the Company will continue to monitor that small need and take action as necessary.

Lee Steam Station Unit 3 is reflected in the 2013 Duke Energy Carolinas IRP as a retired coal unit in the fourth quarter of 2014 and converted to natural gas before the summer peak of 2015. Preliminary engineering has been completed and more detailed project development and regulatory efforts are ongoing.

- Continue to pursue the option for new nuclear generating capacity in the 2017 to 2028 timeframe.
 - DEC continues to explore the potential for a joint ownership share of the South Carolina Electric and Gas V.C. Summer nuclear station. The plan shows a 5.9% share of the two 1,100 units being available for the summer peaks of 2018 and 2020, respectively. While shown to be cost-effective from a planning perspective, the acquisition of this capacity is still subject to successful completion of discussions as well as multiple regulatory approvals.
 - The Company submitted an application for a Combined Construction and Operating License (COL) and an environmental report to the Nuclear Regulatory Commission (NRC) for W.S. Lee III (Lee) Nuclear on Dec. 12, 2007. A supplement to the environmental report was filed September 24, 2009. The NRC issued its Draft Environmental Impact Statement for the Lee Nuclear plant in December 2011, concluding that the NCUC's evaluation of DEC's future load demand and its accuracy in historical load forecasting within the 2011 IRP was a reasonable basis for planning.
 - In April 2012, the NRC staff subsequently requested Duke Energy Carolinas to update the Lee Nuclear site-specific seismic analysis to incorporate the new Central and Eastern United States (CEUS) Seismic Source Characterization model (published as NUREG-2115 in January 2012). This negatively impacts the schedule for NRC issuance of the Lee COL. Completion of the new site-specific seismic analysis will delay Lee COL issuance until second quarter 2016. Accordingly, DEC has moved the Commercial Operation Date (COD) for Lee Nuclear Unit 1 to 2024.
 - The Company continues to evaluate the optimal time to file the Certificate of Environmental Compatibility and Public Convenience and Necessity (CEPCN) for Lee Nuclear in South Carolina, as well as pursue other relevant regulatory approvals.
 - The Company will continue to pursue available federal, state and local tax incentives and favorable financing options at the federal and state level.
 - The Company will continue to assess opportunities to benefit from economies of scale and risk reduction in new resource decisions by considering the prospects for joint

ownership and/or sales agreements for new nuclear generation resources.

- Continue to evaluate market options for renewable generation and procure capacity, as appropriate. PPAs have been signed with developers of solar PV, landfill gas and wind resources. Additionally, REC purchase agreements have been executed for purchases of unbundled RECs from wind, solar PV, solar thermal and hydroelectric facilities.
- Continue to investigate the future environmental control requirements and resulting operational impacts associated with existing and potential environmental regulations such as MATS, the Coal Combustion Residuals rule, the Cross-State Air Pollution Rule (CSAPR) and the new ozone National Ambient Air Quality Standard (NAAQS).
- Continue to pursue existing and potential opportunities for wholesale power sales agreements within the Duke Energy balancing authority area.
- Continue to monitor energy-related statutory and regulatory activities.
- Continue to examine the benefits of joint capacity planning and pursue appropriate regulatory actions.

A summarization of the capacity resource changes for the Base Case in the 2013 IRP is shown in Table 9-A. Capacity retirements and additions are presented as incremental values in the year in which the change is projected to occur. The values shown for renewable resources, DSM and EE represent cumulative totals.

Table 9-A DEC Short-Term Action Plan

| Duke Energy Carolinas Short-Term Action Plan | | | | | | | |
|--|---------------------|---------------------------------|--|----------------------|------------------------------|-----|--------------------|
| | | | Renewable Resources (Cumulative Nameplate MW) | | | | |
| Year | Retirements | Additions ⁽¹⁾ | Wind ⁽²⁾ | Solar ⁽²⁾ | Biomass/Hydro ⁽³⁾ | EE | DSM ⁽⁴⁾ |
| 2014 | | 12 MW Nuc | 0 | 294 | 62 | 111 | 911 |
| 2015 | 370 MW Lee 1-3 Coal | 170 MW Lee NG Conv 20 MW Nuc | 0 | 519 | 69 | 184 | 1010 |
| 2016 | | | 0 | 569 | 77 | 275 | 1068 |
| 2017 | | 45 MW Nuc 680 MW CC | 0 | 609 | 84 | 382 | 1118 |
| 2018 | | 66 MW VC Summer | 0 | 730 | 118 | 490 | 1169 |

Notes:

(1) Includes 77 MW of nuclear uprates

(2) Capacity is shown in nameplate ratings. For planning purposes, wind presents a 15% contribution to peak and solar has a 42% contribution to peak.

(3) Biomass includes swine and poultry contracts.

(4) Includes impacts of grid modernization.

DEC RFP Activity

Supply-Side

As determined in the Base Case, DEC's first significant capacity need is in 2017. DEC recognized the need for near-term capacity in its 2012 IRP which indicated a need for approximately 700 MW of capacity in the 2016 timeframe. Throughout the IRP analysis this need was met by a generic CC. Concurrent with the IRP analysis, DEC issued a RFP for capacity and energy on October 26, 2012. The RFP was for up to 700 MW of dispatchable, non-peaking capacity and energy available by either June 1, 2016 or June 1, 2017.

On November 27, 2012, DEC received multiple proposals from twelve companies including a DEC self-build bid for the construction of a natural gas combined cycle facility at the existing Lee Steam Station site in Anderson County, S.C. The bids were reviewed for compliance with RFP guidelines and were ranked economically to determine the least cost options. The initial economic analysis identified the short-listed bidders to continue proposal discussions. In late February 2013, DEC notified the short-listed bidders to provide refreshed proposals to meet capacity needs beginning June 2017.

Refreshed proposals received on May 29, 2013 were ranked economically and modeled utilizing detailed production cost modeling techniques. The results of detailed analysis including PROSYM

production cost modeling, along with all other fixed and variable revenue requirements, indicated the Lee CC self-build proposal to be the least-cost option of the refreshed proposals.

Renewable Energy

No renewable energy RFPs have been issued since the filing of DEC's 2012 IRP.

APPENDIX A: QUANTITATIVE ANALYSIS

This appendix provides an overview of the Company's quantitative analysis of resource options available to meet customers' future energy needs in the Base Case and for an Environmental Focus Scenario that reflects increased CO₂ cost, EE and renewables. The future resource needs were optimized based on DEC and DEP independently. However the benefits of jointly planning on a system basis for the Base Case and Environmental Focus Scenario were also presented.

A. Overview of Analytical Process

The analytical process consists of four steps:

1. Assess resource needs
2. Identify and screen resource options for further consideration
3. Develop portfolio configurations
4. Perform portfolio analysis

1. Assess Resource Needs

The required load and generation resource balance needed to meet future customer demands was assessed as outlined below:

- Customer load peak and energy forecast – identified future customer aggregate demands to determine system peak demands and developed the corresponding energy load shape
- Existing supply-side resources – summarized each existing generation resource's operating characteristics including unit capability, potential operational constraints and life expectancy
- Operating parameters – determined operational requirements including target planning reserve margins and other regulatory considerations

Customer load growth, the expiration of purchased power contracts and additional asset retirements result in significant resource needs to meet energy and peak demands. The following assumptions impacted the 2013 resource plan:

- In the Base Case, the summer peak demand and energy growth after the impact of energy efficiency averaged 1.5% through 2028. In the Environmental Focus Scenario after the impact of energy efficiency, summer peak demand growth averaged 1.3% and energy growth averaged 1.2% over the next 15 years
- Retirement of an additional 350 MW of old fleet combustion turbines and 710 MW of older coal units since the 2012 IRP filing
- Retirement of an additional 370 MW at Lee Steam Station by April 2015

- Continued operational reliability of existing generation portfolio
- A 14.5% minimum planning reserve margin for the planning horizon

2. *Identify and Screen Resource Options for Further Consideration*

The IRP process evaluated EE, DSM and supply-side options to meet customer energy and capacity needs. The Company developed EE and DSM options for consideration within the IRP based on existing EE/DSM program experience, the most recent market potential study, input from its EE/DSM Collaborative and cost-effectiveness screening. Supply-side options reflect a diverse mix of technologies and fuel sources (gas, coal, nuclear and renewable). Supply-side options are initially screened based on the following attributes:

- Technical feasibility and commercial availability in the marketplace
- Compliance with all federal and state requirements
- Long-run reliability
- Reasonableness of cost parameters

The Company compared capacity options within their respective fuel types and operational capabilities, with the most cost-effective options being selected for inclusion in the portfolio analysis phase. An overview of resources screened on technical basis and a levelized economic basis is shown in Appendix F.

Resource Options

Supply-Side

Based on the results of the screening analysis, the following technologies were included in the quantitative analysis as potential supply-side resource options to meet future capacity needs:

- Baseload – 2 x 1,117 MW Nuclear units (AP1000)
- Baseload – 132 MW Purchase of V. C. Summer Nuclear (AP1000)
- Baseload – 680 MW – 2 x 1 Combined Cycle (Inlet Chiller and Fired)
- Baseload – 843 MW – 2 x 1 Advanced Combined Cycle (Inlet Chiller and Fired)
- Peaking/Intermediate – 403 MW – 2 x 7FA.05 CTs
- Peaking/Intermediate – 805 MW – 4 x 7FA.05 CTs
- Renewable – 150 MW – On-shore Wind
- Renewable – 25 MW – Solar PV

Energy Efficiency and Demand-Side Management

EE and DSM programs continue to be an important part of Duke Energy Carolinas' system mix. The Company considered both DSM and EE programs in the IRP analysis. As described in Appendix D, EE and DSM measures are compared to generation alternatives to identify cost-effective EE and DSM programs.

In the Base Case, the Company modeled the program costs associated with EE and DSM based on a combination of both internal company expectations and projections based on information from the 2013 update of the Company's 2011 market potential study. In the DEC and DEP merger settlement agreement, the Company agreed to aspire to a more aggressive implementation of EE throughout the planning horizon, and the impacts of this goal were incorporated in the Environmental Focus Scenario. The program costs used for this analysis leveraged the Company's internal projections for the first five years. In the longer term, updated market potential study data incorporating the impacts of customer participation rates over the range of potential programs.

3. Develop Portfolio Configurations

The Company conducted a screening analysis using a simulation model to identify the most attractive capacity options under the expected load profile for both the Base Case and Environmental Focus Scenario. The set of basic inputs included:

- CO₂ price starting in 2020 increasing throughout the planning horizon
 - Base Case - 17 \$/ton in 2020 increasing to 33 \$/ton by 2028
 - Environmental Focus Scenario - 20 \$/ton in 2020 increasing to 45 \$/ton by 2028;
- Coal, natural gas and fuel oil
 - Short-term: Based on the market observations
 - Long-term: Based on the Company's fundamental fuel price projections
 - For the Environmental Focus Scenario, the Company's fundamental fuel price projection incorporated the impact of different CO₂, EE and renewable requirements consistent with that scenario
- Availability and operating and maintenance cost for both new and existing generation
- Compliance with current and potential environmental regulations,
- Financial updates including cost of capital, escalation and discount rates
- System operational needs for load ramping, and spinning reserves

- The projected load and generation resource need incorporating the impacts of EE and DSM.
 - The Base Case reflects EE savings projections based on the updated market potential study at the end of the planning horizon
 - The Environmental Focus Scenario assumes full compliance with the Duke Energy-Progress Energy merger settlement agreement with the cumulative EE achievements since 2009 counted toward the cumulative settlement agreement impacts
- Compliance with NC REPS requirements and a placeholder renewable requirement for South Carolina that could represent a federal or state program starting in 2018
 - The Environmental Focus Scenario reflects a doubling of the amount of renewables included in the Base Case by 2028

4. *Perform Portfolio Analysis*

For the Base Case and Environmental Focus Scenario, the optimal portfolios were developed for DEC without the benefit of sharing capacity with DEP. To demonstrate the value of sharing capacity with DEP, a Joint Planning Scenario was developed that examined how the combined plans of DEC and DEP would change if a 14.5% minimum planning reserve margin was applied at the combined system level rather than the individual company level.

An overview of the specific details of the optimal portfolios for both the Base Case and Environmental Focus Scenario without the benefit of sharing capacity with DEP is shown in Table A-1 below.

Table A-1 DEC Optimal Portfolios

| | Optimal Portfolios | |
|----------------------|-----------------------|-----------------------|
| | Base | Environmental Focus |
| 2014 | | |
| 2015 | | |
| 2016 | | |
| 2017 | 680 MW (CC) | 680 MW (CC) |
| 2018 | 66 MW (V.C. Summer N) | 66 MW (V.C. Summer N) |
| 2019 | 843 MW (Adv CC) | |
| 2020 | 66 MW (V.C. Summer N) | 66 MW (V.C. Summer N) |
| 2021 | | |
| 2022 | 403 MW (CT) | 843 MW (Adv CC) |
| 2023 | | |
| 2024 | 1,117 MW (N) | 1,117 MW (N) |
| 2025 | | |
| 2026 | 1,117 MW (N) | 1,117 MW (N) |
| 2027 | | |
| 2028 | | |
| Total CTs | 403 MW | |
| Total CCs | 1,523 MW | 1,523 MW |
| Total Nuclear | 2,366 MW | 2,366 MW |

Note: This table includes only new, undesignated resources.

The first resource need was determined to be in 2017 in both the Base Case and Environmental Focus Scenario. In addition to significant levels of EE, DSM and renewable resources, combined cycle generation was selected as the most economical resource to meet this need. In both the Base Case and Environmental Focus Scenario, the optimized portfolios included 5.9% ownership in the V.C. Summer Nuclear Station in 2018 and 2020 and the addition of the W. S. Lee Nuclear Station in 2024 and 2026. These nuclear resources were selected economically utilizing the capacity expansion model.

Even though shared V.C. Summer Nuclear was selected and incorporated in the Base Case and two additional scenarios of this IRP, the procurement of any portion of V.C. Summer is dependent on arriving at commercially acceptable terms with Santee Cooper.

The Environmental Focus Scenario incorporates a more aggressive EE portfolio and doubles the amount of renewable resources by 2028. The impact of these additions allowed for a deferral of the need of the Advanced CC in 2019 to 2022. In addition, the 2022 CT need was delayed beyond the 15-year planning horizon. However, because of the higher CO₂ price projection, increased revenue requirements associated with higher EE and increased cost associated with doubling the amount of renewables, the Environmental Focus Scenario present value of revenue requirements (PVRR)

through 2028 is \$2 billion more than the Base Case even with deferral of the advanced CC and CT resources.

An evaluation was performed comparing the DEC and DEP optimally selected Base Case portfolios to a combined Joint Planning Scenario where existing and future capacity resources could be shared between DEC and DEP to meet a minimum 14.5% planning reserve margin. In this Joint Planning Scenario, sharing the W.S. Lee nuclear station on a load ratio basis with DEP was the best economic selection. Table A-2 shows the total incremental natural gas and nuclear capacity needed to meet the projected minimum planning reserve margin between 2014 and 2028 for DEC and DEP if separately planned. The total of these two combined resource requirements is then compared to the amount of resources needed if DEC and DEP were to jointly plan.

Table A-2 Comparison of Base Case Portfolio to Joint Planning Scenario

| DEC Base Case (MW) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gas Units | | | | 680 | | 843 | | | 403 | | | | | | |
| Nuclear | | | | | 66 | | 66 | | | | 1117 | | 1117 | | |
| | | | | | | | | | | | | | | | |
| DEP Base Case (MW) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| Gas Units | | | | | | 843 | | 843 | 843 | | | | | 403 | |
| Nuclear | | | | | 46 | | 46 | | | | | | | | |
| | | | | | | | | | | | | | | | |
| DEC & DEP Combined Base Case (MW) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| Gas Units | | | | 680 | 112 | 1686 | 112 | 843 | 1246 | | 1117 | | 1117 | 403 | |
| Combined Base Case Reserve Margin | 17.7% | 17.7% | 16.0% | 16.6% | 15.7% | 18.6% | 17.2% | 16.6% | 18.0% | 16.8% | 18.6% | 17.8% | 19.4% | 19.1% | 17.4% |
| | | | | | | | | | | | | | | | |
| Joint Planning Case (MW) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| Gas Units | | | | | 792 | 843 | 112 | 1246 | 843 | 403 | 1117 | | 1117 | | |
| Joint Planning Case Reserve Margin | 17.7% | 17.7% | 16.0% | 14.6% | 15.7% | 16.1% | 14.8% | 15.3% | 15.6% | 15.6% | 17.4% | 16.6% | 18.3% | 16.8% | 15.2% |

A comparison of the DEC and DEP Combined Base Case resource requirements to the Joint Planning Scenario requirements illustrates the ability to defer CC and CT resources over the 2014 through 2028 planning horizon. Consequently, the Joint Planning Scenario also results in a lower overall reserve margin. This is confirmed by a review of the reserve margins for the Combined Base Case as compared to the Joint Planning Scenario, which averaged 17.6% and 16.0%, respectively, from the first resource need in 2017 through 2028. The lower reserve margin in the Joint Planning Scenario indicates that DEC and DEP are more efficiently and economically meeting capacity needs. This is reflected in a total PVRr savings of \$0.4 billion for the Joint Planning Scenario as compared to the Base Case through 2028.

B. Quantitative Analysis Summary

The quantitative analysis resulted in several key takeaways that impact near-term decision-making as well as planning for the longer term.

1. The Base Case and Environmental Focus Scenario show optimal portfolios that recognize the need for new generation in 2017 to meet the minimum reserve margin requirement. The results of this analysis show that this need is best met with CC generation
2. The ability to jointly plan with DEP provides customer savings by allowing for the deferral of new generation resources over the 2014 through 2028 planning horizon.
3. New nuclear generation is selected as an economic resource for the Base Case and Environmental Focus Scenario. In the 15-year planning horizon, a 5.9% ownership in the V.C. Summer in 2018 and 2020 and the addition of the Lee Nuclear in 2024 and 2026 were selected.

The Base Case and Environmental Focus Scenario analyses support 100% ownership of Lee Nuclear by DEC. However the Company continues to consider the benefits of regional nuclear generation. The idea of sharing new baseload generation resources between multiple parties allows for resource additions to be better matched with load growth and for new construction risk to be shared among the parties. This results in positive benefits for the Company's customers. Duke Energy Corporation is in discussions with Santee Cooper concerning the potential acquisition of a 10% ownership interest in the new nuclear units at V.C. Summer Units 2 and 3. The parties are discussing the commercial terms and currently have not reconciled differences and no contract has been signed. Any participation in the V.C. Summer project is premised on successful resolution of outstanding commercial items and continued demonstration of customer benefits. The parties are working towards a final decision in the next several months. If Duke Energy was to procure an ownership interest in V.C. Summer Units 2 and 3, the ownership is expected to be shared between DEC and DEP on a load ratio basis. The benefits of co-ownership of the Lee Nuclear facility with DEP were also illustrated with the ability to jointly plan as represented in the Joint Planning Scenario described above.

There are several challenges that have impacted the schedule for the Lee Nuclear facility. In March 2012, the NRC issued a request for information letter to operating power reactor licensees regarding recommendations of the Near-Term Task Force review of insights from the Fukushima Dai-ichi accident. In April 2012, the NRC staff subsequently requested DEC to update the Lee Nuclear site-specific seismic analysis to incorporate the new Central and Eastern United States (CEUS) Seismic Source Characterization model (published as NUREG-2115 in January 2012). Work on a new Lee Nuclear site-specific analysis implementing the new CEUS seismic model is underway. However, completion of the new seismic analysis is not expected before January 2014. This negatively impacts the schedule for NRC issuance of the Lee Nuclear COL. Completion of the new site-

specific seismic analysis will delay Lee COL issuance until second quarter 2016. Accordingly, Duke Energy Carolinas has moved the commercial operation date for Lee Nuclear Unit 1 to 2024.

In addition, the NRC issued an updated Waste Confidence Rule in 2010 affirming that the agency has reasonable assurance utility spent fuel can be safely stored for at least 60 years after a power reactor's operating license expires. Waste confidence is central to the agency's ability to license new reactors and renew the operating licenses of existing reactors. On June 8, 2012, the U.S. Court of Appeals of the District of Columbia Circuit issued a decision vacating the updated Waste Confidence Rule and remanding it to the NRC for further proceedings. The Court held that the NRC's analysis was insufficient to support its findings that the permanent storage will be available "when necessary" and that spent fuel can safely be stored on-site at nuclear plants for 60 years after the expiration of a plant's license. In response to the remand decision, numerous parties filed a petition to suspend final decisions in all pending reactor licensing proceedings pending completion of remanded waste confidence proceedings in new nuclear and license renewal proceedings pending before the NRC. On August 7, 2012, the NRC issued an order on the petition stating that: (1) it is considering all options for resolving the waste confidence issues, which could include generic or site specific actions, but has not yet determined a course of action, (2) it will not issue licenses dependent on the Waste Confidence Rule until the Court's remand is appropriately addressed, however, this determination extends only to final license issuance, and (3) all licensing reviews and proceedings should continue to move forward. The NRC expects this issue to be resolved in August 2014. Waste Confidence must be resolved to support issuance of the Lee Nuclear COL. However, based on current schedules, this is not expected to impact issuance of the Lee Nuclear COL.

The PVRR results presented in the IRP analysis were based on a 15-year planning horizon, but the economics supporting new nuclear were extended to 2052 to capture the long-term benefits of the low production cost and carbon-free generation. It is important to note that while V.C. Summer and Lee Nuclear facilities were selected economically, they would also serve as replacement carbon-free baseload generation if existing nuclear generation is retired in the future. In 2033, the current operating license for Oconee Nuclear Station expires. At this time, the Company has not made a decision concerning seeking a second license extension for this plant. Oconee Nuclear Station is a significant part of DEC's generation portfolio representing over 2,500 MW of capacity and annual energy output of approximately 20,000 GWh. As such, it is important to start to examine the impacts of any potential retirement of Oconee Nuclear Station as compared to new nuclear generation to assist the Company as it considers seeking a second license extension.

One of the major benefits of having additional nuclear generation is the lower system CO₂ footprint. Assuming regional nuclear planning with DEP, DEC procures its load ratio share of the 10% interest of V.C. Summer and sharing Lee Nuclear Stations, the resulting reduction in CO₂ emissions is approximately 6 million tons of CO₂ for DEC and DEP by 2028 (from a 2013 baseline). This

illustrates that for the Company to achieve material system reductions in CO₂ emissions, it must add new nuclear generation to the future resource portfolio.

The Company's planning process must be dynamic and adaptable to changing conditions. This resource plan is the most appropriate resource plan at this point in time. However, good business practice requires DEC to continue to study the options and make adjustments as necessary and practical to reflect improved information and changing circumstances. Consequently, a strong business planning framework is truly an evolving process that can never be considered complete.

APPENDIX B: DUKE ENERGY CAROLINAS OWNED GENERATION

Duke Energy Carolinas' generation portfolio includes a balanced mix of resources with different operating and fuel characteristics. This mix is designed to provide energy at the lowest reasonable cost to meet the Company's obligation to serve its customers. Duke Energy Carolinas-owned generation, as well as purchased power, is evaluated on a real-time basis in order to select and dispatch the lowest-cost resources to meet system load requirements. In 2012, Duke Energy Carolinas' nuclear and coal-fired generating units met the vast majority of customer needs by providing 62% and 31%, respectively, of Duke Energy Carolinas' energy from generation. Hydroelectric generation, Combustion Turbine generation, Combined Cycle generation, solar generation, long term PPAs, and economical purchases from the wholesale market supplied the remainder.

The tables below list the Duke Energy Carolinas' plants in service in North Carolina (NC) and South Carolina (SC) with plant statistics, and the system's total generating capability.

Existing Generating Units and Ratings^{a, b, c, d} All Generating Unit Ratings are as of January 1, 2013

| Coal | | | | | | |
|--------------|-------------|------------------------|------------------------|--------------------|------------------|----------------------|
| | <u>Unit</u> | <u>Winter (MW)</u> | <u>Summer (MW)</u> | <u>Location</u> | <u>Fuel Type</u> | <u>Resource Type</u> |
| Allen | 1 | 167 | 162 | Belmont, N.C. | Coal | Intermediate |
| Allen | 2 | 167 | 162 | Belmont, N.C. | Coal | Intermediate |
| Allen | 3 | 270 | 261 | Belmont, N.C. | Coal | Intermediate |
| Allen | 4 | 282 | 276 | Belmont, N.C. | Coal | Intermediate |
| Allen | 5 | 275 | 266 | Belmont, N.C. | Coal | Intermediate |
| Belews Creek | 1 | 1135 | 1110 | Belews Creek, N.C. | Coal | Base |
| Belews Creek | 2 | 1135 | 1110 | Belews Creek, N.C. | Coal | Base |
| Cliffside | 5 | 556 | 552 | Cliffside, N.C. | Coal | Base |
| Cliffside | 6 | 825 | 825 | Cliffside, N.C. | Coal | Base |
| Lee | 1 | 100 | 100 | Pelzer, S.C. | Coal | Peaking |
| Lee | 2 | 102 | 100 | Pelzer, S.C. | Coal | Peaking |
| Lee | 3 | 170 | 170 | Pelzer, S.C. | Coal | Peaking |
| Marshall | 1 | 380 | 380 | Terrell, N.C. | Coal | Intermediate |
| Marshall | 2 | 380 | 380 | Terrell, N.C. | Coal | Intermediate |
| Marshall | 3 | 658 | 658 | Terrell, N.C. | Coal | Base |
| Marshall | 4 | 660 | 660 | Terrell, N.C. | Coal | Base |
| Total NC | | 6,890 | 6,802 | | | |
| Total SC | | 372 | 370 | | | |
| Total Coal | | 7,262 | 7,172 | | | |

| Combustion Turbines | | | | | | |
|---------------------|-------------|------------------------|------------------------|------------------|-----------------------|--------------------------|
| | <u>Unit</u> | <u>Winter (MW)</u> | <u>Summer (MW)</u> | <u>Location</u> | <u>Fuel Type</u> | <u>Resource Type</u> |
| Lee | 7C | 41 | 41 | Pelzer, S.C. | Natural Gas/Oil-Fired | Peaking |
| Lee | 8C | 41 | 41 | Pelzer, S.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 1 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 2 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 3 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 4 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 5 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 6 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 7 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 8 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 9 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 10 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 11 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 12 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 13 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 14 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 15 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Lincoln | 16 | 93 | 79.2 | Stanley, N.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 1 | 92.4 | 74.42 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 2 | 92.4 | 74.42 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 3 | 92.4 | 74.42 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 4 | 92.4 | 74.42 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 5 | 92.4 | 74.42 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 6 | 92.4 | 74.42 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 7 | 92.4 | 74.42 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Mill Creek | 8 | 92.4 | 74.42 | Blacksburg, S.C. | Natural Gas/Oil-Fired | Peaking |
| Rockingham | 1 | 179 | 165 | Rockingham, N.C. | Natural Gas/Oil-Fired | Peaking |
| Rockingham | 2 | 179 | 165 | Rockingham, N.C. | Natural Gas/Oil-Fired | Peaking |
| Rockingham | 3 | 179 | 165 | Rockingham, N.C. | Natural Gas/Oil-Fired | Peaking |
| Rockingham | 4 | 179 | 165 | Rockingham, N.C. | Natural Gas/Oil-Fired | Peaking |
| Rockingham | 5 | 179 | 165 | Rockingham, N.C. | Natural Gas/Oil-Fired | Peaking |
| Total NC | | 2,383 | 2,092 | | | |
| Total SC | | 821.2 | 677.4 | | | |
| Total CT | | 3,204 | 2,770 | | | |

| Combined Cycle | | | | | | |
|----------------|-------------|------------------------|------------------------|-----------------|------------------|--------------------------|
| | <u>Unit</u> | <u>Winter (MW)</u> | <u>Summer (MW)</u> | <u>Location</u> | <u>Fuel Type</u> | <u>Resource Type</u> |
| Buck | CT11 | 170 | 165 | Salisbury, N.C. | Natural Gas | Base |
| Buck | CT12 | 170 | 165 | Salisbury, N.C. | Natural Gas | Base |
| Buck | ST10 | <u>300</u> | <u>290</u> | Salisbury, N.C. | Natural Gas | Base |
| Buck CTCC | | 640 | 620 | | | |
| Dan River | CT8 | 170 | 165 | Eden, N.C. | Natural Gas | Base |
| Dan River | CT9 | 170 | 165 | Eden, N.C. | Natural Gas | Base |
| Dan River | ST7 | <u>300</u> | <u>290</u> | Eden, N.C. | Natural Gas | Base |
| Dan River CTCC | | 640 | 620 | | | |
| Total CTCC | | 1,280 | 1,240 | | | |

| Pumped Storage | | | | | | |
|-----------------|-------------|------------------------|------------------------|-----------------|------------------|--------------------------|
| | <u>Unit</u> | <u>Winter (MW)</u> | <u>Summer (MW)</u> | <u>Location</u> | <u>Fuel Type</u> | <u>Resource Type</u> |
| Jocassee | 1 | 195 | 195 | Salem, S.C. | Pumped Storage | Peaking |
| Jocassee | 2 | 195 | 195 | Salem, S.C. | Pumped Storage | Peaking |
| Jocassee | 3 | 195 | 195 | Salem, S.C. | Pumped Storage | Peaking |
| Jocassee | 4 | 195 | 195 | Salem, S.C. | Pumped Storage | Peaking |
| Bad Creek | 1 | 340 | 340 | Salem, S.C. | Pumped Storage | Peaking |
| Bad Creek | 2 | 340 | 340 | Salem, S.C. | Pumped Storage | Peaking |
| Bad Creek | 3 | 340 | 340 | Salem, S.C. | Pumped Storage | Peaking |
| Bad Creek | 4 | <u>340</u> | <u>340</u> | Salem, S.C. | Pumped Storage | Peaking |
| Total Pump Stor | | 2,140 | 2,140 | | | |

| Hydro | | | | | | |
|---------------|-------------|------------------------|------------------------|-------------------|------------------|--------------------------|
| | <u>Unit</u> | <u>Winter (MW)</u> | <u>Summer (MW)</u> | <u>Location</u> | <u>Fuel Type</u> | <u>Resource Type</u> |
| 99 Islands | 1 | 1.6 | 1.6 | Blacksburg, S.C. | Hydro | Peaking |
| 99 Islands | 2 | 1.6 | 1.6 | Blacksburg, S.C. | Hydro | Peaking |
| 99 Islands | 3 | 1.6 | 1.6 | Blacksburg, S.C. | Hydro | Peaking |
| 99 Islands | 4 | 1.6 | 1.6 | Blacksburg, S.C. | Hydro | Peaking |
| 99 Islands | 5 | 0 | 0 | Blacksburg, S.C. | Hydro | Peaking |
| 99 Islands | 6 | 0 | 0 | Blacksburg, S.C. | Hydro | Peaking |
| Bear Creek | 1 | 9.45 | 9.45 | Tuckasegee, N.C. | Hydro | Peaking |
| Bridgewater | 1 | 15 | 15 | Morganton, N.C. | Hydro | Peaking |
| Bridgewater | 2 | 15 | 15 | Morganton, N.C. | Hydro | Peaking |
| Bridgewater | 3 | 1.5 | 1.5 | Morganton, N.C. | Hydro | Peaking |
| Bryson City | 1 | 0.48 | 0.48 | Whittier, N.C. | Hydro | Peaking |
| Bryson City | 2 | 0 | 0 | Whittier, N.C. | Hydro | Peaking |
| Cedar Cliff | 1 | 6.4 | 6.4 | Tuckasegee, N.C. | Hydro | Peaking |
| Cedar Creek | 1 | 15 | 15 | Great Falls, S.C. | Hydro | Peaking |
| Cedar Creek | 2 | 15 | 15 | Great Falls, S.C. | Hydro | Peaking |
| Cedar Creek | 3 | 15 | 15 | Great Falls, S.C. | Hydro | Peaking |
| Cowans Ford | 1 | 81.3 | 81.3 | Stanley, N.C. | Hydro | Peaking |
| Cowans Ford | 2 | 81.3 | 81.3 | Stanley, N.C. | Hydro | Peaking |
| Cowans Ford | 3 | 81.3 | 81.3 | Stanley, N.C. | Hydro | Peaking |
| Cowans Ford | 4 | 81.3 | 81.3 | Stanley, N.C. | Hydro | Peaking |
| Dearborn | 1 | 14 | 14 | Great Falls, S.C. | Hydro | Peaking |
| Dearborn | 2 | 14 | 14 | Great Falls, S.C. | Hydro | Peaking |
| Dearborn | 3 | 14 | 14 | Great Falls, S.C. | Hydro | Peaking |
| Fishing Creek | 1 | 11 | 11 | Great Falls, S.C. | Hydro | Peaking |
| Fishing Creek | 2 | 9.5 | 9.5 | Great Falls, S.C. | Hydro | Peaking |
| Fishing Creek | 3 | 9.5 | 9.5 | Great Falls, S.C. | Hydro | Peaking |
| Fishing Creek | 4 | 11 | 11 | Great Falls, S.C. | Hydro | Peaking |
| Fishing Creek | 5 | 8 | 8 | Great Falls, S.C. | Hydro | Peaking |
| Franklin | 1 | 0 | 0 | Franklin, N.C. | Hydro | Peaking |
| Franklin | 2 | 0.6 | 0.6 | Franklin, N.C. | Hydro | Peaking |
| Gaston Shoals | 3 | 0 | 0 | Blacksburg, S.C. | Hydro | Peaking |
| Gaston Shoals | 4 | 1 | 1 | Blacksburg, S.C. | Hydro | Peaking |
| Gaston Shoals | 5 | 1 | 1 | Blacksburg, S.C. | Hydro | Peaking |
| Gaston Shoals | 6 | 0 | 0 | Blacksburg, S.C. | Hydro | Peaking |

| Hydro cont. | | | | | | |
|-----------------|-------------|------------------------|------------------------|-------------------|------------------|--------------------------|
| | <u>Unit</u> | <u>Winter (MW)</u> | <u>Summer (MW)</u> | <u>Location</u> | <u>Fuel Type</u> | <u>Resource Type</u> |
| Great Falls | 1 | 3 | 3 | Great Falls, S.C. | Hydro | Peaking |
| Great Falls | 2 | 3 | 3 | Great Falls, S.C. | Hydro | Peaking |
| Great Falls | 3 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Great Falls | 4 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Great Falls | 5 | 3 | 3 | Great Falls, S.C. | Hydro | Peaking |
| Great Falls | 6 | 3 | 3 | Great Falls, S.C. | Hydro | Peaking |
| Great Falls | 7 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Great Falls | 8 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Keowee | 1 | 76 | 76 | Seneca, S.C. | Hydro | Peaking |
| Keowee | 2 | 76 | 76 | Seneca, S.C. | Hydro | Peaking |
| Lookout Shoals | 1 | 9.3 | 9.3 | Statesville, N.C. | Hydro | Peaking |
| Lookout Shoals | 2 | 9.3 | 9.3 | Statesville, N.C. | Hydro | Peaking |
| Lookout Shoals | 3 | 9.3 | 9.3 | Statesville, N.C. | Hydro | Peaking |
| Mission | 1 | 0 | 0 | Murphy, N.C. | Hydro | Peaking |
| Mission | 2 | 0 | 0 | Murphy, N.C. | Hydro | Peaking |
| Mission | 3 | 0.6 | 0.6 | Murphy, N.C. | Hydro | Peaking |
| Mountain Island | 1 | 14 | 14 | Mount Holly, N.C. | Hydro | Peaking |
| Mountain Island | 2 | 14 | 14 | Mount Holly, N.C. | Hydro | Peaking |
| Mountain Island | 3 | 17 | 17 | Mount Holly, N.C. | Hydro | Peaking |
| Mountain Island | 4 | 17 | 17 | Mount Holly, N.C. | Hydro | Peaking |
| Nantahala | 1 | 50 | 50 | Topton, N.C. | Hydro | Peaking |
| Oxford | 1 | 20 | 20 | Conover, N.C. | Hydro | Peaking |
| Oxford | 2 | 20 | 20 | Conover, N.C. | Hydro | Peaking |
| Queens Creek | 1 | 1.44 | 1.44 | Topton, N.C. | Hydro | Peaking |
| Rhodhiss | 1 | 9.5 | 9.5 | Rhodhiss, N.C. | Hydro | Peaking |
| Rhodhiss | 2 | 11.5 | 11.5 | Rhodhiss, N.C. | Hydro | Peaking |
| Rhodhiss | 3 | 9 | 9 | Rhodhiss, N.C. | Hydro | Peaking |
| Rocky Creek | 1 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Rocky Creek | 2 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Rocky Creek | 3 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Rocky Creek | 4 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |

| Hydro cont. | | | | | | |
|-----------------|-------------|------------------------|------------------------|-------------------|------------------|--------------------------|
| | <u>Unit</u> | <u>Winter (MW)</u> | <u>Summer (MW)</u> | <u>Location</u> | <u>Fuel Type</u> | <u>Resource Type</u> |
| Rocky Creek | 5 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Rocky Creek | 6 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Rocky Creek | 7 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Rocky Creek | 8 | 0 | 0 | Great Falls, S.C. | Hydro | Peaking |
| Tuxedo | 1 | 3.2 | 3.2 | Flat Rock, N.C. | Hydro | Peaking |
| Tuxedo | 2 | 3.2 | 3.2 | Flat Rock, N.C. | Hydro | Peaking |
| Tennessee Creek | 1 | 9.8 | 9.8 | Tuckasegee, N.C. | Hydro | Peaking |
| Thorpe | 1 | 19.7 | 19.7 | Tuckasegee, N.C. | Hydro | Peaking |
| Tuckasegee | 1 | 2.5 | 2.5 | Tuckasegee, N.C. | Hydro | Peaking |
| Wateree | 1 | 17 | 17 | Ridgeway, S.C. | Hydro | Peaking |
| Wateree | 2 | 17 | 17 | Ridgeway, S.C. | Hydro | Peaking |
| Wateree | 3 | 17 | 17 | Ridgeway, S.C. | Hydro | Peaking |
| Wateree | 4 | 17 | 17 | Ridgeway, S.C. | Hydro | Peaking |
| Wateree | 5 | 17 | 17 | Ridgeway, S.C. | Hydro | Peaking |
| Wylie | 1 | 18 | 18 | Fort Mill, S.C. | Hydro | Peaking |
| Wylie | 2 | 18 | 18 | Fort Mill, S.C. | Hydro | Peaking |
| Wylie | 3 | 18 | 18 | Fort Mill, S.C. | Hydro | Peaking |
| Wylie | 4 | 18 | 18 | Fort Mill, S.C. | Hydro | Peaking |
| Total NC | | 623.97 | 623.97 | | | |
| Total SC | | 465.4 | 465.4 | | | |
| Total Hydro | | 1,089.37 | 1,089.37 | | | |

| Solar | | | | | | |
|-------------|--|------------------------|------------------------|-----------------|------------------|----------------------|
| | | <u>Winter (MW)</u> | <u>Summer (MW)</u> | <u>Location</u> | <u>Fuel Type</u> | <u>Resource Type</u> |
| NC Solar | | 8.43 | 8.43 | N.C. | Solar | Intermediate |
| Total Solar | | 8.43 | 8.43 | | | |

| Nuclear | | | | | | |
|----------------|-------------|------------------------|------------------------|--------------------|------------------|--------------------------|
| | <u>Unit</u> | <u>Winter (MW)</u> | <u>Summer (MW)</u> | <u>Location</u> | <u>Fuel Type</u> | <u>Resource Type</u> |
| McGuire | 1 | 1156 | 1129 | Huntersville, N.C. | Nuclear | Base |
| McGuire | 2 | 1156 | 1129 | Huntersville, N.C. | Nuclear | Base |
| Catawba | 1 | 1163 | 1129 | York, S.C. | Nuclear | Base |
| Catawba | 2 | 1163 | 1129 | York, S.C. | Nuclear | Base |
| Oconee | 1 | 865 | 846 | Seneca, S.C. | Nuclear | Base |
| Oconee | 2 | 865 | 846 | Seneca, S.C. | Nuclear | Base |
| Oconee | 3 | 865 | 846 | Seneca, S.C. | Nuclear | Base |
| Total NC | | 2,312 | 2,258 | | | |
| Total SC | | 4,921 | 4,796 | | | |
| Total Nuclear | | 7,233 | 7,054 | | | |

| Total Generation Capability | | |
|------------------------------------|-----------------------------|-----------------------------|
| | <u>Winter Capacity (MW)</u> | <u>Summer Capacity (MW)</u> |
| TOTAL DEC SYSTEM - N.C. | 13,497 | 13,025 |
| TOTAL DEC SYSTEM - S.C. | 8,720 | 8,449 |
| TOTAL DEC SYSTEM | 22,217 | 21,473 |

Note a: Unit information is provided by State, but resources are dispatched on a system-wide basis.

Note b: Summer and winter capability does not take into account reductions due to future environmental emission controls.

Note c: Catawba Units 1 and 2 capacity reflects 100% of the station's capability, and does not factor in the North Carolina Municipal Power Agency #1's (NCMPA#1) decision to sell or utilize its 832 MW retained ownership in Catawba.

Note d: The Catawba units' multiple owners and their effective ownership percentages are:

| Catawba Owner | Percent Of Ownership |
|--|-----------------------------|
| Duke Energy Carolinas | 19.246% |
| North Carolina Electric Membership Corporation (NCEMC) | 30.754% |
| NCMPA#1 | 37.5% |
| PMPA | 12.5% |

| Planned Upgrades | | | |
|---------------------------|-------------|----------------------------------|------------------|
| <u>Unit</u> | <u>Date</u> | <u>Winter MW</u> <u>(40%)</u> | <u>Summer MW</u> |
| McGuire 1 ^{a, b} | Jan 2013 | 11.6 | 29 |
| McGuire 2 ^{a, b} | Jan 2013 | 11.6 | 29 |
| McGuire 2 ^a | Oct 2013 | 13 | 32.5 |
| Catawba 1 ^a | Oct 2014 | 8 | 20 |
| McGuire 1 ^a | Apr 2015 | 13 | 32.5 |
| Oconee 1 | Jan 2017 | 6.0 | 15 |
| Oconee 2 | Jan 2017 | 6.0 | 15 |
| Oconee 3 | Jan 2017 | 6.0 | 15 |

Note a: The upgrade capacity represented in this table is the total operating capacity addition and is not adjusted for the Joint Exchange Agreement for Catawba and McGuire. The adjusted values are utilized in the resource plan

Note b: Unit upgrade effective as of January 1, 2013; capacity reflected in Existing Generating Units and Ratings section.

| Retirements | | | | |
|--------------------------------|-----------------|---------------------------------------|--------------------|---------------------------------|
| <u>Unit & Plant Name</u> | <u>Location</u> | <u>Capacity (MW)</u> <u>Summer</u> | <u>Fuel Type</u> | <u>Expected Retirement Date</u> |
| Buck 3 ^a | Salisbury, N.C. | 75 | Coal | RETIRED |
| Buck 4 ^a | Salisbury, N.C. | 38 | Coal | RETIRED |
| Cliffside 1 ^a | Cliffside, N.C. | 38 | Coal | RETIRED |
| Cliffside 2 ^a | Cliffside, N.C. | 38 | Coal | RETIRED |
| Cliffside 3 ^a | Cliffside, N.C. | 61 | Coal | RETIRED |
| Cliffside 4 ^a | Cliffside, N.C. | 61 | Coal | RETIRED |
| Dan River 1 ^a | Eden, N.C. | 67 | Coal | RETIRED |
| Dan River 2 ^a | Eden, N.C. | 67 | Coal | RETIRED |
| Dan River 3 ^a | Eden, N.C. | 142 | Coal | RETIRED |
| Buzzard Roost 6C ^b | Chappels, S.C. | 22 | Combustion Turbine | RETIRED |
| Buzzard Roost 7C ^b | Chappels, S.C. | 22 | Combustion Turbine | RETIRED |
| Buzzard Roost 8C ^b | Chappels, S.C. | 22 | Combustion Turbine | RETIRED |
| Buzzard Roost 9C ^b | Chappels, S.C. | 22 | Combustion Turbine | RETIRED |
| Buzzard Roost 10C ^b | Chappels, S.C. | 18 | Combustion Turbine | RETIRED |
| Buzzard Roost 11C ^b | Chappels, S.C. | 18 | Combustion Turbine | RETIRED |
| Buzzard Roost 12C ^b | Chappels, S.C. | 18 | Combustion Turbine | RETIRED |
| Buzzard Roost 13C ^b | Chappels, S.C. | 18 | Combustion Turbine | RETIRED |
| Buzzard Roost 14C ^b | Chappels, S.C. | 18 | Combustion Turbine | RETIRED |
| Buzzard Roost 15C ^b | Chappels, S.C. | 18 | Combustion Turbine | RETIRED |
| Riverbend 8C ^b | Mt. Holly, N.C. | 0 | Combustion Turbine | RETIRED |
| Riverbend 9C ^b | Mt. Holly, N.C. | 22 | Combustion Turbine | RETIRED |
| Riverbend 10C ^b | Mt. Holly, N.C. | 22 | Combustion Turbine | RETIRED |
| Riverbend 11C ^b | Mt. Holly, N.C. | 20 | Combustion Turbine | RETIRED |
| Buck 7C ^b | Spencer, N.C. | 25 | Combustion Turbine | RETIRED |
| Buck 8C ^b | Spencer, N.C. | 25 | Combustion Turbine | RETIRED |
| Buck 9C ^b | Spencer, N.C. | 12 | Combustion Turbine | RETIRED |
| Dan River 4C ^b | Eden, N.C. | 0 | Combustion Turbine | RETIRED |
| Dan River 5C ^b | Eden, N.C. | 24 | Combustion Turbine | RETIRED |
| Dan River 6C ^b | Eden, N.C. | 24 | Combustion Turbine | RETIRED |
| Riverbend 4 ^a | Mt. Holly, N.C. | 94 | Coal | RETIRED |
| Riverbend 5 ^a | Mt. Holly, N.C. | 94 | Coal | RETIRED |
| Riverbend 6 ^c | Mt. Holly, N.C. | 133 | Coal | RETIRED |
| Riverbend 7 ^c | Mt. Holly, N.C. | 133 | Coal | RETIRED |
| Buck 5 ^c | Spencer, N.C. | 128 | Coal | RETIRED |
| Buck 6 ^c | Spencer, N.C. | 128 | Coal | RETIRED |
| Lee 1 ^d | Pelzer, S.C. | 100 | Coal | 4/15/2015 |
| Lee 2 ^d | Pelzer, S.C. | 100 | Coal | 4/15/2015 |
| Lee 3 ^c | Pelzer, S.C. | 170 | Coal | 1/1/2015 |
| Total | | 2,037 MW | | |

- Note a: Retirement assumptions associated with the conditions in the NCUC Order in Docket No. E-7, Sub 790, granting a CPCN to build Cliffside Unit 6.
- Note b: The old fleet combustion turbines retirement dates were accelerated in 2009 based on derates, availability of replacement parts and the general condition of the remaining units.
- Note c: The decision was made to retire Buck 5 & 6 and Riverbend 6 & 7 early on April 1, 2013. The original expected retirement date was April 15, 2015.
- Note d: Lee Steam Units 1 through 3 are planned to be retired as indicated in the table.
- Note e: The conversion of the Lee 3 coal unit to a natural gas unit is planned for April of 2015.

Operating License Renewal

| Planned Operating License Renewal | | | | |
|-----------------------------------|------------------|--|-------------------------|--|
| <u>Plant & Unit Name</u> | <u>Location</u> | <u>Original Operating License Expiration</u> | <u>Date of Approval</u> | <u>Extended Operating License Expiration</u> |
| Catawba Unit 1 | York, SC | 12/6/2024 | 12/5/2003 | 12/5/2043 |
| Catawba Unit 2 | York, SC | 2/24/2026 | 12/5/2003 | 12/5/2043 |
| McGuire Unit 1 | Huntersville, NC | 6/12/2021 | 12/5/2003 | 6/12/2041 |
| McGuire Unit 2 | Huntersville, NC | 3/3/2023 | 12/5/2003 | 3/3/2043 |
| Oconee Unit 1 | Seneca, SC | 2/6/2013 | 5/23/2000 | 2/6/2033 |
| Oconee Unit 2 | Seneca, SC | 10/6/2013 | 5/23/2000 | 10/6/2033 |
| Oconee Unit 3 | Seneca, SC | 7/19/2014 | 5/23/2000 | 7/19/2034 |
| Bad Creek (PS)(1-4) | Salem, SC | N/A | 8/1/1977 | 7/31/2027 |
| Jocassee (PS) (1-4) | Salem, SC | N/A | 9/1/1966 | 8/31/2016 |
| Cowans Ford (1-4) | Stanley, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Keowee (1&2) | Seneca, SC | N/A | 9/1/1966 | 8/31/2016 |
| Rhodhiss (1-3) | Rhodhiss, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Bridge Water (1-3) | Morganton, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Oxford (1&2) | Conover, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Lookout Shoals (1-3) | Statesville, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Mountain Island (1-4) | Mount Holly, NC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Wylie (1-4) | Fort Mill, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Fishing Creek (1-5) | Great Falls, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Great Falls (1-8) | Great Falls, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Dearborn (1-3) | Great Falls, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Rocky Creek (1-8) | Great Falls, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Cedar Creek (1-3) | Great Falls, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Wateree (1-5) | Ridgeway, SC | 8/31/2008 | Pending | 8/31/2064 (Est) |
| Gaston Shoals (3-6) | Blacksburg, SC | 12/31/1993 | 6/1/1996 | 5/31/2036 |
| Tuxedo (1&2) | Flat Rock, NC | N/A | N/A | N/A |
| Ninety Nine (1-6) | Blacksburg, SC | 12/31/1993 | 6/1/1996 | 5/31/2036 |
| Cedar Cliff (1) | Tuckasegee, NC | 1/31/2006 | 5/1/2011 | 4/30/2041 |
| Bear Creek (1) | Tuckasegee, NC | 1/31/2006 | 5/1/2011 | 4/30/2041 |
| Tennessee Creek (1) | Tuckasegee, NC | 1/31/2006 | 5/1/2011 | 4/30/2041 |
| Nantahala (1) | Topton, NC | 2/28/2006 | 2/1/2012 | 1/31/2042 |

| Planned Operating License Renewal cont. | | | | |
|---|-----------------|--|-------------------------|--|
| <u>Plant & Unit Name</u> | <u>Location</u> | <u>Original Operating License Expiration</u> | <u>Date of Approval</u> | <u>Extended Operating License Expiration</u> |
| Queens Creek (1) | Topton, NC | 9/30/2001 | 3/1/2002 | 2/29/2032 |
| Thorpe (1) | Tuckasegee, NC | 1/31/2006 | 5/1/2011 | 4/30/2041 |
| Tuckasegee (1) | Tuckasegee, NC | 1/31/2006 | 5/1/2011 | 4/30/2041 |
| Bryson City (1&2) | Whittier, NC | 7/31/2005 | 7/1/2011 | 6/30/2041 |
| Franklin (1&2) | Franklin, NC | 7/31/2005 | 9/1/2011 | 8/31/2041 |
| Mission (1-3) | Murphy, NC | 7/31/2005 | 10/1/2011 | 9/30/2041 |

APPENDIX C: ELECTRIC LOAD FORECAST

Methodology

The Duke Energy Carolinas' spring 2013 forecast provides projections of the energy and peak demand needs for its service area. The forecast covers the time period of 2014 through 2028 and represent the needs of the following customer classes:

- Residential
- Commercial
- Industrial
- Other Retail
- Wholesale

Long-term electricity usage is determined by economic and demographic trends. The spring 2013 forecast was developed using industry-standard linear regression techniques, which relate electricity usage to such variables as income, electricity prices, industrial production index along with weather and population. DEC has used regression analysis since 1979 and this technique has yielded consistently reasonable results over the years.

The economic projections used in the spring 2013 forecast are obtained from Moody's Analytics, a nationally recognized economic forecasting firm, and include economic forecasts for the states of North Carolina and South Carolina.

The retail forecast consists of the three major classes: residential, commercial and industrial.

The residential class sales forecast is comprised of two projections. The first is the number of residential customers, which is driven by population. The second is energy usage per customer, which is driven by weather, regional economic and demographic trends, electric price and appliance efficiencies. The usage per customer forecast is essentially flat through much of the forecast horizon, so most growth is primarily due to customer increases. The projected growth rate of residential sales in the spring 2013 forecast from 2014-2028 is 1.2%.

Commercial electricity usage changes with the level of regional economic activity, such as personal income or commercial employment, and the impact of weather. The three largest sectors in the Commercial class are offices, education and retail. Commercial is expected to be the fastest growing class, with a projected sales growth rate of 1.8%.

The industrial class forecast is impacted by the level of manufacturing output, exchange rates, electric prices and weather. The long term structural decline that has occurred in the Textile industry is expected to moderate in the forecast horizon, with an overall projected sales decline of 1.2%,

compared to an average decline of 7.2% from 1997-2012. In the Other Industrial sector, several industries such as autos, rubber & plastics and primary metals are projected to show strong growth. Overall, other industrial sales are expected to grow 0.9% over the forecast horizon. Including all industrial classes, the overall sales growth rate of the total industrial class is 0.6% over the forecast horizon.

County population projections are obtained from the North Carolina Office of State Budget and Management as well as the South Carolina Budget and Control Board. These are then used to derive the total population forecast for the 51 counties that comprise the DEC service area.

Weather impacts are incorporated into the models by using Heating Degree Days and Cooling Degree Days with a base temperature of 65 degrees. The forecast of degree days is based on a 10-year average, which is updated every year.

Peak demands are forecasted by an econometric model where the key variables are:

- Degree Hours from 1pm - 5pm on Day of Peak
- Minimum Morning Degree Hours on Day of Peak
- Annual Weather Adjusted Sales

Assumptions

The primary long-term drivers of electricity growth are economic and demographic factors. The table below includes the historical and projected average annual growth rates of several key drivers from DEC's spring 2013 forecast.

| | 1992-2012 | 2012-2032 |
|-------------|-----------|-----------|
| Real GDP | 2.9% | 3.0% |
| Real Income | 3.1% | 2.8% |
| Population | 1.6% | 1.0% |

In addition to economic and demographic trends, the forecast also incorporates the expected impacts of utility sponsored energy efficient programs, as well as projected effects of electric vehicles and solar technology.

The residential forecast also uses the Energy Information Administration (EIA) appliance efficiency and saturation projections by Census regions, in an effort to more fully reflect the ongoing naturally occurring energy efficiency trends as well as government mandates. The utility-sponsored EE programs are over and above the naturally occurring trend.

Wholesale

Table C-1 below contains information concerning DEC's wholesale contracts. The description 'full' indicates that the Company provides all of the needs of the wholesale customer. 'Partial' refers to those customers where DEC only provides some of the customer's needs. 'Fixed' refers to a constant load shape.

For resource planning purposes, the contracts below are assumed to be renewed through the end of the planning horizon unless there is definitive knowledge the contract will not be renewed. The values in the table are net MW, i.e. they reflect projected loads after the buyer's own generation has been subtracted.

Table C-1 Wholesale Contracts

| | | | Wholesale Contracts | | | | | | | | | |
|------------------|----------------------|-----------|---------------------|------|------|------|------|------|------|------|------|------|
| Customer | Product | Term | Commitment (MW) | | | | | | | | | |
| | | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Concord | Partial Requirements | 2009-2018 | 167 | 169 | 172 | 174 | 177 | 180 | 212 | 215 | 217 | 220 |
| Dallas | Partial Requirements | 2009-2028 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 13 | 13 |
| Due West | Partial Requirements | 2009-2018 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Forest City | Partial Requirements | 2009-2028 | 18 | 18 | 19 | 19 | 19 | 20 | 20 | 20 | 21 | 21 |
| Greenwood | Full Requirements | 2010-2018 | 53 | 53 | 54 | 55 | 56 | 57 | 58 | 58 | 59 | 60 |
| Highlands | Full Requirements | 2010-2029 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 10 |
| Kings Mountain | Partial Requirements | 2009-2018 | 21 | 21 | 21 | 22 | 22 | 22 | 30 | 30 | 30 | 31 |
| Lockhart | Partial Requirements | 2009-2018 | 50 | 50 | 51 | 52 | 53 | 54 | 75 | 76 | 77 | 78 |
| Prosperity | Partial Requirements | 2009-2028 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| Western Carolina | Full Requirements | 2010-2021 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Blue Ridge EMC | Full Requirements | 2010-2031 | 225 | 229 | 233 | 237 | 241 | 245 | 249 | 253 | 257 | 261 |
| Central | Partial Requirements | 2013-2030 | 120 | 244 | 374 | 509 | 649 | 793 | 900 | 918 | 936 | 953 |
| Haywood EMC | Full Requirements | 2009-2021 | 23 | 23 | 23 | 24 | 24 | 24 | 25 | 25 | 25 | 26 |
| NCEMC | Fixed Load Shape | 2009-2038 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| NCEMC | Backstand | 1985-2043 | 95 | 116 | 116 | 116 | 116 | 116 | 116 | 116 | 116 | 116 |
| Piedmont EMC | Full Requirements | 2010-2031 | 87 | 88 | 89 | 90 | 92 | 93 | 94 | 96 | 97 | 99 |
| PMPA | Backstand | 2014-2020 | 0 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Rutherford EMC | Partial Requirements | 2010-2031 | 185 | 189 | 204 | 208 | 212 | 217 | 221 | 226 | 230 | 235 |

Historical Values

Two major events occurred in the past decade that significantly impacted DEC sales. One was the recession of 2008-2009, which was the most severe since the Great Depression. The second is the ongoing re-structuring of the textile industry, which began in the late 1990s. The average growth rate in retail sales from 1997-2007, excluding textiles, was 2.2%. From 2007-2012, the average growth has been -0.1%, primarily due to the effects of the recession. In Tables C-2 & C-3 below the history of DEC customers and sales are shown. The values in Table C-3 are not weather adjusted.

Table C-2

Retail Customers (Thousands, Annual Average)

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Residential | 1,872 | 1,901 | 1,935 | 1,972 | 2,016 | 2,052 | 2,059 | 2,072 | 2,081 | 2,092 |
| Commercial | 307 | 313 | 319 | 325 | 331 | 334 | 333 | 334 | 336 | 339 |
| Industrial | 8 | 8 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Other | 11 | 12 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 14 |
| Total | 2,198 | 2,234 | 2,275 | 2,317 | 2,368 | 2,407 | 2,413 | 2,427 | 2,439 | 2,452 |

Table C-3

Electricity Sales (GWh Sold - Years Ended December 31)

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Residential | 23,947 | 25,150 | 26,108 | 25,816 | 27,459 | 27,335 | 27,273 | 30,049 | 28,323 | 26,279 |
| Commercial | 24,355 | 25,204 | 25,679 | 26,030 | 27,433 | 27,288 | 26,977 | 27,968 | 27,593 | 27,476 |
| Industrial | 24,764 | 25,209 | 25,495 | 24,535 | 23,948 | 22,634 | 19,204 | 20,618 | 20,783 | 20,978 |
| Other | 270 | 269 | 269 | 271 | 278 | 284 | 287 | 287 | 287 | 290 |
| Total Retail | 73,336 | 75,833 | 77,550 | 76,653 | 79,118 | 77,541 | 73,741 | 78,922 | 76,985 | 75,022 |
| Wholesale | 1,448 | 1,542 | 1,580 | 1,694 | 2,454 | 3,525 | 3,788 | 5,166 | 4,866 | 5,176 |
| Total System | 74,784 | 77,374 | 79,130 | 78,347 | 81,572 | 81,066 | 77,528 | 84,088 | 81,851 | 80,199 |

Results

A tabulation of the utility's forecasts for a 15-year period, including peak loads for summer and winter seasons of each year and annual energy forecasts, both with and without the impact of utility-sponsored EE programs are shown below in Tables C-4 and C-6.

Load duration curves, with and without utility-sponsored EE programs, follow Tables C-4 and C-6, and are shown as Charts C-5 and C-7.

The values in these tables reflect the loads that Duke Energy Carolinas is contractually obligated to provide and cover the period from 2014 to 2028.

The forecast of the needs of the retail and wholesale customer classes from 2014-2028, not including the impact of DEC EE programs, projects a compound annual growth rate of 1.9% in the summer peak demand, while winter peaks are forecasted to grow at 1.9%. The forecasted compound annual growth rate for energy is 1.9% before energy efficiency program impacts are subtracted.

If the impacts of DEC EE programs are included, the projected compound annual growth rate for the summer peak demand is 1.5%, while winter peaks are forecasted to grow at a rate of 1.5%. The forecasted compound annual growth rate for energy is 1.5% after the impacts of EE are subtracted.

As a note, all of the loads and energy in the tables and charts below are at the generator.

Table C-4**Load Forecast without Energy Efficiency Programs**

| YEAR | SUMMER (MW) | WINTER (MW) | ENERGY (GWh) |
|-------------|------------------------|------------------------|-------------------------|
| 2014 | 18,443 | 17,718 | 93,566 |
| 2015 | 18,875 | 18,132 | 95,762 |
| 2016 | 19,328 | 18,553 | 98,023 |
| 2017 | 19,780 | 18,961 | 100,356 |
| 2018 | 20,231 | 19,376 | 102,773 |
| 2019 | 20,717 | 19,789 | 105,027 |
| 2020 | 21,067 | 20,143 | 106,904 |
| 2021 | 21,417 | 20,495 | 108,749 |
| 2022 | 21,776 | 20,842 | 110,634 |
| 2023 | 22,143 | 21,195 | 112,522 |
| 2024 | 22,525 | 21,563 | 114,471 |
| 2025 | 22,901 | 21,925 | 116,405 |
| 2026 | 23,280 | 22,299 | 118,371 |
| 2027 | 23,655 | 22,660 | 120,327 |
| 2028 | 24,017 | 23,015 | 122,243 |

Note: Table 8-C differs from these values due to a 150 MW firm sale in 2014 and a 47 MW PMPA backstand contract through 2020.

Chart C-5 Load Duration Curve without Energy Efficiency Programs

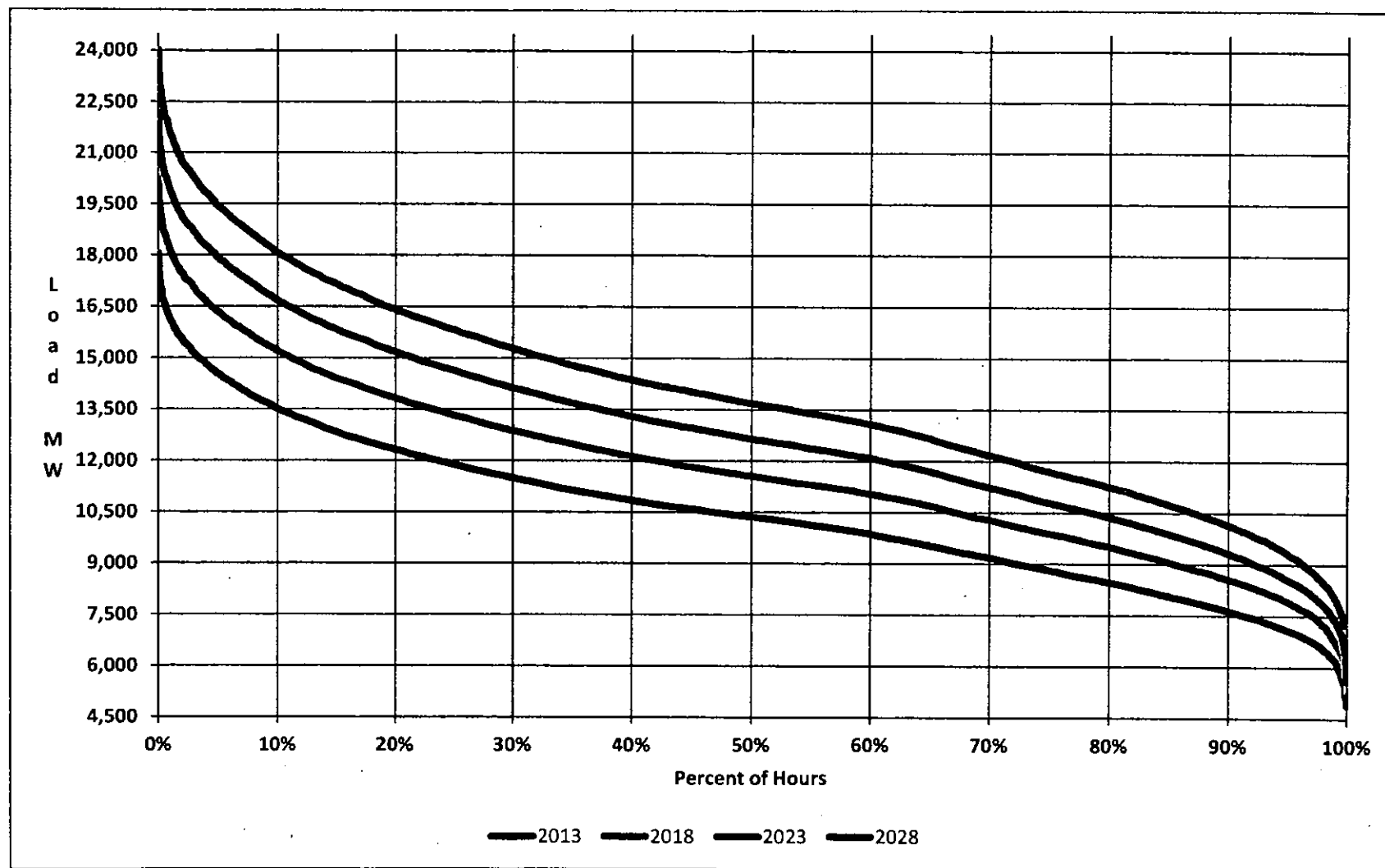
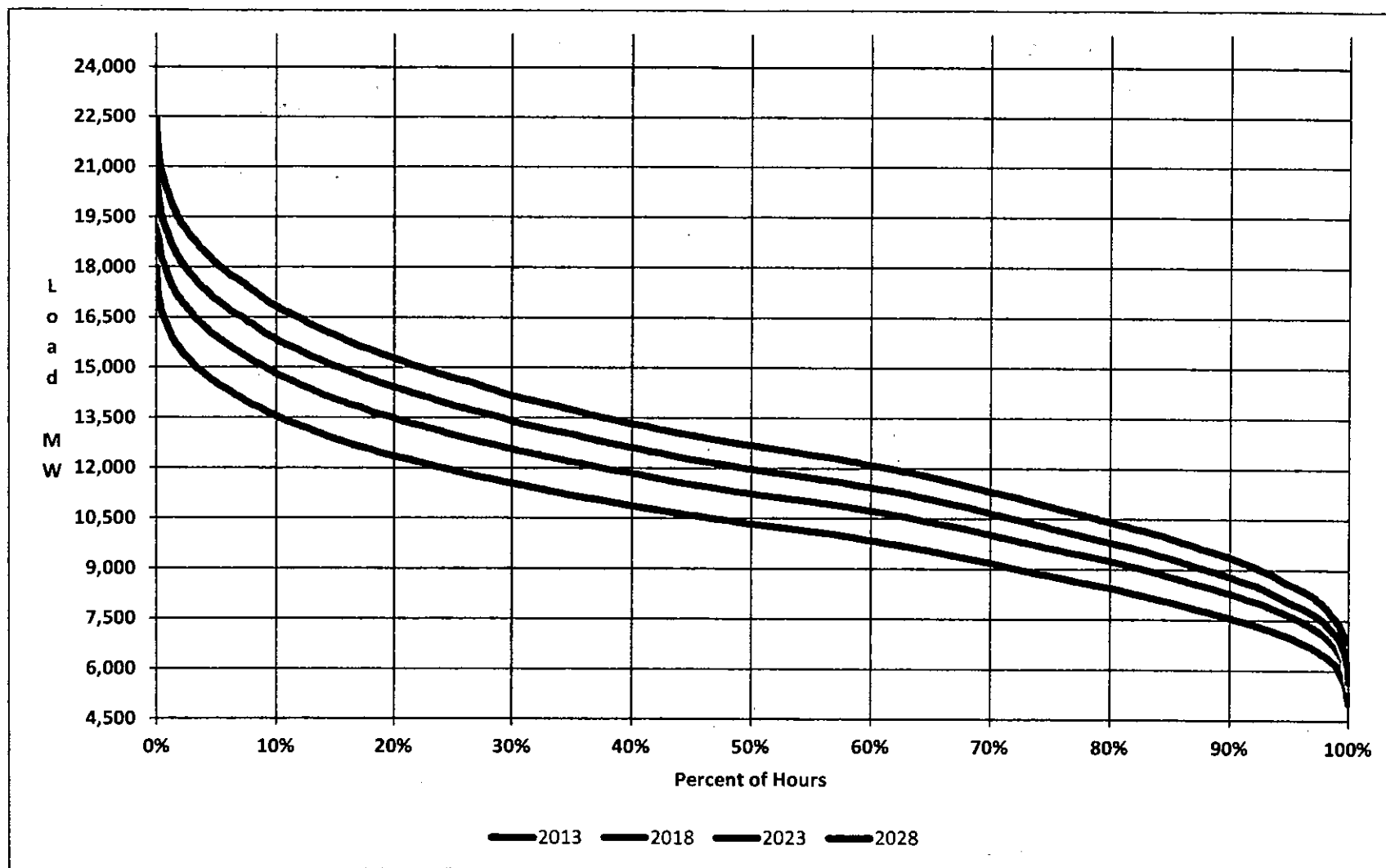


Table C-6
Load Forecast with Energy Efficiency Programs

| YEAR | SUMMER (MW) | WINTER (MW) | ENERGY (GWh) |
|-------------|------------------------|------------------------|-------------------------|
| 2014 | 18,332 | 17,654 | 92,943 |
| 2015 | 18,691 | 18,009 | 94,721 |
| 2016 | 19,053 | 18,359 | 96,475 |
| 2017 | 19,398 | 18,685 | 98,226 |
| 2018 | 19,741 | 18,979 | 100,032 |
| 2019 | 20,117 | 19,304 | 101,678 |
| 2020 | 20,359 | 19,571 | 102,948 |
| 2021 | 20,598 | 19,834 | 104,187 |
| 2022 | 20,848 | 20,093 | 105,469 |
| 2023 | 21,104 | 20,359 | 106,748 |
| 2024 | 21,378 | 20,640 | 108,089 |
| 2025 | 21,643 | 20,913 | 109,418 |
| 2026 | 21,922 | 21,206 | 110,825 |
| 2027 | 22,209 | 21,496 | 112,294 |
| 2028 | 22,496 | 21,790 | 113,769 |

Note: Table 8-C differs from these values due to a 150 MW firm sale in 2014 and a 47 MW PMPA backstand contract through 2020.

Chart C-7 Load Duration Curve with Energy Efficiency Programs



APPENDIX D: ENERGY EFFICIENCY AND DEMAND SIDE MANAGEMENT

Current Energy Efficiency and Demand-Side Management Programs

In May 2007, DEC filed its application for approval of Energy Efficiency and Demand Side Management programs under its save-a-watt initiative. The Company received the final order for approval for these programs from the NCUC in July 2010 and from the Public Service Commission of South Carolina (PSCSC) in May 2009.

DEC uses EE and DSM programs to help manage customer demand in an efficient, cost-effective manner. These programs can vary greatly in their dispatch characteristics, size and duration of load response, certainty of load response, and level and frequency of customer participation. In general, programs are offered in two primary categories: EE programs that reduce energy consumption and DSM programs that reduce peak demand (demand-side management or demand response programs and certain rate structure programs). Following are the EE and DSM programs currently available through DEC.

- Residential Energy Assessments Program
- Low Income Energy Efficiency and Weatherization Assistance Program
- Residential Neighborhood Program
- Energy Efficiency Education Program for Schools
- Residential Smart Saver[®] Program
- Appliance Recycling Program
- My Home Energy Report
- Residential Retrofit Pilot Program (*Closed to New Participants*)
- Smart Energy Now (SEN) Pilot (*Only Available in NC*)
- Smart Saver[®] for Non-Residential Customers
- Power Manager[®]
- Interruptible Power Service (*Closed to New Participants*)
- Standby Generator Control (*Closed to New Participants*)
- PowerShare[®]

A new portfolio filing with essentially the same set of programs was made in March 2013 in N.C. and Aug. 2013 in S.C. Pending approval of this new portfolio, a revised set of programs will be included in the 2014 IRP.

Energy Efficiency Programs

These programs are typically non-dispatchable education or incentive programs. Energy and capacity savings are achieved by changing customer behavior or through the installation of more

energy-efficient equipment or structures. All cumulative effects since the inception of these existing programs through the end of 2012 are reflected in the customer load forecast and summarized below. DEC's existing EE programs include:

- **Residential Energy Assessments Program**

The Residential Energy Assessments program includes two separate measures: (1) Personalized Energy Report (PER) and (2) Home Energy House Call (HEHC).

The Personalized Energy Report provides customers in single family dwellings with a customized report about how they use energy within their home. In addition, the customer receives compact fluorescent light bulbs (CFLs) as an incentive to participate in the program.

The PER program requires customers to provide information about their home, number of occupants, equipment and energy usage and has two variations:

- A mailed offer where customers are asked to complete an included energy survey and return it to DEC or complete the same survey online. Customers mailing the energy survey receive their PER in the mail and those completing it online receive their PER online as a printable document
- An online offer to customers that have signed into DEC's Online Services (OLS) bill pay and view environment. Online participants complete their energy survey online and receive their PER online as a printable document

| Personalized Energy Report | | | |
|-----------------------------------|--------------|----------------------|------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 86,318 | 24,493 | 2,788 |

| Online Home Energy Comparison Report | | | |
|---|--------------|----------------------|------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 12,902 | 3,547 | 387 |

Home Energy House Call is a free in-home assessment designed to help customers learn about home energy usage and how to save on monthly bills. The program provides personalized information unique to the customer's home and energy practices. An energy specialist visits the customer's home to analyze total home energy usage and pinpoint energy saving opportunities. The energy specialist explains how to improve heating and

cooling comfort levels, check for air leaks, examine insulation levels, review appliances and helps the customer preserve the environment for the future and keep electric costs low. A customized report is prepared explaining the steps the customer can take to increase efficiency. As part of the Home Energy House Call program, customers also receive an Energy Efficiency Starter Kit. At the request of the customer, the energy specialist will install the efficiency items included in the kit to allow the customer to begin saving immediately.

| Home Energy House Call | | | |
|-------------------------------|--------------|-------------------------|---------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 21,293 | 20,732 | 3,846 |

- **Low Income Energy Efficiency and Weatherization Assistance Program**

The purpose of this program is to assist low income residential customers with energy efficiency measures to reduce energy usage through energy efficiency kits or assistance in the cost of EE equipment or weatherization measures.

| Low Income Energy Efficiency and Weatherization Program | | | |
|--|--------------|-------------------------|---------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 14,047 | 7,506 | 793 |

- **Residential Neighborhood Program**

The Residential Neighborhood Program targets low income neighborhoods for direct installation of high impact EE measures such as CFLs, pipe and water heater wraps, low flow aerators and showerheads, Heating, Ventilation and Air Conditioning (HVAC) filters and air infiltration sealing, as well as energy efficiency education. As of Dec. 31, 2012 this program had not yet been implemented.

- **Energy Efficiency Education Program for Schools**

The purpose of this program is to educate students about sources of energy and energy efficiency in homes and schools through a curriculum provided to public and private schools. This curriculum includes lesson plans, energy efficiency materials, and energy audits.

| Energy Efficiency Education for Schools Program | | | |
|--|--------------|-------------------------|---------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 59,651 | 16,041 | 2,976 |

- **Residential Smart Saver® Program**

The Smart Saver® Program provides incentives to residential customers who purchase energy-efficient equipment. The program has three components: CFLs, high-efficiency air conditioning equipment and tune and seal measures.

Residential CFLs

The CFL program is designed to offer incentives to customers and increase energy efficiency by installing CFLs in high use fixtures in the home. The incentives have been offered in a variety of ways. The first deployment of this program distributed free coupons to be redeemed by the customer at a variety of retail stores. Later deployments utilized business reply cards and a web-based on-demand ordering tool where CFLs were shipped directly to the customer's home.

| Residential Smart Saver® Program – Residential CFLs | | | |
|--|------------------------|-------------------------|---------------------|
| As of: | Participants (CFLs) | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 20,740,362 | 892,622 | 94,349 |

Property Manager CFLs

This CFL program is designed to provide incentives to multi-family property managers to install CFLs in permanent, landlord-owned light fixtures. DEC will pay for the CFLs and the property manager will install CFLs into the permanent fixtures during their routine maintenance visits and provide tracking for each unit and the number of bulbs installed.

| Residential Smart Saver® Program – Property Manager CFLs | | | |
|---|------------------------|-------------------------|---------------------|
| As of: | Participants (CFLs) | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 708,991 | 30,375 | 3,190 |

HVAC and Heat Pump

The residential air conditioning program provides incentives to customers, builders and heating contractors (HVAC dealers) to promote the use of high-efficiency air conditioners

and heat pumps. The program is designed to increase the efficiency of air conditioning systems in new homes and for replacement systems in existing homes.

| Residential Smart Saver® Program -- HVAC | | | |
|---|--------------|----------------------|------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 37,383 | 37,032 | 7,835 |

Tune and Seal Measures

Partnering with HVAC dealers, the program pays incentives to partially offset the cost of air conditioner and heat pump tune ups and duct sealing. This is a new program and has not been previously offered in any of DEC's jurisdictions.

| Residential Smart Saver® Program -- Tune and Seal | | | |
|--|--------------|----------------------|------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 23 | 11 | 3 |

- **Appliance Recycling Program**

This is a program to incentivize households to remove old inefficient refrigerators and freezers and have those units properly recycled.

| Appliance Recycling Program | | | |
|------------------------------------|--------------|----------------------|------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 1,990 | 3,286 | 610 |

- **My Home Energy Report**

The purpose of this program is to provide comparative usage data for similar residences in the same geographic area to motivate customers to better manage and reduce energy usage. The program assists residential customers in assessing their energy usage and provides recommendations for more efficient use of energy in their homes. The program also helps to identify those customers who could benefit most by investing in new energy efficiency measures, undertaking more energy efficient practices and participating in DEC programs.

| My Home Energy Report Program | | | |
|--------------------------------------|--------------|------------------|------------------------|
| As of: | Participants | Capability (MWh) | Summer Capability (kW) |
| December 31, 2012 | 702,215 | 160,021 | 33,857 |

- **Residential Retrofit Pilot Program (*Closed to New Participants*)**

The Residential Retrofit pilot program is designed to assist residential customers in assessing their energy usage. The program is also designed to provide recommendations for more efficient use of energy in their homes and to encourage the installation of energy efficient improvements by offsetting a portion of the cost of implementing the recommendations from the assessment.

| Residential Retrofit Pilot Program | | | |
|---|--------------|----------------------|------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 94 | 410 | 68 |

- **Smart Energy Now (SEN) Pilot (*Only Available in N.C.*)**

The SEN pilot program is designed to reduce energy consumption within the commercial office space located in Charlotte City Center through community engagement leading to behavioral modification. In order to enable building managers and occupants to effectively make these behavioral modifications, they will be provided with additional energy consumption information and actionable efficiency recommendations.

| Smart Energy Now Pilot Program | | | |
|---------------------------------------|--------------|----------------------|------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 70 | 14,108 | 2,649 |

- **Smart Saver® for Non-Residential Customers**

The purpose of this program is to encourage the installation of high-efficiency equipment in new and existing non-residential establishments. The program provides incentive payments to offset a portion of the higher cost of energy-efficient equipment. The following types of equipment are eligible for incentives as part of the Prescriptive program: high-efficiency lighting, high-efficiency air conditioning equipment, high-efficiency motors, high-efficiency pumps, variable frequency drives, food services and process equipment. Customer incentives may be paid for other high-efficiency equipment as determined by the Company to be evaluated on a case-by-case basis through the Custom program.

| Non-Residential Smart Saver® Program | | | |
|---|--------------|-------------------------|---------------------|
| As of: | Participants | Energy Savings (MWh) | Peak Demand (kW) |
| December 31, 2012 | 1,342,909 | 617,614 | 103,225 |

Demand Side Management Programs

DEC's current DSM programs will be presented in two sections; Demand Response Direct Load Control Programs and Demand Response Interruptible Programs and Related Rate Tariffs.

Demand Response – Direct Load Control Programs

These programs can be dispatched by the utility and have the highest level of certainty. DEC's current direct load control curtailment programs are:

- **Power Manager®** - The Power Manager® program is a residential direct load control program that allows DEC, through the installation of load control devices at the customer's premise, to remotely control residential central air conditioning.

Participants receive billing credits during the billing months of July through October in exchange for allowing DEC the right to cycle their central air conditioning systems and, additionally, to interrupt the central air conditioning when the Company has capacity needs.

The program provides DEC with the ability to reduce and shift peak loads, thereby enabling a corresponding deferral of new supply-side peaking generation and enhancing system reliability.

Participating customers are impacted by (1) the installation of load control equipment at their residence, (2) load control events which curtail the operation of their air conditioning unit for a period of time each hour, and (3) the receipt of bill credits from DEC in exchange for allowing DEC the ability to control their electric equipment.

| Power Manager Statistics | | |
|---------------------------------|--------------|---------------------------|
| As of: | Participants | Summer Capability (MW) |
| December 31, 2012 | 185,043 | 280.4 |

The following table shows Power Manager® program activations that were not for testing purposes from June 1, 2011 through June 30, 2013.

| Power Manager[®] Activations | | | |
|--|--------------------------|---------------------------|---------------------------|
| Start Time | End Time | Duration (Minutes) | MW Load Reduction* |
| June 21, 2011 – 2:30 PM | June 21, 2011 – 5:00 PM | 150 | 101 |
| July 11, 2011 – 2:30 PM | July 11, 2011 – 6:00 PM | 210 | 101 |
| July 13, 2011 – 2:30 PM | July 13, 2011 – 6:00 PM | 210 | 102 |
| July 20, 2011 – 2:30 PM | July 20, 2011 – 5:00 PM | 150 | 108 |
| July 21, 2011 – 2:30 PM | July 21, 2011 – 5:00 PM | 150 | 115 |
| July 29, 2011 – 2:30 PM | July 29, 2011 – 5:00 PM | 150 | 110 |
| August 2, 2011 – 3:30 PM | August 2, 2011 – 6:00 PM | 150 | 115 |
| June 29, 2012 – 2:30 PM | June 29, 2012 – 5:00 PM | 150 | 152 |
| July 9, 2012 – 1:30 PM | July 9, 2012 – 5:00 PM | 210 | 113 |
| July 17, 2012 – 2:30 PM | July 17, 2012 – 5:00 PM | 150 | 141 |
| July 26, 2012 – 2:30 PM | July 26, 2012 – 6:00 PM | 210 | 143 |
| July 27, 2012 – 1:30 PM | July 27, 2012 – 4:00 PM | 150 | 152 |

* MW Load Reduction is the average load reduction "at the generator" over the event period for full clock hours.

Demand Response – Interruptible Programs and Related Rate Structures

These programs rely either on the customer's ability to respond to a utility-initiated signal requesting curtailment or on rates with price signals that provide an economic incentive to reduce or shift load. Timing, frequency and nature of the load response depend on customers' actions after notification of an event or after receiving pricing signals. Duke Energy Carolinas' current interruptible and time-of-use rate structure curtailment programs include:

- **Interruptible Power Service (IS) (North Carolina Only)** - Participants agree contractually to reduce their electrical loads to specified levels upon request by DEC. If customers fail to do so during an interruption, they receive a penalty for the increment of demand exceeding the specified level.

| IS Statistics | | |
|----------------------|---------------------|-------------------------------|
| As of: | Participants | Summer Capability (MW) |
| December 31, 2012 | 63 | 128.5 |

The following table shows IS program activations that were not for testing purposes from June 1, 2011 through June 30, 2013.

| IS Activations | | | |
|-------------------------|-------------------------|--------------------|--------------------|
| Start Time | End Time | Duration (Minutes) | MW Load Reduction* |
| June 1, 2011 – 1:00 PM | June 1, 2011 – 6:00 PM | 300 | 156 |
| July 12, 2011 – 1:00 PM | July 12, 2011 – 5:00 PM | 240 | 133 |

**MW Load Reduction is the average load reduction "at the generator" over the event period.*

- **Standby Generator Control (SG)** (North Carolina Only) - Participants agree contractually to transfer electrical loads from the DEC source to their standby generators upon request of the Company. The generators in this program do not operate in parallel with the DEC system and therefore, cannot "backfeed" (i.e., export power) into the DEC system. Participating customers receive payments for capacity and/or energy, based on the amount of capacity and/or energy transferred to their generators.

| SG Statistics | | |
|-------------------|--------------|------------------------|
| As of: | Participants | Summer Capability (MW) |
| December 31, 2012 | 87 | 44.0 |

The following table shows SG program activations that were not for testing purposes from June 1, 2011 through June 30, 2013.

| SG Activations | | | |
|-------------------------|-------------------------|--------------------|--------------------|
| Start Time | End Time | Duration (Minutes) | MW Load Reduction* |
| June 1, 2011 – 1:00 PM | June 1, 2011 – 6:00 PM | 300 | 55 |
| July 12, 2011 – 1:00 PM | July 12, 2011 – 5:00 PM | 240 | 45 |

**MW Load Reduction is the average load reduction "at the generator" over the event period.*

- **PowerShare®** is a non-residential curtailment program consisting of four options: an emergency only option for curtailable load (PowerShare® Mandatory), an emergency only option for load curtailment using on-site generators (PowerShare® Generator), an economic based voluntary option (PowerShare® Voluntary) and a combined emergency and economic option that allows for increased notification time of events (PowerShare® CallOption).
 - **PowerShare® Mandatory:** Participants in this emergency only option will receive capacity credits monthly based on the amount of load they agree to curtail during utility-initiated emergency events. Participants also receive energy credits for the load curtailed during events. Customers enrolled may also be enrolled in PowerShare® Voluntary and eligible to earn additional credits.

| PowerShare® Mandatory Statistics | | |
|---|--------------|------------------------|
| As of: | Participants | Summer Capability (MW) |
| December 31, 2012 | 169 | 366.4 |

The following table shows PowerShare® Mandatory program activations that were not for testing purposes from June 1, 2011 through June 30, 2013.

| PowerShare® Mandatory Activations | | | |
|--|-------------------------|--------------------|--------------------|
| Start Time | End Time | Duration (Minutes) | MW Load Reduction* |
| June 1, 2011 – 1:00 PM | June 1, 2011 – 6:00 PM | 300 | 334 |
| July 12, 2011 – 1:00 PM | July 12, 2011 – 5:00 PM | 240 | 339 |

**MW Load Reduction is the average load reduction "at the generator" over the event period.*

- **PowerShare® Generator:** Participants in this emergency only option will receive capacity credits monthly based on the amount of load they agree to curtail (i.e. transfer to their on-site generator) during utility-initiated emergency events and their performance during monthly test hours. Participants also receive energy credits for the load curtailed during events.

| PowerShare® Generator Statistics | | |
|---|--------------|------------------------|
| As of: | Participants | Summer Capability (MW) |
| December 31, 2012 | 9 | 13.4 |

The following table shows PowerShare® Generator program activations that were not for testing purposes from June 1, 2011 through June 30, 2013.

| PowerShare® Generator Activations | | | |
|--|-------------------------|--------------------|--------------------|
| Start Time | End Time | Duration (Minutes) | MW Load Reduction* |
| June 1, 2011 – 1:00 PM | June 1, 2011 – 6:00 PM | 300 | 17 |
| July 12, 2011 – 1:00 PM | July 12, 2011 – 5:00 PM | 240 | 13 |

**MW Load Reduction is the average load reduction "at the generator" over the event period.*

- **PowerShare® Voluntary:** Enrolled customers will be notified of pending emergency

or economic events and can log on to a website to view a posted energy price for that particular event. Customers will then have the option to participate in the event and will be paid the posted energy credit for load curtailed. Since this is a voluntary event program, no capacity benefit is recognized for this program and no capacity incentive is provided. The statistics values below represent participation in PowerShare® Voluntary only and do not double count the participants in PowerShare® Mandatory that also participate in PowerShare® Voluntary.

| PowerShare® Voluntary Statistics | | |
|---|--------------|------------------------|
| As of: | Participants | Summer Capability (MW) |
| December 31, 2012 | 6 | N/A |

The following table shows PowerShare® Voluntary program activations that were not for testing purposes from June 1, 2011 through June 30, 2013.

| PowerShare® Voluntary Activations | | | |
|--|--------------------------|---------------------------|---------------------------|
| Start Time | End Time | Duration (Minutes) | MW Load Reduction* |
| June 1, 2011 – 1:00 PM | June 1, 2011 – 9:00 PM | 480 | 2 |
| June 2, 2011 – 2:00 PM | June 2, 2011 – 8:00 PM | 360 | 16 |
| July 20, 2011 – 1:00 PM | July 20, 2011 – 7:00 PM | 360 | 2 |
| July 21, 2011 – 1:00 PM | July 21, 2011 – 7:00 PM | 360 | 2 |
| July 22, 2011 – 11:00 AM | July 22, 2011 – 4:00 PM | 300 | 4 |
| August 3, 2011 – 2:00 PM | August 3, 2011 – 7:00 PM | 300 | 2 |

**MW Load Reduction is the average load reduction "at the generator" over the event period.*

- **PowerShare® CallOption:** This DSM program offers a participating customer the ability to receive credits when the customer agrees, at the Company's request, to reduce and maintain its load by a minimum of 100 kW during Emergency and/or Economic Events. Credits are paid for the load available for curtailment, and charges are applicable when the customer fails to reduce load in accordance with the participation option it has selected. Participants are obligated to curtail load during emergency events. CallOption offers four participation options to customers: PS 0/5, PS 5/5, PS 10/5 and PS 15/5. All options include a limit of five Emergency Events and set a limit for Economic Events to 0, 5, 10 and 15 respectively.

| PowerShare® CallOption Statistics | | |
|--|--------------|------------------------|
| As of: | Participants | Summer Capability (MW) |
| December 31, 2012 | 1 | 0.2 |

The following table shows PowerShare® CallOption program activations that were not for testing purposes from June 1, 2011 through June 30, 2013.

| PowerShare® CallOption Activations | | | |
|---|-------------------------|--------------------|--------------------|
| Start Time | End Time | Duration (Minutes) | MW Load Reduction* |
| July 27, 2012 – 1:00 PM | July 27, 2012 – 9:00 PM | 480 | 0.2 |

**MW Load Reduction is the average load reduction “at the generator” over the event period.*

- **PowerShare® CallOption 200:** This new, high involvement CallOption is targeted at customers with very flexible load and curtailment potential of up to 200 hours of economic load curtailment each year. This option will function essentially in the same manner as the Company’s other CallOption offers. However, customers who participate will experience considerably more requests for load curtailment for economic purposes. Participants will remain obligated to curtail load during up to 5 emergency events.

The program is not available for customer participation until January 1, 2014.

The table below incorporates December 31, 2012 participation levels for demand response programs and the capability of these programs projected for the summer of 2013.

DSM Program Participation and Capability

| DSM Program Name | Participation as of 12/31/12 | 2013 Estimated Summer IRP Capability (MW) |
|------------------------------------|------------------------------|---|
| IS | 63 | 117 |
| SG | 87 | 40 |
| PowerShare [®] Mandatory | 169 | 375 |
| PowerShare [®] Generator | 9 | 14 |
| PowerShare [®] Voluntary | 6 | N/A |
| PowerShare [®] CallOption | | |
| -- Level 0/5 | 0 | 0 |
| -- Level 5/5 | 0 | 0 |
| -- Level 10/5 | 0 | 0 |
| -- Level 15/5 | 1 | 0 |
| -- Level 200* | 0 | 0 |
| Power Manager [®] | 185,043 | 305 |
| Total | 185,378 | 851 |

* PowerShare[®] CallOption Level 200 will be available for participation on 1/1/2014.

- **Rates using price signals**

- **Residential Time-of-Use (including a Residential Water Heating rate)**

This category of rates for residential customers incorporates differential seasonal and time-of-day pricing that encourages customers to shift electricity usage from on-peak time periods to off-peak periods. In addition, there is a Residential Water Heating rate for off-peak water heating electricity use.

- **General Service and Industrial Optional Time-of-Use rates**

This category of rates for general service and industrial customers incorporates differential seasonal and time-of-day pricing that encourages customers to use less electricity during on-peak time periods and more during off-peak periods.

- **Hourly Pricing for Incremental Load**

This category of rates for general service and industrial customers incorporates prices that reflect DEC's estimation of hourly marginal costs. In addition, a portion of the customer's bill is calculated under their embedded-cost rate. Customers on this rate can choose to modify their usage depending on hourly prices.

The projected impacts from these programs are included in the assessment of generation needs.

Summary of Prospective Program Opportunities

A new portfolio filing with essentially the same set of programs was made in March 2013 in NC and August 2013 in SC. Pending approval of this new portfolio a revised set of programs will be included in the 2014 IRP. Included in this new portfolio filing are enhancements to existing programs along with the following program that has not been previously offered:

- **Energy Management and Information Services Pilot**

This pilot is designed to provide qualified commercial and industrial customers with a systematic approach to reduce energy and peak demand. The company will provide the customer with an energy management and information system and an on-site energy assessment to help the customer identify and implement a bundle of low cost operational and maintenance-based energy efficiency measures.

Future EE and DSM programs

In addition, DEC is continually seeking to enhance its EE and DSM portfolio by: (1) adding new or expanding existing programs to include additional measures, (2) program modifications to account for changing market conditions and new measurement and verification (M&V) results, and (3) other EE pilots. Estimates of the impacts of these yet-to-be-developed programs have been included in this year's analysis of generation needs.

EE and DSM Program Screening

The Company uses the DSMore model to evaluate the costs, benefits, and risks of EE and DSM programs and measures. DSMore is a financial analysis tool designed to estimate of the capacity and energy values of EE and DSM measures at an hourly level across distributions of weather conditions and/or energy costs or prices. By examining projected program performance and cost effectiveness over a wide variety of weather and cost conditions, the Company is in a better position to measure the risks and benefits of employing EE and DSM measures versus traditional generation capacity additions, and further, to ensure that DSM resources are compared to supply side resources on a level playing field.

The analysis of energy efficiency and demand side management cost-effectiveness has traditionally focused primarily on the calculation of specific metrics, often referred to as the California Standard tests: Utility Cost Test (UCT), Rate Impact Measure (RIM) Test, Total Resource Cost (TRC) Test and Participant Test. DSMore provides the results of those tests for any type of EE or DSM program.

- The UCT compares utility benefits (avoided costs) to the costs incurred by the utility to implement the program, and does not consider other benefits such as participant savings or societal impacts. This test compares the cost (to the utility) to implement the measures with

the savings or avoided costs (to the utility) resulting from the change in magnitude and/or the pattern of electricity consumption caused by implementation of the program. Avoided costs are considered in the evaluation of cost-effectiveness based on the projected cost of power, including the projected cost of the utility's environmental compliance for known regulatory requirements. The cost-effectiveness analyses also incorporate avoided transmission and distribution costs, and load (line) losses.

- The RIM Test, or non-participants test, indicates if rates increase or decrease over the long-run as a result of implementing the program.
- The TRC Test compares the total benefits to the utility and to participants relative to the costs to the utility to implement the program along with the costs to the participant. The benefits to the utility are the same as those computed under the UCT. The benefits to the participant are the same as those computed under the Participant Test, however, customer incentives are considered to be a pass-through benefit to customers. As such, customer incentives or rebates are not included in the TRC.
- The Participant Test evaluates programs from the perspective of the program's participants. The benefits include reductions in utility bills, incentives paid by the utility and any state, federal or local tax benefits received.

The use of multiple tests can ensure the development of a reasonable set of cost-effective DSM and EE programs and indicate the likelihood that customers will participate.

Energy Efficiency and Demand-Side Management Program Forecasts

In 2011, DEC commissioned a new EE market potential study to obtain new estimates of the technical, economic and achievable potential for EE savings within the DEC service area. The final report was prepared by Forefront Economics Inc. and H. Gil Peach and Associates, LLC and was completed on February 23, 2012 and included an achievable potential for planning year 5 and an economic potential for planning year 20.

In early 2013, this market potential study was updated by Forefront Economics Inc. to estimate the achievable potential on an annual basis throughout the 20 year horizon in order to align the forecast methodology with the integrated resources planning being done for DEP.

The results of this achievable potential were blended together with the DEC forecast for the 5-year planning horizon to create an overall forecast that used a similar methodology to the 2012 DEC IRP for the first 5 years. For years 6 through 20, DEC used methodology that was more like that used by DEP in its 2012 IRP.

The Forefront study results are suitable for IRP purposes and use in long-range system planning models. This study is also expected to help inform utility program planners regarding the extent of EE opportunities and to provide broadly defined approaches for acquiring savings. This study did not, however, attempt to closely forecast EE achievements in the short-term or from year to year. Such an annual accounting is highly sensitive to the nature of programs adopted, the timing of the introduction of those programs, and other factors. As a result, it was not designed to provide detailed specifications and work plans required for program implementation. This study provides part of the picture for planning EE programs. Fully implementable EE program plans are best developed considering this study along with the experience gained from currently running programs, input from DEC program managers and EE planners, and with the possible assistance of implementation contractors.

The table below provides the base case projected load impacts of all DEC EE and DSM programs implemented since the approval of the save-a-watt recovery mechanism in 2009. These load impacts were included in the base case IRP analysis. Note that some years may not sum to the total due to rounding. The Company assumes total EE savings will continue to grow on an annual basis throughout the planning period, however, the components of future programs are uncertain at this time and will be informed by the experience gained under the current plan. The projected MW load impacts from the DSM programs are based upon the Company's continuing, as well as new, DSM programs. This table does not include historical EE program savings since the inception of the EE programs in 2009 through the end of 2012, which accounts for approximately an additional 1,828 GWh of energy savings and 257 MW of summer peak demand savings. The projections also do not include savings from DEC's proposed Integrated Voltage-VAR Control program which will be discussed later in this document.

Base Case Load Impacts of EE and DSM Programs

| Year | EE Program Savings | | DSM Program Summer Peak MW Savings | | | | | Total Summer Peak MW Savings |
|------|--------------------|----------------|------------------------------------|----|------------|---------------|-----------|------------------------------|
| | Annual MWh Energy | Summer Peak MW | IS | SG | PowerShare | Power Manager | Total DSM | |
| 2013 | 435,988 | 40 | 117 | 40 | 389 | 305 | 851 | 891 |
| 2014 | 810,708 | 111 | 101 | 32 | 427 | 350 | 911 | 1,022 |
| 2015 | 1,271,350 | 184 | 96 | 29 | 459 | 399 | 983 | 1,167 |
| 2016 | 1,824,144 | 275 | 92 | 26 | 487 | 409 | 1,014 | 1,289 |
| 2017 | 2,436,079 | 382 | 87 | 24 | 515 | 411 | 1,037 | 1,419 |
| 2018 | 3,046,042 | 490 | 83 | 21 | 545 | 411 | 1,061 | 1,551 |
| 2019 | 3,654,035 | 600 | 83 | 21 | 545 | 411 | 1,061 | 1,661 |
| 2020 | 4,260,057 | 708 | 83 | 21 | 545 | 411 | 1,061 | 1,769 |
| 2021 | 4,864,109 | 819 | 83 | 21 | 545 | 411 | 1,061 | 1,880 |
| 2022 | 5,466,189 | 929 | 83 | 21 | 545 | 411 | 1,061 | 1,990 |
| 2023 | 6,084,580 | 1,040 | 83 | 21 | 545 | 411 | 1,061 | 2,101 |
| 2024 | 6,682,978 | 1,110 | 83 | 21 | 545 | 411 | 1,061 | 2,171 |
| 2025 | 7,290,633 | 1,219 | 83 | 21 | 545 | 411 | 1,061 | 2,280 |
| 2026 | 7,801,137 | 1,318 | 83 | 21 | 545 | 411 | 1,061 | 2,379 |
| 2027 | 8,267,015 | 1,404 | 83 | 21 | 545 | 411 | 1,061 | 2,465 |
| 2028 | 8,683,743 | 1,477 | 83 | 21 | 545 | 411 | 1,061 | 2,538 |

DEC's approved EE plan is consistent with the requirement set forth in the Cliffside Unit 6 CPCN Order to invest 1% of annual retail electricity revenues in EE and DSM programs, subject to the results of ongoing collaborative workshops and appropriate regulatory treatment.

However, pursuing EE and DSM initiatives is not expected to meet the incremental demand for electricity. DEC still envisions the need to secure additional generation, as well as cost-effective renewable generation, but the EE and DSM programs offered by DEC will address a significant portion of this need if such programs perform as expected.

EE Savings Variance since last IRP

The EE savings forecast of MWh energy is different from the forecast presented in the 2012 DEC IRP in the following ways:

- The 2013 IRP is based on an updated forecast of DEC's 5 year planning horizon for the period of 2013-17.
- The 2013 IRP uses analysis performed by Forefront Economics, Inc. to estimate the long-range EE savings based on achievable potential rather than the straight line estimation used by DEC in the 2012 IRP.

The implementation of these two changes in methodology results in a base case MWh forecast that is higher than that presented in the 2012 DEC IRP, however, the overall shape of the forecast changes from a straight line expectation in 2012 to a curve that shows a gradual decrease in the amount of incremental achievable MWh beginning in about 2025.

High EE Savings Projection

DEC also prepared a high EE savings projection designed to meet the following Energy Efficiency Performance Targets for five years, as set forth in the December 8, 2011 Settlement Agreement between Environmental Defense Fund, the South Carolina Coastal Conservation League and Southern Alliance for Clean Energy, and Duke Energy Corporation, Progress Energy, Inc., and their public utility subsidiaries Duke Energy Carolinas LLC and Carolina Power & Light Company, d/b/a Progress Energy Carolinas, Inc.

- An annual savings target of 1% of the previous year's retail electricity sales beginning in 2015; and
- A cumulative savings target of 7% of retail electricity sales over the five year time period of 2014 through 2018.

For the purposes of this IRP, the high EE savings projection is being treated as a resource planning sensitivity that will also serve as an aspirational target for future EE plans and programs. The high EE savings projections are well beyond the level of savings attained by DEC in the past and higher than the forecasted savings contained in the new market potential study. The effort to meet them will require a substantial expansion of DEC's current Commission-approved EE portfolio. New programs and measures must be developed, approved by regulators, and implemented within the next few years. More importantly, significantly higher levels of customer participation must be generated. Additionally, flexibility will be required in operating existing programs in order to quickly adapt to changing market conditions, code and standard changes, consumer demands, and emerging technologies.

At this time there is too much uncertainty in the development of new technologies that will impact future programs and/or enhancements to existing programs, as well as in the ability to secure high levels of customer participation, to risk using the high EE savings projection in the base assumptions for developing the 2013 IRP. However, the high EE savings forecast was included in the Environmental Focus Scenario. DEC expects that as steps are made over time toward actually achieving higher levels of program participation and savings, then the EE savings forecast used for integrated resource planning purposes will continue to be revised in future IRP's to reflect the most realistic projection of EE savings.

Programs Evaluated but Rejected

Duke Energy Carolinas has not rejected any cost-effective programs as a result of its EE and DSM program screening.

Looking to the Future

- **Grid Modernization (Smart Grid Impacts)**

Duke Energy is pursuing implementation of grid modernization throughout the enterprise with a vision of creating a sustainable energy future for our customers and our business by being a leader of innovative approaches that will modernize the grid.

DEC is reviewing an Integrated Volt-VAR Control (IVVC) project that will better manage the application and operation of voltage regulators (the Volt) and capacitors (the VAR) on the DEC distribution system. In general, the project tends to optimize the operation of these devices, resulting in a "flattening" of the voltage profile across an entire circuit, starting at the substation and continuing out to the farthest endpoint on that circuit. This flattening of the voltage profile is accomplished by automating the substation level voltage regulation and capacitors, line capacitors and line voltage regulators while integrating them into a single control system. This control system continuously monitors and operates the voltage regulators and capacitors to maintain the desired "flat" voltage profile. Once the system is operating with a relatively flat voltage profile across an entire circuit, the resulting circuit voltage at the substation can then be operated at a lower overall level. Lowering the circuit voltage at the substation results in an immediate reduction of system loading. Through application of IVVC and reduced system voltage, DEC is thereby reducing load and system demand.

The deployment of an IVVC program for DEC is anticipated to take approximately 5 years following project approval. This IVVC program is projected to reduce future distribution system demand by 0.20% in 2015, 0.4% in 2016, 0.6% in 2017, 0.8% in 2018 and 1.00% in 2019 and following years.

APPENDIX E: FUEL SUPPLY

Duke Energy Carolinas' current fuel usage consists primarily of coal and uranium. Oil and gas have traditionally been used for peaking generation, but natural gas has begun to play a more important role in the fuel mix due to lower pricing and the addition of the Buck and Dan River Combined Cycle plants. These additions will further increase the importance of gas to the Company's generation portfolio. A brief overview and issues pertaining to each fuel type are discussed below.

Natural Gas

Following a tumultuous year (2012) for North American gas producers, 2013 is signaling a return to market stability. Near term prices have recovered from their sub \$2/MMBtu lows to settle into the \$3.50 - \$4.00 range. Inventories are back in neutral territory, gas directed rig counts remain at 18 year lows and yet, the size of the low cost resource base continues to expand. Looking forward, the gas market is expected to remain relatively stable and the improving economic picture will allow the supply / demand balance to tighten and prices to continue to firm at sustainable levels. New gas demand from the power sector is likely to get a small boost between now and 2015 from coal retirements which are tied to the implementation of the Environmental Protection Agency (EPA) MATS rule covering mercury and acid gasses. This increase is expected to be followed by new demand in the industrial and LNG export sectors which both ramp up in the 2016 – 2020 timeframe.

The long term fundamental gas price outlook is little changed from the 2012 forecast even though it includes higher overall demand. The North American gas resource picture is a story of unconventional gas production dominating the gas industry. Shale gas now accounts for about 38% of natural gas production today, rising to over half by 2019.

The US power sector still represents the largest area of potential new demand, but growth is expected to be uneven. After absorbing about 8.8 bcfd of new gas demand tied to coal displacements in the power dispatch in 2012, higher gas prices have reversed the trend. Looking forward, direct price competition is expected between gas and coal on the margin. A 2015 bump in gas demand is expected when EPA's MATS rule goes into effect and utilities retire a significant amount of coal (~38 GW's in this outlook).

Coal

On average, the 2013 Duke fundamental outlook for coal prices is lower than the 2012 outlook, with the exception of Central Appalachian (CAPP) sourced coal which is higher in the near-term primarily as a result of deterioration in mine productivity. Since 2008, Central Appalachian underground mine productivity (tons per man-hour) has declined by 28%, surface mine productivity by 23%; this combination equates to roughly a \$5 per ton increase in labor costs alone.

Coal burned in power generation accounts for roughly 80% of all domestic coal production, export steam coal 10%, metallurgical coal for both domestic consumption and export 8%, with the balance consumed in industrial and commercial applications. The coal forecast assumes a long-term decline in power generation from coal following the introduction of the assumed carbon tax in 2020. Exports of metallurgical coals from the East (CAPP and NAPP) are projected to remain constant while export steam coal grows steadily. This growth assumption is driven by superior productivity in Illinois Basin (ILB) and Powder River Basin (PRB) with delivery of ILB to Atlantic markets via the Gulf of Mexico and delivery of PRB to the Pacific markets via terminals planned for Washington state and British Columbia.

Nuclear Fuel

To provide fuel for Duke Energy Carolinas' nuclear fleet, the Company maintains a diversified portfolio of natural uranium and downstream services supply contracts from around the world.

Requirements for uranium concentrates, conversion services and enrichment services are primarily met through a portfolio of long-term supply contracts. The contracts are diversified by supplier, country of origin and pricing. In addition, Duke Energy Carolinas staggers its contracting so that its portfolio of long-term contracts covers the majority of fleet fuel requirements in the near-term and decreasing portions of the fuel requirements over time thereafter. By staggering long-term contracts over time, the Company's purchase price for deliveries within a given year consists of a blend of contract prices negotiated at many different periods in the markets, which has the effect of smoothing out the Company's exposure to price volatility. Diversifying fuel suppliers reduces the Company's exposure to possible disruptions from any single source of supply. Near-term requirements not met by long-term supply contracts have been and are expected to be fulfilled with spot market purchases.

Due to the technical complexities of changing suppliers of fuel fabrication services, Duke Energy Carolinas generally sources these services to a single domestic supplier on a plant-by-plant basis using multi-year contracts.

As fuel with a low cost basis is used and lower-priced legacy contracts are replaced with contracts at higher market prices, nuclear fuel expense is expected to increase in the future. Although the costs of certain components of nuclear fuel are expected to increase in future years, nuclear fuel costs on a kWh basis will likely continue to be a fraction of the kWh cost of fossil fuel. Therefore, customers will continue to benefit from the Company's diverse generation mix and the strong performance of its nuclear fleet through lower fuel costs than would otherwise result absent the significant contribution of nuclear generation to meeting customers' demands.

APPENDIX F: SCREENING OF GENERATION ALTERNATIVES

The Company screens generation technologies prior to performing detailed analysis in order to develop a manageable set of possible generation alternatives. Generating technologies are screened from both a technical perspective, as well as an economic perspective. In the technical screening, technology options are reviewed to determine technical limitations, commercial availability issues and feasibility in the Duke Energy Carolinas service territory. Economic screening is performed using a relative dollar per kilowatt-year (\$/kW-yr) versus capacity factor screening curves. The technologies must be viable from both technically and economically in order to be passed on to the detailed analysis phase of the IRP process.

Technical Screening

The first step in the Company's supply-side screening process for the IRP is a technical screening of the technologies to eliminate those that have technical limitations, commercial availability issues, or are not feasible in the Duke Energy Carolinas service territory. A brief explanation of the technologies excluded at this point and the basis for their exclusion follows:

- Geothermal was eliminated because there are no suitable geothermal resources in the region to develop into a power generation project.
- Advanced energy storage technologies (Lead Acid, Li-ion, Sodium Ion, Zinc Bromide, Fly Wheels, Pumped Storage, etc) remain relatively expensive, as compared to conventional generation sources, but the benefits to a utility such as the ability to shift load and firm renewable generation are obvious. Research, development, and demonstration continue within Duke Energy Corporation. Duke Energy Generation Services has installed a 36 MW advanced acid lead battery at the Notrees wind farm in Texas that began commercial operation in December 2012. Duke Energy has installed a 75 kW battery in Indiana which is integrated with solar generation and electric vehicle charging stations. Duke Energy also has other storage system tests within its Envision Energy demonstration in Charlotte, which includes two Community Energy Storage (CES) systems of 24 kW, and three substation demonstrations less than 1 MW each.
- Compressed Air Energy Storage (CAES), although demonstrated on a utility scale and generally commercially available, is not a widely applied technology and remains relatively expensive. The high capital requirements for these resources arise from the fact that suitable sites that possess the proper geological formations and conditions necessary for the compressed air storage reservoir are relatively scarce.

- Small modular nuclear reactors (SMR) are generally defined as having capabilities of less than 300 MW. In 2012, U.S. Department of Energy (DOE) solicited bids for companies to participate in a small modular reactor grant program intending to “promote the accelerated commercialization of SMR technologies to help meet the nation’s economic energy security and climate change objectives.” The focus of the grant is the first-of-a-kind engineering associated with NRC design certification and licensing efforts in order to demonstrate the ability to achieve NRC design certification and licensing to support SMR plant deployment on a domestic site by 2022. The grant was awarded to Babcock & Wilcox (B&W) who will lead the effort in partnership with TVA and Bechtel. It is estimated that this project may lead to the development of “plug and play” type nuclear reactor applications that are about one-third the size of current reactors. These are expected to become commercially available around 2022. Duke will be monitoring the progress of the SMR project for potential consideration and evaluation for future resource planning.
- Fuel Cells, although originally envisioned as being a competitor for combustion turbines and central power plants, are now targeted to mostly distributed power generation systems. The size of the distributed generation applications ranges from a few kW to tens of MW in the long-term. Cost and performance issues have generally limited their application to niche markets and/or subsidized installations. While a medium level of research and development continues, this technology is not commercially available for utility-scale application.
- Poultry waste and swine waste digesters remain relatively expensive and are often faced with operational and/or permitting challenges. Research, development, and demonstration continue, but these technologies remain generally too expensive or face obstacles that make them impractical energy choices outside of specific mandates calling for use of these technologies.
- Off-shore wind, although demonstrated on a utility scale and commercially available, is not a widely applied technology and not easily permitted. This technology remains expensive and has yet to actually be constructed anywhere in the United States. Currently, the Cape Wind project in Massachusetts has been approved with assistance from the federal government but has not begun construction. The Company is a contributor to the DOE-sponsored COWICS.

Economic Screening

The Company screens all technologies using relative dollar per kilowatt-year (\$/kW-yr) versus capacity factor screening curves. The screening within each general class (Baseload,

Peaking/Intermediate, and Renewables), as well as the final screening across the general classes, uses a spreadsheet-based screening curve model developed by Duke Energy. This model is considered proprietary, confidential and competitive information by Duke Energy.

This screening curve analysis model includes the total costs associated with owning and maintaining a technology type over its lifetime and computes a levelized \$/kW-year value over a range of capacity factors. The Company repeats this process for each supply technology to be screened resulting in a family of lines (curves). The lower envelope along the curves represents the least costly supply options for various capacity factors or unit utilizations. Some technologies have screening curves limited to their expected operating range on the individual graphs. Lines that never become part of the lower envelope, or those that become part of the lower envelope only at capacity factors outside of their relevant operating ranges, have a very low probability of being part of the least cost solution, and generally can be eliminated from further analysis.

The Company selected the technologies listed below for the screening curve analysis. While EPA's MATS and Greenhouse Gas (GHG) New Source regulations may effectively preclude new coal-fired generation, Duke Energy Carolinas has included SCPC and IGCC technologies with carbon CCS of 800 pounds/net MWH as options for base load analysis consistent with the proposed EPA New Source Performance Standard (NSPS) rules. Additional detail on the expected impacts from EPA regulations to new coal-fired options is included in Appendix F.

- Base load – 825 MW Supercritical Pulverized Coal with CCS
- Base load – 618 MW IGCC with CCS
- Base load – 2 x 1,117 MW Nuclear units (AP1000)
- Base load – 680 MW – 2x1 Combined Cycle (Inlet Chiller and Fired)
- Base load – 843 MW – 2x1 Advanced Combined Cycle (Inlet Chiller and Fired)
- Base load – 1,275 MW – 3x1 Advanced Combined Cycle (Inlet Chiller and Fired)
- Peaking/Intermediate – 174 MW 4 x LM6000 CTs
- Peaking/Intermediate – 805 MW 4 x 7FA.05 CTs
- Renewable – 150 MW Wind - On-Shore
- Renewable – 25 MW Solar PV

Information Sources

The cost and performance data for each technology being screened is based on research and information from several sources. These sources include, but may not be limited to, the following internal Departments: Duke Energy's New Generation Project Development, Emerging Technologies, and Analytical Engineering. The following external sources may also be utilized: proprietary third-party engineering studies, the EPRI Technology Assessment Guide (TAG®), and EIA. In addition, fuel and operating cost estimates are developed internally by Duke Energy, or from other sources such as those mentioned above, or a combination of the two. Electric Power

Research Institute (EPRI) information or other information or estimates from external studies are not site-specific, but generally reflect the costs and operating parameters for installation in the Carolinas. Finally, every effort is made to ensure that capital, O&M and fuel costs and other parameters are current and include similar scope across the technologies being screened. The supply-side screening analysis uses the same fuel prices for coal and natural gas, and NO_x, SO₂, and CO₂ allowance prices as those utilized downstream in the detailed analysis (discussed in Appendix A). Screening curves were developed for each technology to show the economics with and without carbon costs.

Screening Results

The results of the screening within each category are shown in the figures below. Results of the baseload screening show that combined cycle generation is the least-cost baseload resource. With lower gas prices, larger capacities and increased efficiency, combined cycle units have become more cost-effective at higher capacity factors. Supercritical pulverized coal generation closes the gap with combined cycle generation only if carbon capture sequestration and CO₂ costs are excluded. The baseload curves also show that nuclear generation may be a cost effective option at high capacity factors with CO₂ costs included.

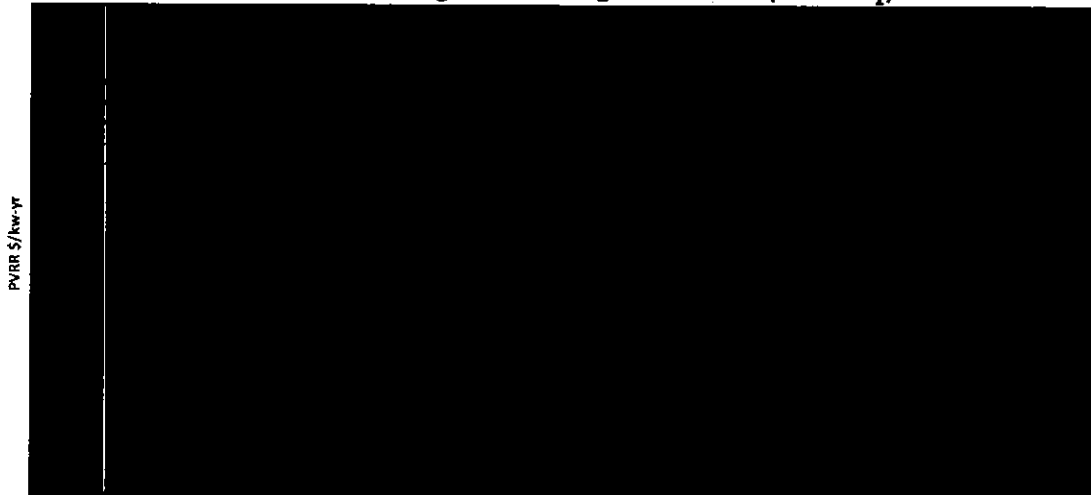
The peaking/intermediate technology screening included F-frame combustion turbines and fast start aero-derivative combustion turbines. The screening curves show the F-frame CTs to be the most economic peaking resource unless there is a special application that requires the fast start capability of the aero-derivative CTs.

The renewable screening curves show solar is a more economic alternative than wind generation. Solar and wind projects are technically constrained from achieving high capacity factors making them unsuitable for intermediate or baseload duty cycles. Solar projects, like wind, are not dispatchable and therefore less suited to provide consistent peaking capacity. Aside from their technical limitations, solar and wind technologies are not currently economically competitive generation technologies without state and federal subsidies. These renewable resources do play an important role in meeting the Company's NC REPS requirements.

The screening curves are useful for comparing costs of resource types at various capacity factors but cannot be utilized for determining a long-term resource plan because future units must be optimized with an existing system containing various resource types. In the quantitative analysis phase, the Company further evaluates those technologies from each of the three general categories screened which had the lowest levelized busbar cost for a given capacity factor range within each of these categories.

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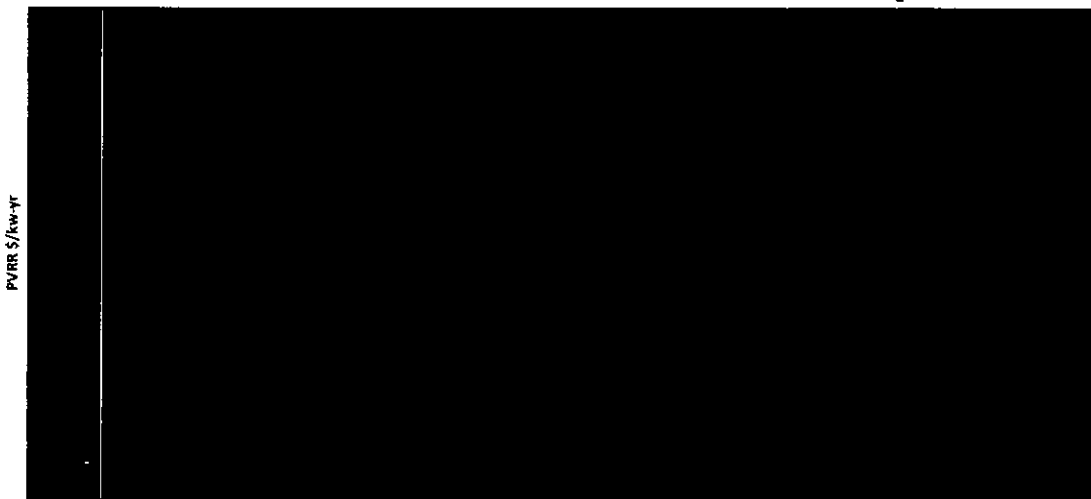
Baseload Technologies Screening 2013 - 2033 (with CO₂)



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|--|--|
| —▲— 680 MW – 2x1 Combined Cycle (Inlet Chiller and Fired) | —◆— Combined Cycle Advanced Class - 2x2x1 Inlet Chiller + Duct Fired |
| —■— 843 MW – 2x1 Advanced Combined Cycle (Inlet Chiller and Fired) | —●— 825 MW Supercritical Pulverized Coal |
| —+— 825 MW Supercritical Pulverized Coal w/ CCS 800#/nMWHr | —■— 618 MW IGCC |
| —■— 618 MW IGCC w/CCS 800#/nMWHr IGCC | —◆— 2 x 1,117 MW Nuclear units (AP1000) |

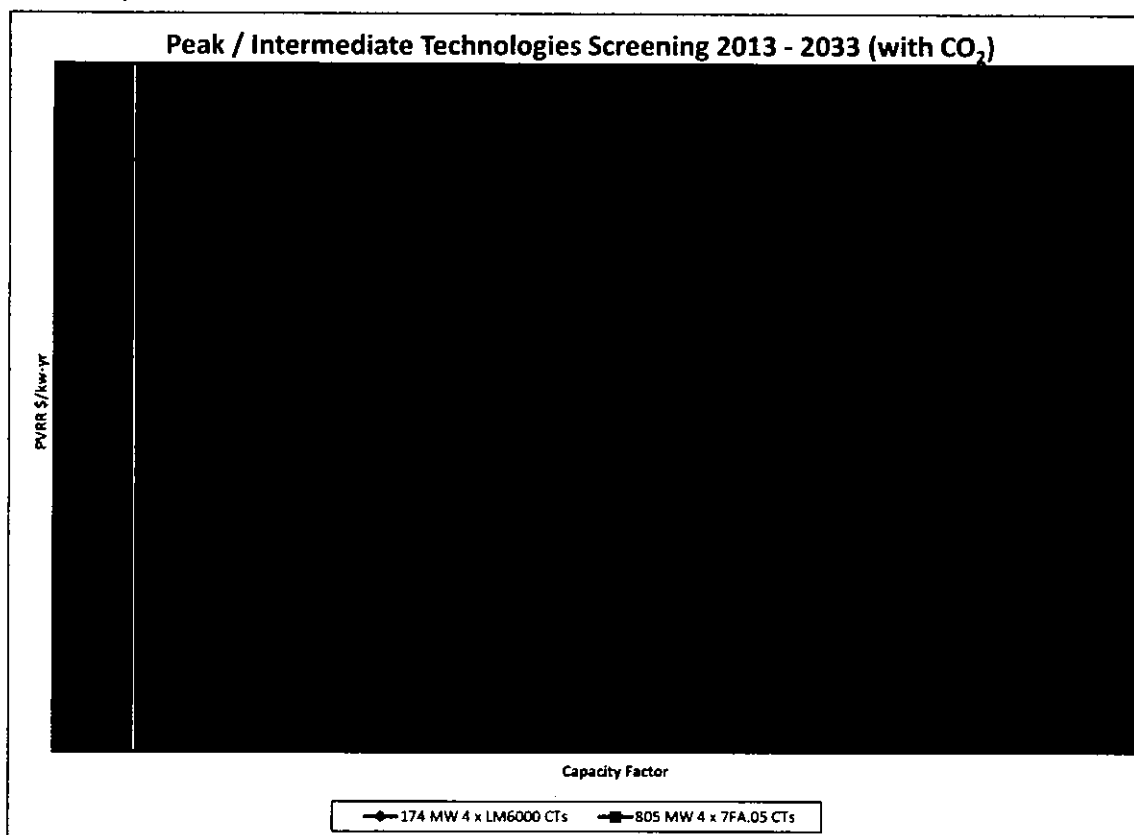
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Baseload Technologies Screening 2013 - 2033 (without CO₂)

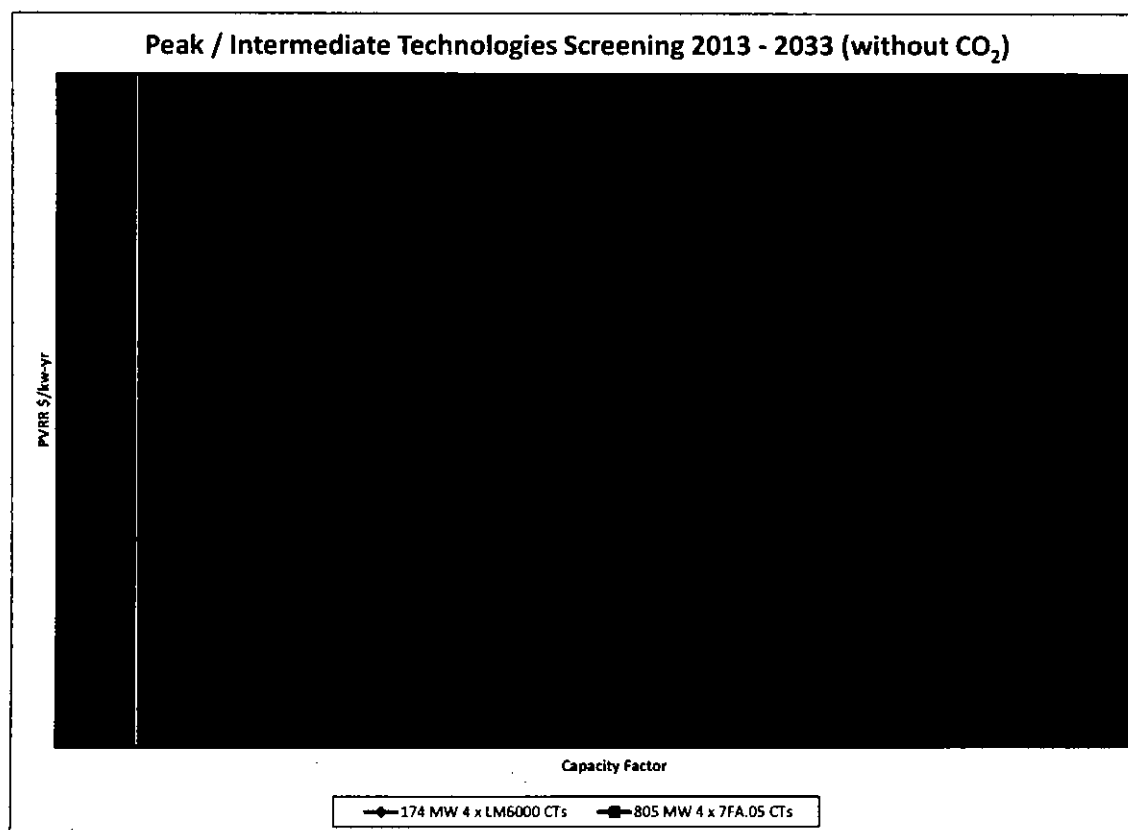


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| —▲— 680 MW – 2x1 Combined Cycle (Inlet Chiller and Fired) | —◆— Combined Cycle Advanced Class - 2x2x1 Inlet Chiller + Duct Fired |
| —■— 843 MW – 2x1 Advanced Combined Cycle (Inlet Chiller and Fired) | —●— 825 MW Supercritical Pulverized Coal |
| —+— 825 MW Supercritical Pulverized Coal w/ CCS 800#/nMWHr | —■— 618 MW IGCC |
| —■— 618 MW IGCC w/CCS 800#/nMWHr IGCC | —◆— 2 x 1,117 MW Nuclear units (AP1000) |

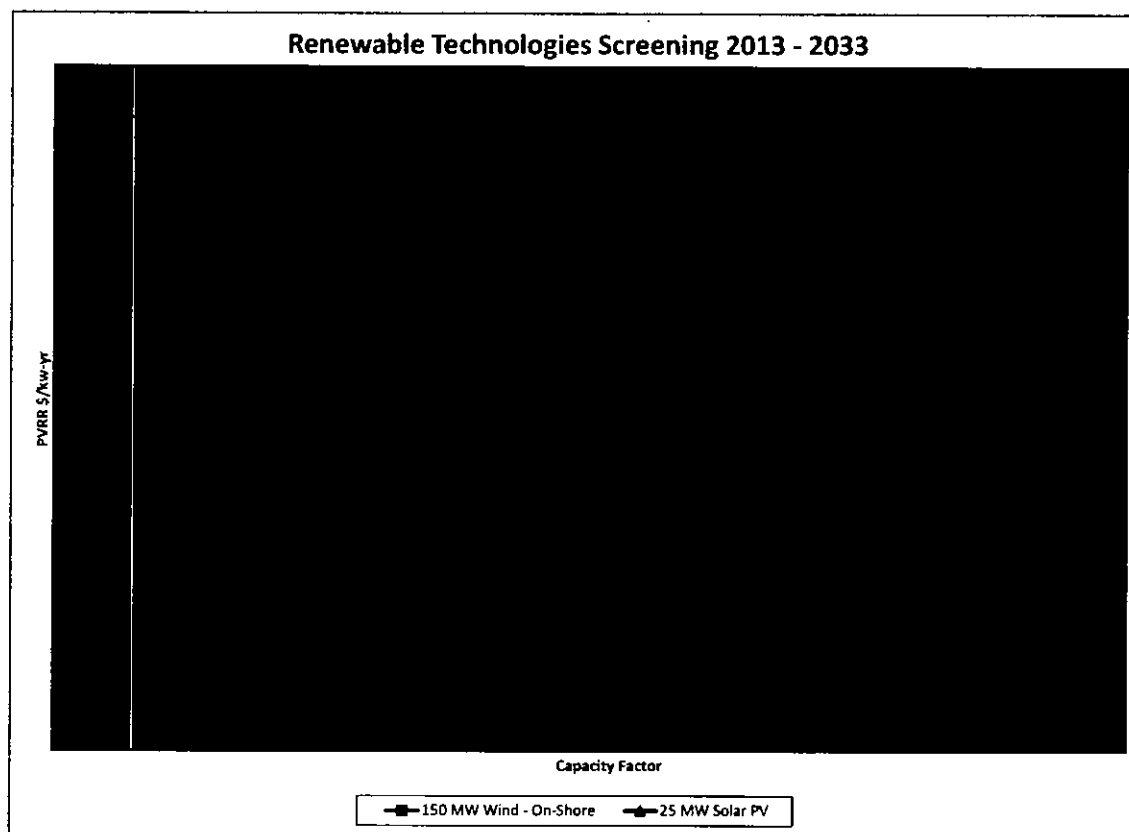
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APPENDIX G: ENVIRONMENTAL COMPLIANCE

Legislative and Regulatory Issues

Duke Energy Carolinas, which is subject to the jurisdiction of federal agencies including the FERC, EPA, and the NRC, as well as state commissions and agencies, is potentially impacted by state and federal legislative and regulatory actions. This section provides a high-level description of several issues Duke Energy Carolinas is actively monitoring or engaged in that could potentially influence the Company's existing generation portfolio and choices for new generation resources.

Air Quality

Duke Energy Carolinas is required to comply with numerous state and federal air emission regulations, including the current Clean Air Interstate Rule (CAIR) NO_x and SO₂ cap-and-trade program, and the 2002 North Carolina Clean Smokestacks Act (NC CSA).

As a result of complying with the NC CSA, Duke Energy Carolinas will reduce SO₂ emissions by approximately 75% by 2013 from 2000 levels. The law also required additional reductions in NO_x emissions in 2007 and 2009, beyond those required by CAIR, which Duke Energy Carolinas has achieved. This landmark legislation, which was passed by the North Carolina General Assembly in June of 2002, calls for some of the lowest state-mandated emission levels in the nation, and was passed with Duke Energy Carolinas' input and support.

The charts below show the significant downward trend in both NO_x and SO₂ emissions through 2012 as a result of actions taken at DEC facilities.

Chart G-1 DEC NO_x Emissions

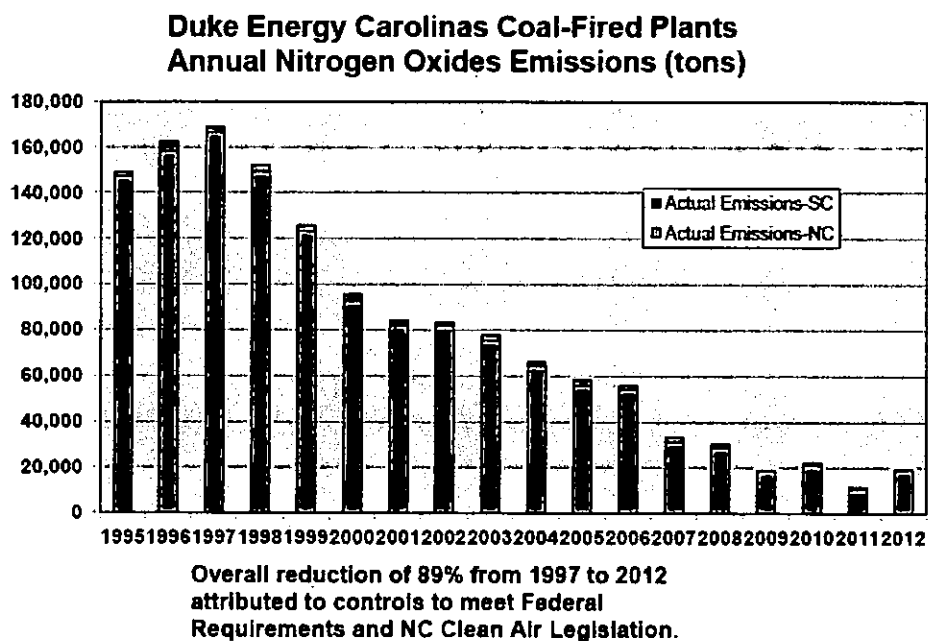
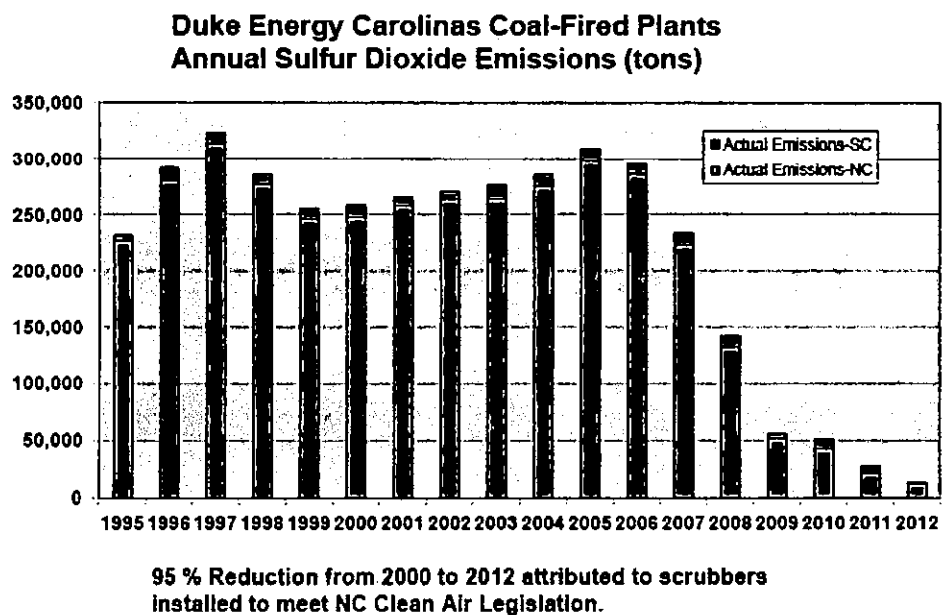


Chart G-2 DEC SO₂ Emissions



In addition to current programs and regulatory requirements, several new regulations are in various stages of implementation and development that will impact operations for Duke Energy Carolinas in the coming years. Some of the major rules include:

Cross-State Air Pollution Rule and the Clean Air Interstate Rule

The EPA finalized CAIR in May 2005. The CAIR limits total annual and summertime NO_x emissions and annual SO₂ emissions from electric generating facilities across the Eastern U.S. through a two-phased cap-and-trade program. In December 2008, the United States District Court for the District of Columbia issued a decision remanding CAIR to the EPA, allowing CAIR to remain in effect until EPA develops a replacement regulation.

In August 2011, a replacement for CAIR was finalized CSAPR, however, on December 30, 2011 the CSAPR was stayed by the U.S. Court of Appeals for the D.C. Circuit. Numerous petitions for review of the CSAPR were filed with the D.C. Circuit Court. On August 21, 2012, by a 2-1 decision, the D.C. Circuit vacated the CSAPR. The Court also directed the EPA to continue administering the CAIR that Duke Energy Carolinas has been complying with since 2009 pending completion of a remand rulemaking to replace CSAPR with a valid rule. CAIR requires additional Phase II reductions in SO₂ and NO_x emissions beginning in 2015. The court's decision to vacate the CSAPR leaves the future of the rule uncertain. The EPA filed a petition with the D.C. Circuit for en banc rehearing of the CSAPR decision, which the court denied. EPA then filed a petition with the Supreme Court asking that it review the D.C. Circuit's decision. On June 24, 2013 the Supreme Court granted review of the D.C. Circuit's August 21, 2012 decision. The Court will review the three issues presented in EPA's petition. Barring unforeseen developments, the Court could issue its decision by June 2014. The Supreme Court's order granting review does not change the legal status of CSAPR: CSAPR does not have legal effect at this time, and EPA is required to continue to administer the CAIR.

Duke Energy Carolinas cannot predict the outcome of the review process or how it could affect future emission reduction requirements that might apply as a result of a potential CSAPR replacement rulemaking. If the Supreme Court affirms the D.C. Circuit's decision on all issues, it is likely to take beyond 2015 for a replacement rulemaking to become effective which means that Phase II of CAIR would take effect on January 1, 2015. No risk for compliance with CAIR Phase I or Phase II exists, as such, no additional controls are planned. If the review process results in the CSAPR being reinstated, it is unclear when EPA might move to implement the rule. Regardless of the timing, however, there is no risk for compliance with CSAPR Phase I or Phase II, as such; no additional controls would be required.

Mercury and Air Toxics Standard (MATS)

In February 2008, the United States Court of Appeals for the District of Columbia issued its opinion, vacating the Clean Air Mercury Rule (CAMR). EPA announced a proposed Utility Boiler Maximum Achievable Control Technology (MACT) rule in March 2011 to replace the CAMR. The EPA published the final rule, known as the MATS, in the Federal Register on February 16, 2012. MATS regulates Hazardous Air Pollutants (HAP) and establishes unit-level emission limits for mercury, acid gases, and non-mercury metals, and sets work practice standards for organics for coal and oil-fired electric generating units. Compliance with the emission limits will be required by April 16, 2015. Permitting authorities have the discretion to grant up to a 1-year compliance extension, on a case-by-case basis, to sources that are unable to install emission controls before the compliance deadline.

Numerous petitions for review of the final MATS rule have been filed with the United States Court of Appeals for the District of Columbia. Briefing in the case has been completed. Oral arguments have not been scheduled. A court decision in the case is not likely until the first quarter of 2014. Duke Energy Carolinas cannot predict the outcome of the litigation or how it might affect the MATS requirements as they apply to operations.

Based on the emission limits established by the MATS rule, compliance with the MATS rule has driven several unit retirements and will drive the retirement or fuel conversion of several more non-scrubbed coal-fired generating units in the Carolinas by April 2015. Compliance with MATS will also require various changes to units that have had emission controls added over the last several years to meet the emission requirements of the NC CSA.

National Ambient Air Quality Standards (NAAQS)

8 Hour Ozone Standard

In March 2008, EPA revised the 8 Hour Ozone Standard by lowering it from 84 to 75 parts per billion (ppb). In September of 2009, EPA announced a decision to reconsider the 75 ppb standard in response to a court challenge from environmental groups and their own belief that a lower standard was justified. However, EPA announced in September 2011 that it would retain the 75 ppb primary standard until it is reconsidered under the next 5-year review cycle. It could be mid-2014 before the EPA proposes a revision to the 75 ppb standard and mid-2015 before it finalizes a new standard unless ongoing legal action results in a court ordered schedule requiring the Agency to act sooner.

On May 21, 2012 EPA finalized the area designations for the 2008 75 ppb 8-hour ozone standard. The Charlotte area, the only area in North Carolina designated nonattainment, is now classified as a “marginal” nonattainment area, which establishes December 31, 2015 as its attainment date. For

marginal nonattainment areas, states are not required to prepare an attainment demonstration. EPA in its final rule states that it performed an analysis that indicates that the majority of areas classified as marginal will be able to attain the 75 ppb standard in 2015 due to federal and state emission reduction programs already in place. If the Charlotte area's air quality does not qualify it to be reclassified as attainment, the area can still qualify for the first of two possible one-year extensions of the attainment date if it has no more than one exceedance of the standard in 2015. Alternatively, should the Charlotte area not attain the standard by its attainment date and not qualify for an extension, it could be bumped up to the next higher classification, which for Charlotte would be moderate. This would require North Carolina to develop an attainment SIP to bring the Charlotte area into attainment with the standard by December 31, 2018.

SO₂ Standards

On June 22, 2010 EPA established a 75 ppb 1-hour SO₂ NAAQS and revoked the annual and 24-hour SO₂ standards. EPA finalized initial nonattainment area designations in TBD 2013. No areas in the Carolinas were designated nonattainment.

On February 6, 2013 the EPA released a document that updated its strategy for addressing all areas that it did not initially designate as nonattainment in July 2013. The document indicated that EPA will allow states to use modeling or monitoring to evaluate the impact of large SO₂ emitting sources relative to the 75 ppb standard. The document also laid out a schedule for implementing the standard.

The EPA plans on undertaking notice and comment rulemaking to codify the implementation requirements for the 75 ppb standard. There is no schedule for EPA to propose or finalize the rulemaking, and the outcome of the rulemaking could be different from what EPA put forth in its February 6, 2013 document.

Particulate Matter (PM) Standard

In September 2006, the EPA announced its decision to revise the PM_{2.5} NAAQS standard. The daily standard was reduced from 65 ug/m³ (micrograms per cubic meter) to 35 ug/m³. The annual standard remained at 15 ug/m³.

EPA finalized designations for the 2006 daily standard in October 2009, which did not include any nonattainment areas in the Duke Energy Carolinas service territory. In February 2009, the D.C Circuit unanimously remanded to EPA the Agency's decision to retain the annual 15 ug/m³ primary PM_{2.5} NAAQS and to equate the secondary PM_{2.5} NAAQS with the primary NAAQS. EPA began undertaking new rulemaking to revise the standards consistent with the Court's decision.

On December 14, 2012 the EPA finalized a rule that lowered the annual PM_{2.5} standard to 12 ug/m³ and retained the 35 ug/m³ daily PM_{2.5} standard. The EPA plans to finalize area designations by December 2014. States with nonattainment areas will be required to submit State Implementation Plans (SIPs) to EPA in early 2018, with the initial attainment date in 2020. The EPA has indicated that it will likely use 2011 – 2013 air quality data to make final designations.

To date neither the annual nor the daily PM_{2.5} standard has directly driven emission reduction requirements at Duke Energy Carolinas facilities. The reduction in SO₂ and NO_x emissions to address the PM_{2.5} standards has been achieved through the CAIR and the NC CSA. It is unclear if the new lower annual PM_{2.5} standard will require additional SO₂ or NO_x emission reduction requirements at any Duke Energy Carolinas generating facilities.

Greenhouse Gas Regulation

The EPA has been active in the regulation of GHGs. In May 2010, the EPA finalized what is commonly referred to as the Tailoring Rule. This rule sets the emission thresholds to 75,000 tons/year of CO₂ for determining when a modified major stationary source is subject to Prevention of Significant Deterioration (PSD) permitting for greenhouse gases. The Tailoring Rule went into effect beginning January 2, 2011. Being subject to PSD permitting requirements for CO₂ will require a Best Available Control Technology (BACT) analysis and the application of BACT for GHGs. BACT will be determined by the state permitting authority. Since it is not known if, or when, a Duke Energy Carolinas generating unit might undertake a modification that triggers PSD permitting requirements for GHGs and exactly what might constitute BACT, the potential implications of this regulatory requirement are unknown.

On April 13, 2012, a proposed rule to establish GHG NSPS for new electric utility steam generating units (EGUs) was published in the Federal Register. The proposed GHG NSPS applies only to new pulverized coal, IGCC and natural gas combined cycle units. The proposed NSPS is an output-based emission standard of 1,000 lb CO₂/gross MWh of electricity generation. The proposal was very controversial because it set the same emission standard for new natural gas and new coal-fired electric generating units. The only way a new coal unit could meet the proposed standard is with carbon capture and storage technology. The President has directed EPA to re-propose the rule by September 20, 2013. The requirements of a re-proposed rule are not known.

The President has directed EPA to propose CO₂ emission guidelines for existing electric generating units by June 1, 2014, and finalize guidelines by June 1, 2015. Once EPA finalizes emission guidelines for existing sources, the states will be required to develop the regulations that will apply to covered sources, based on the emission performance standards established by EPA in its guidelines.

It is highly unlikely that legislation mandating reductions in GHG emissions or establishing a carbon tax will be passed by the 113th Congress which began on January 3, 2013. Beyond 2014 the prospects for enactment of any federal legislation mandating reductions in GHG emissions or establishing a carbon tax are highly uncertain.

Water Quality and By-product Issues

CWA 316(b) Cooling Water Intake Structures

Federal regulations in Section 316(b) of the Clean Water Act may necessitate cooling water intake modifications for existing facilities to minimize impingement and entrainment of aquatic organisms. EPA published its proposed rule on April 20, 2011.

The proposed rule establishes mortality reduction requirements due to both fish impingement and entrainment and advances one preferred approach and three alternatives. The EPA's preferred approach establishes aquatic protection requirements and new on-site facility additions for existing facilities with a design intake flow of 2 million gallons per day (mgd) or more from rivers, streams, lakes, reservoirs, estuaries, oceans, or other U.S. waters that utilize at least 25% of the water withdrawn for cooling purposes.

The most recent EPA settlement agreement now calls for the EPA to finalize the 316(b) rule by November 4, 2013. If the rule is finalized as proposed, initial submittals, station details, study plans, etc, for some facilities would be due in mid-late 2014. If required, modifications to the intakes to comply with the impingement requirements could be required as early as late 2016. Within the proposed rule, EPA did not provide a compliance deadline for meeting the entrainment requirements.

Steam Electric Effluent Guidelines

In September 2009, EPA announced plans to revise the steam electric effluent limitation guidelines. The steam electric effluent limitation guidelines are technology-based, in that limits are based on the capability of the best technology available. On April 19, 2013, the EPA Acting Administrator signed the proposed revisions to the Steam Electric Effluent Limitations Guidelines (ELGs). The proposal was published in the Federal Register on June 7, 2013 with comments due to EPA by the extended date of September 20, 2013. Under the current revision of the consent decree, the EPA has agreed to issue a final rule by May 22, 2014. The EPA has proposed eight different regulatory options for the rule, of which four are listed as preferred by EPA. The eight regulatory options vary in stringency and cost, and propose revisions or develop new standards for seven waste streams, including wastewater from air pollution control equipment and ash transport water. The proposed revisions are focused primarily on coal generating units, but some revisions would be

applicable to all steam electric generating units, including natural gas and nuclear-fueled generating facilities. After the final rulemaking, effluent limitation guideline requirements will be included in a station's National Pollutant Discharge Elimination System (NPDES) permit renewals. Portions of the rule would be implemented immediately after the effective date of the rule upon the renewal of wastewater discharge permits, while other portions of the rule will be implemented upon the renewal of the wastewater discharge permits after July, 2017. EPA expects that all facilities will be in compliance with the rule by July 2022. The deadline to comply will depend upon each station's permit renewal schedule.

Coal Combustion Residuals

Following Tennessee Valley Authority's (TVA) Kingston ash dike failure in December 2008, EPA began to assess the integrity of ash dikes nationwide and to begin developing a rule to manage coal combustion residuals (CCRs). CCRs primarily include fly ash, bottom ash and Flue Gas Desulfurization (FGD) byproducts (gypsum). Since the 2008 TVA dike failure, numerous ash dike inspections have been completed by EPA and an enormous amount of input has been received by EPA as it developed proposed regulations. In June 2010, EPA published its proposed rule regarding CCRs. The proposed rule offers two options: 1) a hazardous waste classification under Resource Conservation Recovery Act (RCRA) Subtitle C; and 2) a non-hazardous waste classification under RCRA Subtitle D, along with dam safety and alternative rules. Both options would require strict new requirements regarding the handling, disposal and potential re-use ability of CCRs. The proposal will likely result in more conversions to dry handling of ash, more landfills, the closing or lining of existing ash ponds and the addition of new wastewater treatment systems. Final regulations are not expected to be issued by EPA until 2014 or later. EPA's regulatory classification of CCRs as hazardous or non-hazardous will be critical in developing plans for handling CCRs. However, under either option of the proposed rule, the impact to Duke Energy Carolinas is likely to be significant. Based on a 2014 final rule date, compliance with new regulations is generally expected to begin around 2019.

APPENDIX H: NON-UTILITY GENERATION AND WHOLESALE

This appendix contains wholesale sales contracts, firm wholesale purchased power contracts and non-utility generation contracts.

Table H-1 Wholesale Sales Contracts

| | | | Wholesale Contracts | | | | | | | | | |
|------------------|----------------------|-----------|---------------------|------|------|------|------|------|------|------|------|------|
| Customer | Product | Term | Commitment (MW) | | | | | | | | | |
| | | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Concord | Partial Requirements | 2009-2018 | 167 | 169 | 172 | 174 | 177 | 180 | 212 | 215 | 217 | 220 |
| Dallas | Partial Requirements | 2009-2028 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 13 | 13 |
| Due West | Partial Requirements | 2009-2018 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Forest City | Partial Requirements | 2009-2028 | 18 | 18 | 19 | 19 | 19 | 20 | 20 | 20 | 21 | 21 |
| Greenwood | Full Requirements | 2010-2018 | 53 | 53 | 54 | 55 | 56 | 57 | 58 | 58 | 59 | 60 |
| Highlands | Full Requirements | 2010-2029 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 10 |
| Kings Mountain | Partial Requirements | 2009-2018 | 21 | 21 | 21 | 22 | 22 | 22 | 30 | 30 | 30 | 31 |
| Lockhart | Partial Requirements | 2009-2018 | 50 | 50 | 51 | 52 | 53 | 54 | 75 | 76 | 77 | 78 |
| Prosperity | Partial Requirements | 2009-2028 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| Western Carolina | Full Requirements | 2010-2021 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Blue Ridge EMC | Full Requirements | 2010-2031 | 225 | 229 | 233 | 237 | 241 | 245 | 249 | 253 | 257 | 261 |
| Central | Partial Requirements | 2013-2030 | 120 | 244 | 374 | 509 | 649 | 793 | 900 | 918 | 936 | 953 |
| Haywood EMC | Full Requirements | 2009-2021 | 23 | 23 | 23 | 24 | 24 | 24 | 25 | 25 | 25 | 26 |
| NCEMC | Fixed Load Shape | 2009-2038 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| NCEMC | Backstand | 1985-2043 | 95 | 116 | 116 | 116 | 116 | 116 | 116 | 116 | 116 | 116 |
| Piedmont EMC | Full Requirements | 2010-2031 | 87 | 88 | 89 | 90 | 92 | 93 | 94 | 96 | 97 | 99 |
| PMPA | Backstand | 2014-2020 | 0 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Rutherford EMC | Partial Requirements | 2010-2031 | 185 | 189 | 204 | 208 | 212 | 217 | 221 | 226 | 230 | 235 |

Table H-2 Firm Wholesale Purchased Power Contracts

| <u>Purchased Power Contract</u> | <u>Primary Fuel Type</u> | <u>Summer Capacity (MW)</u> | <u>Capacity Designation</u> | <u>Location</u> | <u>Term</u> | <u>Volume of Purchases (MWh) Jul 12-Jun 13</u> |
|--|--------------------------|-----------------------------|-----------------------------|-----------------|-------------|--|
| Cherokee County Cogeneration Partners, LLC 1 | Gas | 86 | Peaking | Gaffney, SC | 12/31/2020 | 650,627 |
| SEPA | Hydro | 8 | Peaking | GA-AL-SC system | 12/31/2021 | 12,883 |

Note: The capacities shown are delivered to the DEC system and may differ from the contracted amount. Renewables purchases are listed in the NC REPS Compliance Plan in the Attachment to this IRP.

Table H-3 Non-Utility Generation – North Carolina

NORTH CAROLINA GENERATORS (As of July 2013)

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|-------------|-------|-------------------|------------------|-------------------|
| Facility 1 | Henderson | NC | Solar | 8.64 | Intermediate/Peak |
| Facility 2 | Henderson | NC | Solar | 10.25 | Intermediate/Peak |
| Facility 3 | Lincoln | NC | Solar | 75.00 | Intermediate/Peak |
| Facility 4 | Gaston | NC | Hydroelectric | 640.00 | Baseload |
| Facility 5 | Orange | NC | Solar | 7.10 | Intermediate/Peak |
| Facility 6 | Orange | NC | Solar | 2.80 | Intermediate/Peak |
| Facility 7 | Alamance | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 8 | Alamance | NC | Hydroelectric | 240.00 | Baseload |
| Facility 9 | Cleveland | NC | Solar | 1.72 | Intermediate/Peak |
| Facility 10 | Henderson | NC | Solar | 95.00 | Intermediate/Peak |
| Facility 11 | Charlotte | NC | Other* | 1750.00 | Intermediate/Peak |
| Facility 12 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 13 | Mount Holly | NC | Other* | NA | Intermediate/Peak |
| Facility 14 | Henderson | NC | Solar | 2.10 | Intermediate/Peak |
| Facility 15 | Mecklenburg | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 16 | Cherokee | NC | Solar | 9.60 | Intermediate/Peak |
| Facility 17 | Gaston | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 18 | Mecklenburg | NC | Solar | 5.25 | Intermediate/Peak |
| Facility 19 | Forsyth | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 20 | Polk | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 21 | Catawba | NC | Solar | 20000.00 | Intermediate/Peak |
| Facility 22 | Catawba | NC | Biogas | 4800.00 | Baseload |
| Facility 23 | Iredell | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 24 | Iredell | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 25 | Surry | NC | Solar | 3500.00 | Intermediate/Peak |
| Facility 26 | Orange | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 27 | Catawba | NC | Solar | 5000.00 | Intermediate/Peak |
| Facility 28 | Orange | NC | Solar | 9.46 | Intermediate/Peak |
| Facility 29 | Macon | NC | Wind | 4.00 | Intermediate/Peak |
| Facility 30 | Orange | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 31 | Durham | NC | Other* | 1600.00 | Intermediate/Peak |
| Facility 32 | Burlington | NC | Solar | 4.52 | Intermediate/Peak |
| Facility 33 | Rutherford | NC | Hydroelectric | 324.00 | Baseload |
| Facility 34 | Mecklenburg | NC | Solar | 1.90 | Intermediate/Peak |
| Facility 35 | Cleveland | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 36 | Swain | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 37 | Guilford | NC | Solar | 28.80 | Intermediate/Peak |
| Facility 38 | Charlotte | NC | Other* | NA | Intermediate/Peak |
| Facility 39 | Alamance | NC | Solar | 30.00 | Intermediate/Peak |
| Facility 40 | Mecklenburg | NC | Solar | 30.00 | Intermediate/Peak |
| Facility 41 | Cleveland | NC | Solar | 4000.00 | Intermediate/Peak |
| Facility 42 | | NC | Solar | 3.25 | Intermediate/Peak |
| Facility 43 | Catawba | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 44 | Guilford | NC | Solar | 3.85 | Intermediate/Peak |
| Facility 45 | Durham- NE | NC | Solar | 2.21 | Intermediate/Peak |
| Facility 46 | Rockingham | NC | Solar | 5.16 | Intermediate/Peak |
| Facility 47 | Durham | NC | Solar | 124.00 | Intermediate/Peak |
| Facility 48 | Henderson | NC | Solar | 9.00 | Intermediate/Peak |
| Facility 49 | Alamance | NC | Solar | 40.85 | Intermediate/Peak |
| Facility 50 | Alamance | NC | Solar | 20.43 | Intermediate/Peak |
| Facility 51 | Alamance | NC | Solar | 0.74 | Intermediate/Peak |
| Facility 52 | Henderson | NC | Solar | 9.80 | Intermediate/Peak |
| Facility 53 | Orange | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 54 | Cabarrus | NC | Solar | 6.08 | Intermediate/Peak |
| Facility 55 | Mecklenburg | NC | Solar | 2.45 | Intermediate/Peak |
| Facility 56 | Guilford | NC | Solar | 4.00 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|---------------|-------|-------------------|------------------|-------------------|
| Facility 57 | Durham | NC | Solar | 3.78 | Intermediate/Peak |
| Facility 58 | Orange | NC | Solar | 7.00 | Intermediate/Peak |
| Facility 59 | Alamance | NC | Hydroelectric | 440.00 | Baseload |
| Facility 60 | Orange | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 61 | Jackson | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 62 | Durham | NC | Solar | 6.45 | Intermediate/Peak |
| Facility 63 | Surry | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 64 | Charlotte | NC | Other* | 1250.00 | Intermediate/Peak |
| Facility 65 | Orange | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 66 | Orange | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 67 | Catawba | NC | Landfill Gas | 4000.00 | Baseload |
| Facility 68 | Iredell | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 69 | Elkin | NC | Other* | 400.00 | Intermediate/Peak |
| Facility 70 | Alamance | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 71 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 72 | Orange | NC | Solar | 16.40 | Intermediate/Peak |
| Facility 73 | Durham | NC | Solar | 4.16 | Intermediate/Peak |
| Facility 74 | Henderson | NC | Solar | 4.88 | Intermediate/Peak |
| Facility 75 | Forsyth | NC | Solar | 0.74 | Intermediate/Peak |
| Facility 76 | Mecklenburg | NC | Solar | 1.85 | Intermediate/Peak |
| Facility 77 | Alamance | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 78 | Orange | NC | Solar | 2.40 | Intermediate/Peak |
| Facility 79 | Cleveland | NC | Solar | 15.00 | Intermediate/Peak |
| Facility 80 | Swain | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 81 | Stokes | NC | Solar | 4.94 | Intermediate/Peak |
| Facility 82 | Gaston | NC | Solar | 7.50 | Intermediate/Peak |
| Facility 83 | | NC | Solar | N/A | Intermediate/Peak |
| Facility 84 | Orange | NC | Solar | 8.00 | Intermediate/Peak |
| Facility 85 | Union | NC | Solar | 2.63 | Intermediate/Peak |
| Facility 86 | Union | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 87 | Mecklenburg | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 88 | RTP | NC | Other* | 1300.00 | Intermediate/Peak |
| Facility 89 | Durham | NC | Solar | 100.00 | Intermediate/Peak |
| Facility 90 | Belmont | NC | Other* | 350.00 | Intermediate/Peak |
| Facility 91 | Belmont | NC | Other* | 500.00 | Intermediate/Peak |
| Facility 92 | Belmont | NC | Other* | 350.00 | Intermediate/Peak |
| Facility 93 | Bessemer City | NC | Other* | 440.00 | Intermediate/Peak |
| Facility 94 | Haw River | NC | Other* | 550.00 | Intermediate/Peak |
| Facility 95 | Burlington | NC | Other* | 600.00 | Intermediate/Peak |
| Facility 96 | Mecklenburg | NC | Solar | 260.82 | Intermediate/Peak |
| Facility 97 | Charlotte | NC | Other* | 2250.00 | Intermediate/Peak |
| Facility 98 | Charlotte | NC | Other* | 1200.00 | Intermediate/Peak |
| Facility 99 | Mecklenburg | NC | Solar | 100.00 | Intermediate/Peak |
| Facility 100 | Mecklenburg | NC | Solar | 8.00 | Intermediate/Peak |
| Facility 101 | Eden | NC | Other* | 1700.00 | Intermediate/Peak |
| Facility 102 | Gastonia | NC | Other* | 1590.00 | Intermediate/Peak |
| Facility 103 | Mebane | NC | Other* | 800.00 | Intermediate/Peak |
| Facility 104 | Graham | NC | Other* | 800.00 | Intermediate/Peak |
| Facility 105 | Greensboro | NC | Other* | 2000.00 | Intermediate/Peak |
| Facility 106 | Greensboro | NC | Other* | 859.00 | Intermediate/Peak |
| Facility 107 | Hickory | NC | Other* | 1500.00 | Intermediate/Peak |
| Facility 108 | Hickory | NC | Other* | 1750.00 | Intermediate/Peak |
| Facility 109 | Tobaccoville | NC | Other* | 800.00 | Intermediate/Peak |
| Facility 110 | Mount Airy | NC | Other* | 600.00 | Intermediate/Peak |
| Facility 111 | Mount Airy | NC | Other* | 750.00 | Intermediate/Peak |
| Facility 112 | Mount Holly | NC | Other* | 210.00 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|--------------|-------|-------------------|------------------|-------------------|
| Facility 113 | Guilford | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 114 | Cleveland | NC | Solar | 0.86 | Intermediate/Peak |
| Facility 115 | Durham | NC | Solar | 30.00 | Intermediate/Peak |
| Facility 116 | Durham | NC | Wind | 3.00 | Intermediate/Peak |
| Facility 117 | Rutherford | NC | Hydroelectric | 1600.00 | Baseload |
| Facility 118 | Surry | NC | Landfill Gas | 1600.00 | Baseload |
| Facility 119 | Charlotte | NC | Other* | 420.00 | Intermediate/Peak |
| Facility 120 | Rockingham | NC | Solar | 169.00 | Intermediate/Peak |
| Facility 121 | Davie | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 122 | Cabarrus | NC | Landfill Gas | 11500.00 | Baseload |
| Facility 123 | Henderson | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 124 | Orange | NC | Solar | 9.90 | Intermediate/Peak |
| Facility 125 | Orange | NC | Solar | 3.01 | Intermediate/Peak |
| Facility 126 | Forsyth | NC | Solar | 2.82 | Intermediate/Peak |
| Facility 127 | Rowan | NC | Solar | 5.76 | Intermediate/Peak |
| Facility 128 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 129 | Wake | NC | Solar | 7.60 | Intermediate/Peak |
| Facility 130 | Wake | NC | Solar | 6.08 | Intermediate/Peak |
| Facility 131 | Forsyth | NC | Solar | 1.72 | Intermediate/Peak |
| Facility 132 | Durham | NC | Solar | 3.44 | Intermediate/Peak |
| Facility 133 | Durham | NC | Solar | 2.28 | Intermediate/Peak |
| Facility 134 | Catawba | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 135 | Henderson | NC | Solar | 4.94 | Intermediate/Peak |
| Facility 136 | Gaston | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 137 | Orange | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 138 | Stokes | NC | Solar | 1.44 | Intermediate/Peak |
| Facility 139 | Durham | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 140 | Iredell | NC | Solar | 4.58 | Intermediate/Peak |
| Facility 141 | Transylvania | NC | Solar | 5.16 | Intermediate/Peak |
| Facility 142 | Henderson | NC | Wind | 1.20 | Intermediate/Peak |
| Facility 143 | Guilford | NC | Solar | 6.02 | Intermediate/Peak |
| Facility 144 | Rowan | NC | Solar | 4.30 | Intermediate/Peak |
| Facility 145 | Stokes | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 146 | Mecklenburg | NC | Solar | 1.12 | Intermediate/Peak |
| Facility 147 | Cleveland | NC | Solar | 5.16 | Intermediate/Peak |
| Facility 148 | Forsyth | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 149 | Caldwell | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 150 | Cleveland | NC | Solar | 2.28 | Intermediate/Peak |
| Facility 151 | Orange | NC | Solar | 7.60 | Intermediate/Peak |
| Facility 152 | Mecklenburg | NC | Solar | 0.70 | Intermediate/Peak |
| Facility 153 | Rowan | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 154 | Rowan | NC | Wind | 1.00 | Intermediate/Peak |
| Facility 155 | Jackson | NC | Solar | 5.46 | Intermediate/Peak |
| Facility 156 | Union | NC | Solar | 3.50 | Intermediate/Peak |
| Facility 157 | Henderson | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 158 | Orange | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 159 | Mecklenburg | NC | Solar | 94.08 | Intermediate/Peak |
| Facility 160 | Davidson | NC | Landfill Gas | 1600.00 | Baseload |
| Facility 161 | Lexington | NC | Other* | 300.00 | Intermediate/Peak |
| Facility 162 | Lexington | NC | Other* | 750.00 | Intermediate/Peak |
| Facility 163 | Forsyth | NC | Solar | 0.70 | Intermediate/Peak |
| Facility 164 | Guilford | NC | Solar | 72.00 | Intermediate/Peak |
| Facility 165 | Durham | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 166 | Mecklenburg | NC | Solar | 30.00 | Intermediate/Peak |
| Facility 167 | Rowan | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 168 | Durham | NC | Solar | 30.00 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|-------------|-------|--------------------|------------------|-------------------|
| Facility 169 | Jackson | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 170 | Guilford | NC | Solar | 6.72 | Intermediate/Peak |
| Facility 171 | Cabarrus | NC | Solar | 3.44 | Intermediate/Peak |
| Facility 172 | Jackson | NC | Solar | 4.41 | Intermediate/Peak |
| Facility 173 | Wilkes | NC | Solar | 2.76 | Intermediate/Peak |
| Facility 174 | Forsyth | NC | Solar | 2.23 | Intermediate/Peak |
| Facility 175 | Mecklenburg | NC | Solar | 2.15 | Intermediate/Peak |
| Facility 176 | Rockingham | NC | Solar | 5000.00 | Intermediate/Peak |
| Facility 177 | Orange | NC | Solar | 3.87 | Intermediate/Peak |
| Facility 178 | Mecklenburg | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 179 | Cleveland | NC | Solar | 4000.00 | Intermediate/Peak |
| Facility 180 | | NC | Solar | 4.30 | Intermediate/Peak |
| Facility 181 | Mecklenburg | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 182 | Guilford | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 183 | Iredell | NC | Solar | 6.02 | Intermediate/Peak |
| Facility 184 | Macon | NC | Solar | 4.50 | Intermediate/Peak |
| Facility 185 | Alexander | NC | Solar | 0.70 | Intermediate/Peak |
| Facility 186 | Orange | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 187 | Rockingham | NC | Solar | 1.60 | Intermediate/Peak |
| Facility 188 | Burke | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 189 | Alamance | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 190 | Catawba | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 191 | Polk | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 192 | Rockingham | NC | Solar | 3.87 | Intermediate/Peak |
| Facility 193 | Guilford | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 194 | Forsyth | NC | Solar | 10.56 | Intermediate/Peak |
| Facility 195 | Durham | NC | Other* | 5500.00 | Intermediate/Peak |
| Facility 196 | Durham | NC | Other* | 13400.00 | Intermediate/Peak |
| Facility 197 | Durham | NC | Other* | 2250.00 | Intermediate/Peak |
| Facility 198 | Orange | NC | Solar | 10.68 | Intermediate/Peak |
| Facility 199 | Davidson | NC | Engine Dynamometer | N/A | Intermediate/Peak |
| Facility 200 | Cherokee | NC | Solar | 13.72 | Intermediate/Peak |
| Facility 201 | | NC | Solar | 5.16 | Intermediate/Peak |
| Facility 202 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 203 | Macon | NC | Solar | 8.60 | Intermediate/Peak |
| Facility 204 | Orange | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 205 | Mecklenburg | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 206 | Mecklenburg | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 207 | Orange | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 208 | Orange | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 209 | Durham | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 210 | Mecklenburg | NC | Solar | 4.58 | Intermediate/Peak |
| Facility 211 | Alamance | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 212 | Guilford | NC | Solar | 4.80 | Intermediate/Peak |
| Facility 213 | McDowell | NC | Solar | 18.00 | Intermediate/Peak |
| Facility 214 | Caldwell | NC | Solar | 1.40 | Intermediate/Peak |
| Facility 215 | Durham | NC | Solar | 75.00 | Intermediate/Peak |
| Facility 216 | Durham | NC | Solar | 52.90 | Intermediate/Peak |
| Facility 217 | | NC | Solar | 50.00 | Intermediate/Peak |
| Facility 218 | Durham | NC | Solar | 30.00 | Intermediate/Peak |
| Facility 219 | Monroe | NC | Other* | 400.00 | Intermediate/Peak |
| Facility 220 | Union | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 221 | Durham | NC | Solar | 2.16 | Intermediate/Peak |
| Facility 222 | Guilford | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 223 | Durham | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 224 | Wake | NC | Solar | 2.82 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|---------------|-------|-------------------|------------------|-------------------|
| Facility 225 | Henderson | NC | Solar | 4.90 | Intermediate/Peak |
| Facility 226 | Mecklenburg | NC | Solar | 2.85 | Intermediate/Peak |
| Facility 227 | Charlotte | NC | Other* | 10000.00 | Intermediate/Peak |
| Facility 228 | Guilford | NC | Solar | 14.40 | Intermediate/Peak |
| Facility 229 | Forsyth | NC | Solar | 2.38 | Intermediate/Peak |
| Facility 230 | McDowell | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 231 | Alamance | NC | Solar | 2.70 | Intermediate/Peak |
| Facility 232 | Charlotte | NC | Other* | 300.00 | Intermediate/Peak |
| Facility 233 | Burke | NC | Solar | 24.00 | Intermediate/Peak |
| Facility 234 | Winston-Salem | NC | Other* | 1800.00 | Intermediate/Peak |
| Facility 235 | Forsyth | NC | Solar | 2.30 | Intermediate/Peak |
| Facility 236 | Catawba | NC | Solar | 4.50 | Intermediate/Peak |
| Facility 237 | Mecklenburg | NC | Solar | 11.77 | Intermediate/Peak |
| Facility 238 | Orange | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 239 | Orange | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 240 | Rowan | NC | Solar | 82.00 | Intermediate/Peak |
| Facility 241 | Mecklenburg | NC | Solar | 8.00 | Intermediate/Peak |
| Facility 242 | Henderson | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 243 | Guilford | NC | Solar | 1.75 | Intermediate/Peak |
| Facility 244 | Transylvania | NC | Solar | 2.80 | Intermediate/Peak |
| Facility 245 | Polk | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 246 | Surry | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 247 | Jackson | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 248 | Cabarrus | NC | Landfill Gas | 5000.00 | Baseload |
| Facility 249 | Gaston | NC | Landfill Gas | 4800.00 | Baseload |
| Facility 250 | Guilford | NC | Solar | 2.16 | Intermediate/Peak |
| Facility 251 | Durham | NC | Solar | 700.00 | Intermediate/Peak |
| Facility 252 | Greensboro | NC | Other* | 125.00 | Intermediate/Peak |
| Facility 253 | Guilford | NC | Solar | 0.86 | Intermediate/Peak |
| Facility 254 | Orange | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 255 | Burke | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 256 | Henderson | NC | Solar | 2.82 | Intermediate/Peak |
| Facility 257 | Cabarrus | NC | Solar | 4.30 | Intermediate/Peak |
| Facility 258 | Polk | NC | Solar | 2.14 | Intermediate/Peak |
| Facility 259 | Mecklenburg | NC | Solar | 1.96 | Intermediate/Peak |
| Facility 260 | Wilkes | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 261 | Swain | NC | Solar | 7.00 | Intermediate/Peak |
| Facility 262 | McDowell | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 263 | Guilford | NC | Solar | 4.16 | Intermediate/Peak |
| Facility 264 | Orange | NC | Solar | 1.64 | Intermediate/Peak |
| Facility 265 | Durham | NC | Solar | 307.43 | Intermediate/Peak |
| Facility 266 | Catawba | NC | Solar | 1.40 | Intermediate/Peak |
| Facility 267 | Mecklenburg | NC | Solar | 1.72 | Intermediate/Peak |
| Facility 268 | Polk | NC | Solar | 2.15 | Intermediate/Peak |
| Facility 269 | Guilford | NC | Solar | 50.00 | Intermediate/Peak |
| Facility 270 | Macon | NC | Solar | 4.30 | Intermediate/Peak |
| Facility 271 | Lincoln | NC | Solar | 0.70 | Intermediate/Peak |
| Facility 272 | Cabarrus | NC | Solar | 3.01 | Intermediate/Peak |
| Facility 273 | Forsyth | NC | Solar | 8.00 | Intermediate/Peak |
| Facility 274 | Rutherford | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 275 | Orange | NC | Solar | 4.20 | Intermediate/Peak |
| Facility 276 | Orange | NC | Solar | 3.15 | Intermediate/Peak |
| Facility 277 | Alexander | NC | Hydroelectric | 365.00 | Baseload |
| Facility 278 | Forsyth | NC | Solar | 14.80 | Intermediate/Peak |
| Facility 279 | Gaston | NC | Hydroelectric | 820.00 | Baseload |
| Facility 280 | Guilford | NC | Solar | 7.50 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|------------------------|-------|--------------------|------------------|-------------------|
| Facility 281 | Wilkes | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 282 | Cabarrus | NC | Solar | 5.20 | Intermediate/Peak |
| Facility 283 | Alamance | NC | Hydroelectric | 1500.00 | Baseload |
| Facility 284 | Alamance | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 285 | Durham | NC | Solar | 3.01 | Intermediate/Peak |
| Facility 286 | Orange | NC | Solar | 3.30 | Intermediate/Peak |
| Facility 287 | Orange | NC | Solar | 7.00 | Intermediate/Peak |
| Facility 288 | Mecklenburg | NC | Engine Dynamometer | N/A | Intermediate/Peak |
| Facility 289 | Guilford | NC | Solar | 108.00 | Intermediate/Peak |
| Facility 290 | Mecklenburg | NC | Solar | 2.15 | Intermediate/Peak |
| Facility 291 | Davidson | NC | Solar | 1.29 | Intermediate/Peak |
| Facility 292 | Durham | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 293 | Alamance | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 294 | Lincoln | NC | Solar | 2.15 | Intermediate/Peak |
| Facility 295 | Orange | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 296 | Research Triangle Park | NC | Other* | 10900.00 | Intermediate/Peak |
| Facility 297 | Mecklenburg | NC | Solar | 790.00 | Intermediate/Peak |
| Facility 298 | Mecklenburg | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 299 | Hickory | NC | Other* | 1040.00 | Intermediate/Peak |
| Facility 300 | Rockingham | NC | Hydroelectric | 500.00 | Baseload |
| Facility 301 | Lincoln | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 302 | Henderson | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 303 | Henderson | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 304 | Orange | NC | Solar | 9.17 | Intermediate/Peak |
| Facility 305 | Orange | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 306 | Mecklenburg | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 307 | Polk | NC | Solar | 5.16 | Intermediate/Peak |
| Facility 308 | Surry | NC | Solar | 12.26 | Intermediate/Peak |
| Facility 309 | Mecklenburg | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 310 | Durham | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 311 | Mecklenburg | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 312 | Guilford | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 313 | Macon | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 314 | Mecklenburg | NC | Solar | 1.75 | Intermediate/Peak |
| Facility 315 | Stokes | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 316 | Polk | NC | Solar | 6.65 | Intermediate/Peak |
| Facility 317 | Alamance | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 318 | Alamance | NC | Solar | 4.90 | Intermediate/Peak |
| Facility 319 | Durham | NC | Solar | 2.21 | Intermediate/Peak |
| Facility 320 | Mecklenburg | NC | Solar | 1.40 | Intermediate/Peak |
| Facility 321 | Rockingham | NC | Solar | 0.76 | Intermediate/Peak |
| Facility 322 | Rockingham | NC | Solar | 90.00 | Intermediate/Peak |
| Facility 323 | Jackson | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 324 | Rutherford | NC | Solar | 4.18 | Intermediate/Peak |
| Facility 325 | Durham- NE | NC | Solar | 2.21 | Intermediate/Peak |
| Facility 326 | Iredell | NC | Solar | 7.96 | Intermediate/Peak |
| Facility 327 | Wilkes | NC | Solar | 4.20 | Intermediate/Peak |
| Facility 328 | Transylvania | NC | Solar | 0.70 | Intermediate/Peak |
| Facility 329 | Henderson | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 330 | Durham | NC | Solar | 2.48 | Intermediate/Peak |
| Facility 331 | Durham | NC | Solar | 1.25 | Intermediate/Peak |
| Facility 332 | | NC | Solar | 3.23 | Intermediate/Peak |
| Facility 333 | Orange | NC | Solar | 6.45 | Intermediate/Peak |
| Facility 334 | | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 335 | Alamance | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 336 | Jackson | NC | Solar | 3.00 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|---------------|-------|-------------------|------------------|-------------------|
| Facility 337 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 338 | Durham | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 339 | | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 340 | Alamance | NC | Solar | 3.24 | Intermediate/Peak |
| Facility 341 | Rowan | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 342 | Cherokee | NC | Solar | 7.60 | Intermediate/Peak |
| Facility 343 | Forsyth | NC | Solar | 3.99 | Intermediate/Peak |
| Facility 344 | Wake | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 345 | Cabarrus | NC | Solar | 9.80 | Intermediate/Peak |
| Facility 346 | Henderson | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 347 | Guilford | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 348 | Orange | NC | Solar | 9.80 | Intermediate/Peak |
| Facility 349 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 350 | Yadkin | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 351 | Cleveland | NC | Wind | 1.20 | Intermediate/Peak |
| Facility 352 | Durham | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 353 | Mecklenburg | NC | Solar | 3.04 | Intermediate/Peak |
| Facility 354 | Durham | NC | Solar | 3.44 | Intermediate/Peak |
| Facility 355 | Alamance | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 356 | Durham | NC | Solar | 2.82 | Intermediate/Peak |
| Facility 357 | Randolph | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 358 | Guilford | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 359 | Forsyth | NC | Solar | 2.85 | Intermediate/Peak |
| Facility 360 | Henderson | NC | Solar | 6.45 | Intermediate/Peak |
| Facility 361 | Forsyth | NC | Solar | 2.85 | Intermediate/Peak |
| Facility 362 | Henderson | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 363 | Orange | NC | Solar | 7.80 | Intermediate/Peak |
| Facility 364 | Polk | NC | Solar | 4.32 | Intermediate/Peak |
| Facility 365 | Henderson | NC | Solar | 7.31 | Intermediate/Peak |
| Facility 366 | Union | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 367 | Henderson | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 368 | Iredell | NC | Solar | 3.30 | Intermediate/Peak |
| Facility 369 | Forsyth | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 370 | Cabarrus | NC | Solar | 4.30 | Intermediate/Peak |
| Facility 371 | Cabarrus | NC | Solar | 9.00 | Intermediate/Peak |
| Facility 372 | Wilkes | NC | Solar | 4.73 | Intermediate/Peak |
| Facility 373 | Catawba | NC | Solar | 15.20 | Intermediate/Peak |
| Facility 374 | Catawba | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 375 | Durham | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 376 | McDowell | NC | Solar | 0.76 | Intermediate/Peak |
| Facility 377 | Forsyth | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 378 | Rutherfordton | NC | Solar | 0.86 | Intermediate/Peak |
| Facility 379 | Stokes | NC | Solar | 4.30 | Intermediate/Peak |
| Facility 380 | Mecklenburg | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 381 | Orange | NC | Solar | 1.20 | Intermediate/Peak |
| Facility 382 | Henderson | NC | Solar | 2.28 | Intermediate/Peak |
| Facility 383 | Rockingham | NC | Solar | 4.30 | Intermediate/Peak |
| Facility 384 | Burke | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 385 | Orange | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 386 | McDowell | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 387 | Stokes | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 388 | Durham | NC | Solar | 3.25 | Intermediate/Peak |
| Facility 389 | Orange | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 390 | Macon | NC | Solar | 1.44 | Intermediate/Peak |
| Facility 391 | Macon | NC | Wind | 1.00 | Intermediate/Peak |
| Facility 392 | Iredell | NC | Solar | 4.00 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|-------------|-------|-------------------|------------------|-------------------|
| Facility 393 | Surry | NC | Solar | 4.60 | Intermediate/Peak |
| Facility 394 | Hickory | NC | Other* | 500.00 | Intermediate/Peak |
| Facility 395 | Mecklenburg | NC | Solar | 9.00 | Intermediate/Peak |
| Facility 396 | Charlotte | NC | Other* | 200.00 | Intermediate/Peak |
| Facility 397 | Durham | NC | Other* | 1000.00 | Intermediate/Peak |
| Facility 398 | Cherokee | NC | Solar | 3.01 | Intermediate/Peak |
| Facility 399 | McDowell | NC | Solar | 3.57 | Intermediate/Peak |
| Facility 400 | Burke | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 401 | Durham | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 402 | Durham | NC | Solar | 7.00 | Intermediate/Peak |
| Facility 403 | Guilford | NC | Solar | 3.68 | Intermediate/Peak |
| Facility 404 | Rowan | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 405 | Durham | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 406 | Forsyth | NC | Solar | 4.20 | Intermediate/Peak |
| Facility 407 | Guilford | NC | Solar | 35.48 | Intermediate/Peak |
| Facility 408 | Alexander | NC | Solar | 1.94 | Intermediate/Peak |
| Facility 409 | Wake | NC | Solar | 6.87 | Intermediate/Peak |
| Facility 410 | Forsyth | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 411 | Guilford | NC | Solar | 4.91 | Intermediate/Peak |
| Facility 412 | Mecklenburg | NC | Solar | 3.50 | Intermediate/Peak |
| Facility 413 | Henderson | NC | Hydroelectric | 6.00 | Baseload |
| Facility 414 | Wilkesboro | NC | Other* | 600.00 | Intermediate/Peak |
| Facility 415 | Durham | NC | Solar | 3.84 | Intermediate/Peak |
| Facility 416 | Henderson | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 417 | Forsyth | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 418 | Cleveland | NC | Solar | 135.00 | Intermediate/Peak |
| Facility 419 | Durham | NC | Solar | 2.15 | Intermediate/Peak |
| Facility 420 | Orange | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 421 | Alamance | NC | Solar | 2.10 | Intermediate/Peak |
| Facility 422 | Mecklenburg | NC | Solar | 6.75 | Intermediate/Peak |
| Facility 423 | Orange | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 424 | Orange | NC | Solar | 2.40 | Intermediate/Peak |
| Facility 425 | Orange | NC | Solar | 5.56 | Intermediate/Peak |
| Facility 426 | Rowan | NC | Solar | 1.70 | Intermediate/Peak |
| Facility 427 | Union | NC | Solar | 2.94 | Intermediate/Peak |
| Facility 428 | Guilford | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 429 | Davie | NC | Solar | 7.85 | Intermediate/Peak |
| Facility 430 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 431 | Durham | NC | Solar | 5.16 | Intermediate/Peak |
| Facility 432 | Guilford | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 433 | Durham | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 434 | Davidson | NC | Solar | 3.45 | Intermediate/Peak |
| Facility 435 | Mecklenburg | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 436 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 437 | Cleveland | NC | Solar | 4.70 | Intermediate/Peak |
| Facility 438 | Mecklenburg | NC | Solar | 3.50 | Intermediate/Peak |
| Facility 439 | Mecklenburg | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 440 | Iredell | NC | Solar | 60.00 | Intermediate/Peak |
| Facility 441 | Wake | NC | Solar | 2.21 | Intermediate/Peak |
| Facility 442 | Randolph | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 443 | Alamance | NC | Solar | 2.40 | Intermediate/Peak |
| Facility 444 | Forsyth | NC | Solar | 3.15 | Intermediate/Peak |
| Facility 445 | Henderson | NC | Solar | 2.70 | Intermediate/Peak |
| Facility 446 | Wake | NC | Solar | 2.21 | Intermediate/Peak |
| Facility 447 | Orange | NC | Solar | 5.16 | Intermediate/Peak |
| Facility 448 | Mecklenburg | NC | Solar | 3.15 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|----------------|-------|-------------------|------------------|-------------------|
| Facility 449 | Mecklenburg | NC | Solar | 3.44 | Intermediate/Peak |
| Facility 450 | Mecklenburg | NC | Solar | 0.70 | Intermediate/Peak |
| Facility 451 | Surry | NC | Solar | 1000.00 | Intermediate/Peak |
| Facility 452 | Rockingham | NC | Hydroelectric | 1275.00 | Baseload |
| Facility 453 | Rockingham | NC | Hydroelectric | 951.00 | Baseload |
| Facility 454 | Marion | NC | Other* | 650.00 | Intermediate/Peak |
| Facility 455 | Hickory | NC | Other* | 500.00 | Intermediate/Peak |
| Facility 456 | Catawba | NC | Solar | 8.17 | Intermediate/Peak |
| Facility 457 | Mecklenburg | NC | Solar | 49.00 | Intermediate/Peak |
| Facility 458 | Charlotte | NC | Other* | 2200.00 | Intermediate/Peak |
| Facility 459 | Mecklenburg | NC | Solar | 12.00 | Intermediate/Peak |
| Facility 460 | Hendersonville | NC | Other* | 1000.00 | Intermediate/Peak |
| Facility 461 | Cabarrus | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 462 | Concord | NC | Other* | 2950.00 | Intermediate/Peak |
| Facility 463 | Rutherford | NC | Solar | 1.96 | Intermediate/Peak |
| Facility 464 | Mecklenburg | NC | Solar | 5.76 | Intermediate/Peak |
| Facility 465 | Orange | NC | Solar | 1.32 | Intermediate/Peak |
| Facility 466 | Yadkin | NC | Solar | 7.80 | Intermediate/Peak |
| Facility 467 | Yadkin | NC | Solar | 7.10 | Intermediate/Peak |
| Facility 468 | Mecklenburg | NC | Solar | 1.89 | Intermediate/Peak |
| Facility 469 | Jackson | NC | Solar | 2.76 | Intermediate/Peak |
| Facility 470 | Yadkin | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 471 | Rutherford | NC | Solar | 1.94 | Intermediate/Peak |
| Facility 472 | Iredell | NC | Solar | 2.80 | Intermediate/Peak |
| Facility 473 | Davidson | NC | Solar | 4.32 | Intermediate/Peak |
| Facility 474 | Durham | NC | Solar | 3.23 | Intermediate/Peak |
| Facility 475 | Gaston | NC | Hydroelectric | 1800.00 | Baseload |
| Facility 476 | Davie | NC | Solar | 5000.00 | Intermediate/Peak |
| Facility 477 | Durham | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 478 | Stokes | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 479 | Greensboro | NC | Other* | 700.00 | Intermediate/Peak |
| Facility 480 | Greensboro | NC | Other* | 2500.00 | Intermediate/Peak |
| Facility 481 | Greensboro | NC | Other* | 1280.00 | Intermediate/Peak |
| Facility 482 | Durham | NC | Landfill Gas | 3180.00 | Baseload |
| Facility 483 | Mecklenburg | NC | Solar | 4.80 | Intermediate/Peak |
| Facility 484 | Durham | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 485 | Mecklenburg | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 486 | Catawba | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 487 | Gaston | NC | Solar | 635.00 | Intermediate/Peak |
| Facility 488 | Mecklenburg | NC | Solar | 30.00 | Intermediate/Peak |
| Facility 489 | Winston-Salem | NC | Other* | 400.00 | Intermediate/Peak |
| Facility 490 | Durham | NC | Solar | 28.00 | Intermediate/Peak |
| Facility 491 | Concord | NC | Other* | 680.00 | Intermediate/Peak |
| Facility 492 | Butner | NC | Other* | 1250.00 | Intermediate/Peak |
| Facility 493 | Morganton | NC | Other* | 200.00 | Intermediate/Peak |
| Facility 494 | Catawba | NC | Solar | 135.00 | Intermediate/Peak |
| Facility 495 | Orange | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 496 | Union | NC | Solar | 2.63 | Intermediate/Peak |
| Facility 497 | Cabarrus | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 498 | Rowan | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 499 | Polk | NC | Hydroelectric | 5500.00 | Baseload |
| Facility 500 | Alamance | NC | Solar | 221.76 | Intermediate/Peak |
| Facility 501 | Orange | NC | Solar | 18.48 | Intermediate/Peak |
| Facility 502 | Orange | NC | Solar | 18.48 | Intermediate/Peak |
| Facility 503 | Davidson | NC | Solar | 1500.00 | Intermediate/Peak |
| Facility 504 | Mecklenburg | NC | Solar | 8.40 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|----------------|-------|--------------------|------------------|-------------------|
| Facility 505 | Carrboro | NC | Other* | 500.00 | Intermediate/Peak |
| Facility 506 | Chapel Hill | NC | Other* | 1135.00 | Intermediate/Peak |
| Facility 507 | Chapel Hill | NC | Other* | 500.00 | Intermediate/Peak |
| Facility 508 | Chapel Hill | NC | Other* | 2000.00 | Intermediate/Peak |
| Facility 509 | Orange | NC | Solar | 5.30 | Intermediate/Peak |
| Facility 510 | Orange | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 511 | Hendersonville | NC | Other* | 500.00 | Intermediate/Peak |
| Facility 512 | Fletcher | NC | Other* | 1000.00 | Intermediate/Peak |
| Facility 513 | McDowell | NC | Solar | 4.68 | Intermediate/Peak |
| Facility 514 | Guilford | NC | Solar | 3.01 | Intermediate/Peak |
| Facility 515 | Macon | NC | Solar | 1.92 | Intermediate/Peak |
| Facility 516 | Orange | NC | Solar | 3.78 | Intermediate/Peak |
| Facility 517 | Rowan | NC | Solar | 7.20 | Intermediate/Peak |
| Facility 518 | Rowan | NC | Solar | 5.60 | Intermediate/Peak |
| Facility 519 | Alamance | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 520 | Cabarrus | NC | Engine Dynamometer | N/A | Intermediate/Peak |
| Facility 521 | Durham | NC | Solar | 4.30 | Intermediate/Peak |
| Facility 522 | Guilford | NC | Solar | 2.70 | Intermediate/Peak |
| Facility 523 | Alamance | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 524 | Forsyth | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 525 | Durham | NC | Solar | 3.36 | Intermediate/Peak |
| Facility 526 | Rutherford | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 527 | Rutherford | NC | Solar | 3.68 | Intermediate/Peak |
| Facility 528 | Transylvania | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 529 | Rowan | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 530 | Cleveland | NC | Hydroelectric | 600.00 | Base load |
| Facility 531 | Winston-Salem | NC | Other* | 750.00 | Intermediate/Peak |
| Facility 532 | Guilford | NC | Solar | 1.80 | Intermediate/Peak |
| Facility 533 | Jackson | NC | Solar | 9.00 | Intermediate/Peak |
| Facility 534 | Mebane | NC | Other* | 400.00 | Intermediate/Peak |
| Facility 535 | Matthews | NC | Other* | 1450.00 | Intermediate/Peak |
| Facility 536 | Huntersville | NC | Other* | 3200.00 | Intermediate/Peak |
| Facility 537 | Mecklenburg | NC | Solar | 33.12 | Intermediate/Peak |
| Facility 538 | Mecklenburg | NC | Solar | 52.47 | Intermediate/Peak |
| Facility 539 | Jackson | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 540 | Mecklenburg | NC | Solar | 8.80 | Intermediate/Peak |
| Facility 541 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 542 | Mecklenburg | NC | Solar | 2.70 | Intermediate/Peak |
| Facility 543 | Durham | NC | Solar | 7.00 | Intermediate/Peak |
| Facility 544 | Mecklenburg | NC | Solar | 7.60 | Intermediate/Peak |
| Facility 545 | Mecklenburg | NC | Solar | 4.10 | Intermediate/Peak |
| Facility 546 | Orange | NC | Solar | 1.20 | Intermediate/Peak |
| Facility 547 | Davie | NC | Solar | 9.88 | Intermediate/Peak |
| Facility 548 | Mecklenburg | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 549 | Polk | NC | Solar | 5.18 | Intermediate/Peak |
| Facility 550 | Orange | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 551 | Orange | NC | Solar | 1.71 | Intermediate/Peak |
| Facility 552 | Durham | NC | Solar | 1.20 | Intermediate/Peak |
| Facility 553 | Polk | NC | Solar | 1.72 | Intermediate/Peak |
| Facility 554 | Mecklenburg | NC | Solar | 18.06 | Intermediate/Peak |
| Facility 555 | Henderson | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 556 | RTP | NC | Other* | 350.00 | Intermediate/Peak |
| Facility 557 | Forsyth | NC | Solar | 1.94 | Intermediate/Peak |
| Facility 558 | Randolph | NC | Solar | 2.30 | Intermediate/Peak |
| Facility 559 | Durham | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 560 | Stanly | NC | Solar | 5.17 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|--------------|-------|--------------------|------------------|-------------------|
| Facility 561 | Gaston | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 562 | Forsyth | NC | Solar | 4.30 | Intermediate/Peak |
| Facility 563 | Catawba | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 564 | Wilkes | NC | Solar | 3.68 | Intermediate/Peak |
| Facility 565 | Rural Hall | NC | Other* | 1050.00 | Intermediate/Peak |
| Facility 566 | Mecklenburg | NC | Solar | 4.70 | Intermediate/Peak |
| Facility 567 | Jackson | NC | Solar | 9.90 | Intermediate/Peak |
| Facility 568 | Franklin | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 569 | Mecklenburg | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 570 | Henderson | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 571 | Orange | NC | Solar | 3.50 | Intermediate/Peak |
| Facility 572 | Guilford | NC | Solar | 1.10 | Intermediate/Peak |
| Facility 573 | Guilford | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 574 | Mecklenburg | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 575 | Henderson | NC | Solar | 0.76 | Intermediate/Peak |
| Facility 576 | Union | NC | Solar | 1.00 | Intermediate/Peak |
| Facility 577 | Mecklenburg | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 578 | Alamance | NC | Solar | 5.50 | Intermediate/Peak |
| Facility 579 | Stanly | NC | Solar | 5.16 | Intermediate/Peak |
| Facility 580 | Union | NC | Solar | 7.00 | Intermediate/Peak |
| Facility 581 | Union | NC | Solar | 2.48 | Intermediate/Peak |
| Facility 582 | Macon | NC | Solar | 5.94 | Intermediate/Peak |
| Facility 583 | Randolph | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 584 | Rowan | NC | Solar | 6.45 | Intermediate/Peak |
| Facility 585 | Durham | NC | Solar | 4.62 | Intermediate/Peak |
| Facility 586 | Wilkes | NC | Hydroelectric | 200.00 | Baseload |
| Facility 587 | Iredell | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 588 | Iredell | NC | Engine Dynamometer | N/A | Intermediate/Peak |
| Facility 589 | Henderson | NC | Solar | 9.00 | Intermediate/Peak |
| Facility 590 | Iredell | NC | Solar | 2.94 | Intermediate/Peak |
| Facility 591 | Transylvania | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 592 | Henderson | NC | Solar | 3.44 | Intermediate/Peak |
| Facility 593 | Forsyth | NC | Landfill Gas | 4750.00 | Baseload |
| Facility 594 | Durham | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 595 | Mecklenburg | NC | Solar | 4.73 | Intermediate/Peak |
| Facility 596 | Mecklenburg | NC | Solar | 10.80 | Intermediate/Peak |
| Facility 597 | Alamance | NC | Solar | 3.44 | Intermediate/Peak |
| Facility 598 | Alamance | NC | Solar | 2.40 | Intermediate/Peak |
| Facility 599 | Rutherford | NC | Solar | 3.60 | Intermediate/Peak |
| Facility 600 | Alamance | NC | Solar | 24.00 | Intermediate/Peak |
| Facility 601 | Orange | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 602 | Caswell | NC | Solar | 2.82 | Intermediate/Peak |
| Facility 603 | Mecklenburg | NC | Solar | 20.00 | Intermediate/Peak |
| Facility 604 | Orange | NC | Solar | 2.40 | Intermediate/Peak |
| Facility 605 | Guilford | NC | Solar | 5.46 | Intermediate/Peak |
| Facility 606 | Catawba | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 607 | McDowell | NC | Solar | 1.02 | Intermediate/Peak |
| Facility 608 | Durham | NC | Solar | 3.50 | Intermediate/Peak |
| Facility 609 | Cabarrus | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 610 | Orange | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 611 | Durham | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 612 | Henderson | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 613 | Alexander | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 614 | McDowell | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 615 | Guilford | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 616 | Cabarrus | NC | Solar | 4500.00 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|--------------|-------|-------------------|------------------|-------------------|
| Facility 617 | Durham | NC | Solar | 101.20 | Intermediate/Peak |
| Facility 618 | Guilford | NC | Solar | 12.00 | Intermediate/Peak |
| Facility 619 | Forsyth | NC | Solar | 10.00 | Intermediate/Peak |
| Facility 620 | Butner | NC | Other* | 750.00 | Intermediate/Peak |
| Facility 621 | Davie | NC | Hydroelectric | 1500.00 | Baseload |
| Facility 622 | Surry | NC | Solar | 9.87 | Intermediate/Peak |
| Facility 623 | Forsyth | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 624 | Surry | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 625 | Orange | NC | Solar | 8.60 | Intermediate/Peak |
| Facility 626 | Durham | NC | Solar | 3.66 | Intermediate/Peak |
| Facility 627 | Durham | NC | Solar | 2.04 | Intermediate/Peak |
| Facility 628 | Burke | NC | Solar | 3.04 | Intermediate/Peak |
| Facility 629 | Iredell | NC | Solar | 1.51 | Intermediate/Peak |
| Facility 630 | Rockingham | NC | Solar | 4.73 | Intermediate/Peak |
| Facility 631 | Lincoln | NC | Hydroelectric | 750.00 | Baseload |
| Facility 632 | Catawba | NC | Solar | 4.41 | Intermediate/Peak |
| Facility 633 | Chatham | NC | Solar | 3.84 | Intermediate/Peak |
| Facility 634 | Mecklenburg | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 635 | Orange | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 636 | Orange | NC | Solar | 5.17 | Intermediate/Peak |
| Facility 637 | Alamance | NC | Solar | 2.85 | Intermediate/Peak |
| Facility 638 | Orange | NC | Solar | 9.00 | Intermediate/Peak |
| Facility 639 | Durham | NC | Solar | 1.50 | Intermediate/Peak |
| Facility 640 | Transylvania | NC | Solar | 3.36 | Intermediate/Peak |
| Facility 641 | RTP | NC | Other* | 1825.00 | Intermediate/Peak |
| Facility 642 | Rockingham | NC | Solar | 9.00 | Intermediate/Peak |
| Facility 643 | Forsyth | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 644 | Guilford | NC | Solar | 21.40 | Intermediate/Peak |
| Facility 645 | Davidson | NC | Solar | 15500.00 | Intermediate/Peak |
| Facility 646 | Transylvania | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 647 | Macon | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 648 | Orange | NC | Solar | 9.24 | Intermediate/Peak |
| Facility 649 | Chatham | NC | Solar | 4.41 | Intermediate/Peak |
| Facility 650 | Wake | NC | Solar | 2.21 | Intermediate/Peak |
| Facility 651 | Catawba | NC | Solar | 4.76 | Intermediate/Peak |
| Facility 652 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 653 | Gaston | NC | Solar | 1.14 | Intermediate/Peak |
| Facility 654 | Rockingham | NC | Solar | 2.80 | Intermediate/Peak |
| Facility 655 | Swain | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 656 | Durham | NC | Solar | 2.80 | Intermediate/Peak |
| Facility 657 | Durham | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 658 | Greensboro | NC | Other* | 750.00 | Intermediate/Peak |
| Facility 659 | Greensboro | NC | Other* | 250.00 | Intermediate/Peak |
| Facility 660 | Alamance | NC | Solar | 8.60 | Intermediate/Peak |
| Facility 661 | Guilford | NC | Solar | 2.15 | Intermediate/Peak |
| Facility 662 | Randolph | NC | Solar | 20.00 | Intermediate/Peak |
| Facility 663 | Randolph | NC | Solar | 52.00 | Intermediate/Peak |
| Facility 664 | Guilford | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 665 | Guilford | NC | Solar | 175.00 | Intermediate/Peak |
| Facility 666 | Orange | NC | Solar | 0.74 | Intermediate/Peak |
| Facility 667 | Henderson | NC | Solar & Wind | 6.00 | Intermediate/Peak |
| Facility 668 | Mecklenburg | NC | Solar | 4.60 | Intermediate/Peak |
| Facility 669 | Mecklenburg | NC | Solar | 250.00 | Intermediate/Peak |
| Facility 670 | Catawba | NC | Solar | 4.70 | Intermediate/Peak |
| Facility 671 | Catawba | NC | Solar | 4.70 | Intermediate/Peak |
| Facility 672 | Orange | NC | Solar | 4.00 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|------------------|-------|-------------------|------------------|-------------------|
| Facility 673 | Durham | NC | Solar | 2.28 | Intermediate/Peak |
| Facility 674 | Polk | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 675 | Alamance | NC | Solar | 1.90 | Intermediate/Peak |
| Facility 676 | | NC | Solar | 4.58 | Intermediate/Peak |
| Facility 677 | Mecklenburg | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 678 | Henderson | NC | Solar | 1.94 | Intermediate/Peak |
| Facility 679 | Union | NC | Solar | 4.30 | Intermediate/Peak |
| Facility 680 | Randolph | NC | Solar | 3.98 | Intermediate/Peak |
| Facility 681 | Cabarrus | NC | Solar | 4.05 | Intermediate/Peak |
| Facility 682 | Cabarrus | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 683 | Swain | NC | Solar | 2.52 | Intermediate/Peak |
| Facility 684 | Rutherfordton | NC | Solar | 2.80 | Intermediate/Peak |
| Facility 685 | Orange | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 686 | Mecklenburg | NC | Solar | 4.95 | Intermediate/Peak |
| Facility 687 | Durham | NC | Solar | 4.95 | Intermediate/Peak |
| Facility 688 | Orange | NC | Solar | 1.48 | Intermediate/Peak |
| Facility 689 | Randolph | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 690 | Orange | NC | Solar | 9.00 | Intermediate/Peak |
| Facility 691 | Orange | NC | Solar | 9.00 | Intermediate/Peak |
| Facility 692 | Guilford | NC | Solar | 3.01 | Intermediate/Peak |
| Facility 693 | Mecklenburg | NC | Solar | 3.29 | Intermediate/Peak |
| Facility 694 | Burke | NC | Solar | 2.58 | Intermediate/Peak |
| Facility 695 | Lincoln | NC | Solar | 9.00 | Intermediate/Peak |
| Facility 696 | Orange | NC | Solar | 3.80 | Intermediate/Peak |
| Facility 697 | Rutherford | NC | Hydroelectric | 3600.00 | Baseload |
| Facility 698 | North Wilkesboro | NC | Other* | 1250.00 | Intermediate/Peak |
| Facility 699 | Jackson | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 700 | Valdese | NC | Other* | 600.00 | Intermediate/Peak |
| Facility 701 | Wilkesboro | NC | Other* | 750.00 | Intermediate/Peak |
| Facility 702 | Yadkinville | NC | Other* | 1200.00 | Intermediate/Peak |
| Facility 703 | Reidsville | NC | Other* | 750.00 | Intermediate/Peak |
| Facility 704 | Mooresville | NC | Other* | 750.00 | Intermediate/Peak |
| Facility 705 | Brevard | NC | Other* | 1000.00 | Intermediate/Peak |
| Facility 706 | Guilford | NC | Solar | 30.00 | Intermediate/Peak |
| Facility 707 | Cherokee | NC | Other* | 12500.00 | Intermediate/Peak |
| Facility 708 | Mecklenburg | NC | Solar | 18.00 | Intermediate/Peak |
| Facility 709 | Durham | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 710 | Catawba | NC | Solar | 5000.00 | Intermediate/Peak |
| Facility 711 | North Wilkesboro | NC | Other* | 155.00 | Intermediate/Peak |
| Facility 712 | Mecklenburg | NC | Solar | 4.80 | Intermediate/Peak |
| Facility 713 | Union | NC | Solar | 6.02 | Intermediate/Peak |
| Facility 714 | Orange | NC | Solar | 20.00 | Intermediate/Peak |
| Facility 715 | | NC | Landfill Gas | 1059.00 | Baseload |
| Facility 716 | Durham | NC | Solar | 112.00 | Intermediate/Peak |
| Facility 717 | Durham | NC | Solar | 51.00 | Intermediate/Peak |
| Facility 718 | Durham | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 719 | Chatham | NC | Solar | 2.70 | Intermediate/Peak |
| Facility 720 | Salisbury | NC | Other* | 1500.00 | Intermediate/Peak |
| Facility 721 | Mecklenburg | NC | Solar | 5.70 | Intermediate/Peak |
| Facility 722 | Mecklenburg | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 723 | Forsyth | NC | Solar | 1.92 | Intermediate/Peak |
| Facility 724 | Mecklenburg | NC | Solar | 27.47 | Intermediate/Peak |
| Facility 725 | Orange | NC | Solar | 14.51 | Intermediate/Peak |
| Facility 726 | Winston-Salem | NC | Other* | 3750.00 | Intermediate/Peak |
| Facility 727 | Winston-Salem | NC | Other* | 3000.00 | Intermediate/Peak |
| Facility 728 | Winston-Salem | NC | Other* | 3000.00 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (AC kW) | Designation |
|---------------|---------------|-------|-------------------|------------------|-------------------|
| Facility 729 | Winston-Salem | NC | Other* | 500.00 | Intermediate/Peak |
| Facility 730 | Rowan | NC | Solar | 150.00 | Intermediate/Peak |
| Facility 731 | Rockingham | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 732 | Iredell | NC | Solar | 1.40 | Intermediate/Peak |
| Facility 733 | Cherokee | NC | Solar | 8.20 | Intermediate/Peak |
| Facility 734 | Orange | NC | Solar | 4.32 | Intermediate/Peak |
| Facility 735 | Watauga | NC | Landfill Gas | 186.00 | Baseload |
| Facility 736 | Davie | NC | Solar | 0.70 | Intermediate/Peak |
| Facility 737 | Winston-Salem | NC | Other* | 2000.00 | Intermediate/Peak |
| Facility 738 | Wilkes | NC | Solar | 2.85 | Intermediate/Peak |
| Facility 739 | Elkin | NC | Other* | 500.00 | Intermediate/Peak |
| Facility 740 | Polk | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 741 | Transylvania | NC | Solar | 0.65 | Intermediate/Peak |
| Facility 742 | Wilkes | NC | Wind | 2.40 | Intermediate/Peak |
| Facility 743 | Wilkes | NC | Landfill Gas | 70.00 | Baseload |
| Facility 744 | Guilford | NC | Solar | 4.52 | Intermediate/Peak |
| Facility 745 | Cleveland | NC | Solar | 2.50 | Intermediate/Peak |
| Facility 746 | Orange | NC | Solar | 2.30 | Intermediate/Peak |
| Facility 747 | Orange | NC | Solar | 5.00 | Intermediate/Peak |
| Facility 748 | Mecklenburg | NC | Solar | 2.41 | Intermediate/Peak |
| Facility 749 | Macon | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 750 | Forsyth | NC | Solar | 2.94 | Intermediate/Peak |
| Facility 751 | Orange | NC | Solar | 2.00 | Intermediate/Peak |
| Facility 752 | Guilford | NC | Solar | 4.80 | Intermediate/Peak |
| Facility 753 | Durham | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 754 | Jackson | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 755 | Orange | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 756 | Guilford | NC | Solar | 3.00 | Intermediate/Peak |
| Facility 757 | Forsyth | NC | Solar | 3.30 | Intermediate/Peak |
| Facility 758 | Forsyth | NC | Landfill Gas | 2400.00 | Baseload |
| Facility 759 | Mecklenburg | NC | Solar | 4.00 | Intermediate/Peak |
| Facility 760 | Union | NC | Solar | 6.00 | Intermediate/Peak |
| Facility 761 | Davidson | NC | Solar | 82.00 | Intermediate/Peak |
| Facility 762 | Transylvania | NC | Solar | 4.00 | Intermediate/Peak |

Note: Data provided in Table H-3 reflects nameplate capacity for the facility.

Table H-4 Non-Utility Generation- South Carolina

| SOUTH CAROLINA GENERATORS | | | | | |
|---------------------------|-------------|-------|--------------------|---------------|-------------------|
| Facility Name | City/County | State | Primary Fuel Type | Capacity (kW) | Designation |
| Facility 763 | Cherokee | SC | Natural Gas | 100000.00 | Intermediate/Peak |
| Facility 764 | Greenville | SC | Solar | 21.00 | Intermediate/Peak |
| Facility 765 | Spartanburg | SC | Solar | 15.00 | Intermediate/Peak |
| Facility 766 | | SC | Solar | 0.76 | Intermediate/Peak |
| Facility 767 | Anderson | SC | Solar | 10.00 | Intermediate/Peak |
| Facility 768 | Greenville | SC | Hydroelectric | 600.00 | Baseload |
| Facility 769 | Laurens | SC | Hydroelectric | 6300.00 | Baseload |
| Facility 770 | Greenville | SC | Solar | 1.94 | Intermediate/Peak |
| Facility 771 | Pickens | SC | Solar | 2.35 | Intermediate/Peak |
| Facility 772 | Spartanburg | SC | Solar | 94.08 | Intermediate/Peak |
| Facility 773 | Spartanburg | SC | Solar | 0.76 | Intermediate/Peak |
| Facility 774 | Greenville | SC | Solar | 2.15 | Intermediate/Peak |
| Facility 775 | Spartanburg | SC | Solar | 5.52 | Intermediate/Peak |
| Facility 776 | Greenville | SC | Solar | 1.68 | Intermediate/Peak |
| Facility 777 | York | SC | Solar | 2.80 | Intermediate/Peak |
| Facility 778 | Lancaster | SC | Solar | 5.00 | Intermediate/Peak |
| Facility 779 | Pickens | SC | Solar | 11.00 | Intermediate/Peak |
| Facility 780 | Oconee | SC | Solar | 3.60 | Intermediate/Peak |
| Facility 781 | Greenville | SC | Solar | 1.80 | Intermediate/Peak |
| Facility 782 | Pickens | SC | Solar | 42.00 | Intermediate/Peak |
| Facility 783 | Laurens | SC | Solar | 6.00 | Intermediate/Peak |
| Facility 784 | Greenville | SC | Solar | 5.00 | Intermediate/Peak |
| Facility 785 | Greenwood | SC | Other* | 1500.00 | Intermediate/Peak |
| Facility 786 | Spartanburg | SC | Hydroelectric | 1250.00 | Baseload |
| Facility 787 | Pickens | SC | Solar | 4.50 | Intermediate/Peak |
| Facility 788 | Laurens | SC | Solar | 0.76 | Intermediate/Peak |
| Facility 789 | Greenville | SC | Solar | 2.28 | Intermediate/Peak |
| Facility 790 | Spartanburg | SC | Solar | 3.01 | Intermediate/Peak |
| Facility 791 | Greenwood | SC | Solar | 2.76 | Intermediate/Peak |
| Facility 792 | Spartanburg | SC | Solar | 0.74 | Intermediate/Peak |
| Facility 793 | Greenville | SC | Solar | 2.53 | Intermediate/Peak |
| Facility 794 | Spartanburg | SC | Solar | 2.80 | Intermediate/Peak |
| Facility 795 | | SC | Solar | N/A | Intermediate/Peak |
| Facility 796 | York | SC | Solar | 2.85 | Intermediate/Peak |
| Facility 797 | Pickens | SC | Solar | 9.00 | Intermediate/Peak |
| Facility 798 | Greenville | SC | Solar | 0.76 | Intermediate/Peak |
| Facility 799 | Oconee | SC | Solar | 10.08 | Intermediate/Peak |
| Facility 800 | Spartanburg | SC | Engine Dynamometer | N/A | Intermediate/Peak |
| Facility 801 | Greenville | SC | Solar | 29.83 | Intermediate/Peak |
| Facility 802 | Greenville | SC | Solar | 100.00 | Intermediate/Peak |
| Facility 803 | Greenville | SC | Solar | 4.30 | Intermediate/Peak |
| Facility 804 | Spartanburg | SC | Solar | 2.15 | Intermediate/Peak |
| Facility 805 | Laurens | SC | Solar | 5.64 | Intermediate/Peak |
| Facility 806 | Spartanburg | SC | Solar | 3.00 | Intermediate/Peak |
| Facility 807 | Spartanburg | SC | Landfill Gas | 3200.00 | Baseload |
| Facility 808 | Greenville | SC | Solar | 30.10 | Intermediate/Peak |
| Facility 809 | | SC | Solar | 5.16 | Intermediate/Peak |
| Facility 810 | Spartanburg | SC | Hydroelectric | 1600.00 | Baseload |
| Facility 811 | Greenville | SC | Solar | 49.00 | Intermediate/Peak |
| Facility 812 | Oconee | SC | Solar | 56.70 | Intermediate/Peak |
| Facility 813 | Greenville | SC | Solar | 4.30 | Intermediate/Peak |
| Facility 814 | York | SC | Solar | 2.10 | Intermediate/Peak |
| Facility 815 | Spartanburg | SC | Solar | 0.76 | Intermediate/Peak |
| Facility 816 | Spartanburg | SC | Solar | 0.19 | Intermediate/Peak |
| Facility 817 | Oconee | SC | Solar | 4.00 | Intermediate/Peak |
| Facility 818 | Laurens | SC | Solar | 1.94 | Intermediate/Peak |
| Facility 819 | Pickens | SC | Solar | 1.05 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (kW) | Designation |
|---------------|-------------|-------|-------------------|---------------|-------------------|
| Facility 820 | York | SC | Solar | 5.41 | Intermediate/Peak |
| Facility 821 | Greenville | SC | Solar | 8.00 | Intermediate/Peak |
| Facility 822 | Greenville | SC | Solar | 4.84 | Intermediate/Peak |
| Facility 823 | Pickens | SC | Solar | 4.20 | Intermediate/Peak |
| Facility 824 | Pickens | SC | Solar | 2.62 | Intermediate/Peak |
| Facility 825 | York | SC | Solar | 2.99 | Intermediate/Peak |
| Facility 826 | Greenville | SC | Solar | 5.89 | Intermediate/Peak |
| Facility 827 | Greenville | SC | Solar | 3.36 | Intermediate/Peak |
| Facility 828 | Pickens | SC | Solar | 4.00 | Intermediate/Peak |
| Facility 829 | Greenville | SC | Solar | 2.94 | Intermediate/Peak |
| Facility 830 | Pickens | SC | Solar | 15.60 | Intermediate/Peak |
| Facility 831 | Greenville | SC | Solar | 1.94 | Intermediate/Peak |
| Facility 832 | Oconee | SC | Solar | 4.73 | Intermediate/Peak |
| Facility 833 | Clinton | SC | Other* | 447.00 | Intermediate/Peak |
| Facility 834 | Anderson | SC | Solar | 3.44 | Intermediate/Peak |
| Facility 835 | Greenville | SC | Solar | 1.30 | Intermediate/Peak |
| Facility 836 | Spartanburg | SC | Landfill Gas | 1600.00 | Baseload |
| Facility 837 | Spartanburg | SC | Solar | 3.85 | Intermediate/Peak |
| Facility 838 | Spartanburg | SC | Solar | 0.86 | Intermediate/Peak |
| Facility 839 | Laurens | SC | Solar | 8.60 | Intermediate/Peak |
| Facility 840 | Spartanburg | SC | Solar | 2.85 | Intermediate/Peak |
| Facility 841 | Greenville | SC | Solar | 3.82 | Intermediate/Peak |
| Facility 842 | Spartanburg | SC | Solar | 6.00 | Intermediate/Peak |
| Facility 843 | Spartanburg | SC | Solar | 3.78 | Intermediate/Peak |
| Facility 844 | Greenville | SC | Solar | 1.04 | Intermediate/Peak |
| Facility 845 | Anderson | SC | Solar | 6.14 | Intermediate/Peak |
| Facility 846 | Spartanburg | SC | Solar | 0.74 | Intermediate/Peak |
| Facility 847 | Greenville | SC | Solar | 14.00 | Intermediate/Peak |
| Facility 848 | Anderson | SC | Hydroelectric | 3500.00 | Baseload |
| Facility 849 | Greenville | SC | Hydroelectric | 2400.00 | Baseload |
| Facility 850 | Laurens | SC | Hydroelectric | 1500.00 | Baseload |
| Facility 851 | Greenville | SC | Solar | 3.01 | Intermediate/Peak |
| Facility 852 | Greenwood | SC | Solar | 7.52 | Intermediate/Peak |
| Facility 853 | Anderson | SC | Hydroelectric | 2020.00 | Baseload |
| Facility 854 | Anderson | SC | Hydroelectric | 3300.00 | Baseload |
| Facility 855 | Pickens | SC | Solar | 6.58 | Intermediate/Peak |
| Facility 856 | Greenville | SC | Solar | 2.38 | Intermediate/Peak |
| Facility 857 | Spartanburg | SC | Solar | 1.47 | Intermediate/Peak |
| Facility 858 | Greenville | SC | Solar | 6.72 | Intermediate/Peak |
| Facility 859 | York | SC | Solar | 2.50 | Intermediate/Peak |
| Facility 860 | Greenville | SC | Solar | 3.01 | Intermediate/Peak |
| Facility 861 | Anderson | SC | Solar | 2.38 | Intermediate/Peak |
| Facility 862 | Chester | SC | Solar | 2.47 | Intermediate/Peak |
| Facility 863 | Greenville | SC | Solar | 4.68 | Intermediate/Peak |
| Facility 864 | York | SC | Solar | 0.70 | Intermediate/Peak |
| Facility 865 | Kershaw | SC | Other* | 1875.00 | Intermediate/Peak |
| Facility 866 | Greenville | SC | Solar | 19.40 | Intermediate/Peak |
| Facility 867 | Spartanburg | SC | Other* | 500.00 | Intermediate/Peak |
| Facility 868 | Spartanburg | SC | Solar | 2.20 | Intermediate/Peak |
| Facility 869 | Spartanburg | SC | Wind | 1.20 | Intermediate/Peak |
| Facility 870 | Spartanburg | SC | Other* | 2432.00 | Intermediate/Peak |
| Facility 871 | Spartanburg | SC | Hydroelectric | 1000.00 | Baseload |
| Facility 872 | Greenville | SC | Solar | 8.00 | Intermediate/Peak |
| Facility 873 | Greenville | SC | Solar | 0.76 | Intermediate/Peak |
| Facility 874 | Spartanburg | SC | Solar | 4.20 | Intermediate/Peak |
| Facility 875 | Greenville | SC | Solar | 3.00 | Intermediate/Peak |
| Facility 876 | Greenville | SC | Solar | 4.00 | Intermediate/Peak |

| Facility Name | City/County | State | Primary Fuel Type | Capacity (kW) | Designation |
|---------------|-------------|-------|-------------------|---------------|-------------------|
| Facility 877 | Greenville | SC | Solar | 5.16 | Intermediate/Peak |
| Facility 878 | York | SC | Solar | 2.50 | Intermediate/Peak |
| Facility 879 | York | SC | Solar | 7.00 | Intermediate/Peak |
| Facility 880 | Spartanburg | SC | Solar | 1.52 | Intermediate/Peak |
| Facility 881 | York | SC | Solar | 8.09 | Intermediate/Peak |
| Facility 882 | Greenville | SC | Solar | 1.80 | Intermediate/Peak |
| Facility 883 | Anderson | SC | Solar | 2.14 | Intermediate/Peak |
| Facility 884 | Greenville | SC | Solar | 6.00 | Intermediate/Peak |
| Facility 885 | Greenville | SC | Solar | 4.00 | Intermediate/Peak |
| Facility 886 | Greenville | SC | Solar | 2.10 | Intermediate/Peak |
| Facility 887 | Anderson | SC | Solar | 3.60 | Intermediate/Peak |

Note: Data provided in Table H-4 reflects nameplate capacity for the facility.

APPENDIX I: TRANSMISSION PLANNED OR UNDER CONSTRUCTION

This appendix lists the planned transmission line additions and discusses the adequacy of DEC's transmission system. The transmission additions are sub-divided into two (2) tables. Table I-1 lists the transmission line projects that DEC has agreed to construct as part of its merger commitments. Table I-2 lists the line projects that were planned to meet reliability needs. This appendix also provides information pursuant to the North Carolina Utility Commission Rule R8-62.

Table I-1: Duke/Progress Merger Mitigation Project

| <u>YEAR</u> | <u>PROJECT</u> | <u>CAPACITY</u> |
|-------------|---|----------------------|
| 2014 | Antioch 500/230 KV Transformer Upgrades | 1680 MVA/Transformer |

Table I-2: DEC Transmission Line Additions (Non merger related)

| <u>YEAR</u> | <u>PROJECT</u> | <u>CAPACITY</u> |
|-------------|----------------|-----------------|
| | NONE | |

Rule R8-62: Certificates of environmental compatibility and public convenience and necessity for the construction of electric transmission lines in North Carolina.

(p) Plans for the construction of transmission lines in North Carolina (161 kV and above) shall be incorporated in filings made pursuant to Commission Rule R8-60. In addition, each public utility or person covered by this rule shall provide the following information on an annual basis no later than September 1:

(1) For existing lines, the information required on FERC Form 1, pages 422, 423, 424, and 425, except that the information reported on pages 422 and 423 may be reported every five years.

Please refer to the Company's FERC Form No. 1 filed with NCUC in April, 2013.

(p) Plans for the construction of transmission lines in North Carolina (161 kV and above) shall be incorporated in filings made pursuant to Commission Rule R8-60. In addition, each public utility or person covered by this rule shall provide the following information on an annual basis no later than September 1:

(2) For lines under construction, the following:

- a. Commission docket number;
- b. Location of end point(s);
- c. length;
- d. range of right-of-way width;
- e. range of tower heights;
- f. number of circuits;
- g. operating voltage;
- h. design capacity;
- i. date construction started;
- j. projected in-service date;

There are presently no plans for construction of any 161 kV and above transmission lines.

DEC Transmission System Adequacy

Duke Energy Carolinas monitors the adequacy and reliability of its transmission system and interconnections through internal analysis and participation in regional reliability groups. Internal transmission planning looks 10 years ahead at available generating resources and projected load to identify transmission system upgrade and expansion requirements. Corrective actions are planned and implemented in advance to ensure continued cost-effective and high-quality service. The DEC transmission model is incorporated into models used by regional reliability groups in developing plans to maintain interconnected transmission system reliability. DEC works with DEP, NCEMC and ElectricCities to develop an annual NC Transmission Planning Collaborative (NCTPC) plan for the DEC and DEP systems in both North and South Carolina. In addition, transmission planning is coordinated with neighboring systems including South Carolina Electric & Gas (SCE&G) and Santee Cooper under a number of mechanisms including legacy interchange agreements between SCE&G, Santee Cooper, DEP, and DEC.

The Company monitors transmission system reliability by evaluating changes in load, generating capacity, transactions and topography. A detailed annual screening ensures compliance with DEC's Transmission Planning Guidelines for voltage and thermal loading. The annual screening uses methods that comply with SERC policy and NERC Reliability Standards and the screening results

identify the need for future transmission system expansion and upgrades and are used as inputs into the DEC – Power Delivery optimization process. The Power Delivery optimization process evaluates problem-solution alternatives and their respective priority, scope, cost, and timing. The optimization process enables Power Delivery to produce a multi-year work plan and budget to fund a portfolio of projects which provides the greatest benefit for the dollars invested.

Transmission planning and requests for transmission service and generator interconnection are interrelated to the resource planning process. DEC currently evaluates all transmission reservation requests for impact on transfer capability, as well as compliance with the Company's Transmission Planning Guidelines and the FERC Open Access Transmission Tariff (OATT). The Company performs studies to ensure transfer capability is acceptable to meet reliability needs and customers' expected use of the transmission system. The Power Delivery optimization process is also used to manage projects for improvement of transfer capability. Generator interconnection requests are studied in accordance with the Large and Small Generator Interconnection Procedures in the OATT.

SERC audits DEC every three years for compliance with NERC Reliability Standards. Specifically, the audit requires DEC to demonstrate that its transmission planning practices meet NERC standards and to provide data supporting the Company's annual compliance filing certifications. SERC conducted a NERC Reliability Standards compliance audit of DEC in May 2011. The scope of this audit included Transmission Planning Standards TPL-002-0.a and TPL- 003-0a. For both Standards, DEC received "No Findings" from the audit team.

DEC participates in a number of regional reliability groups to coordinate analysis of regional, sub-regional and inter-balancing authority area transfer capability and interconnection reliability. The reliability groups' purpose is to:

- Assess the interconnected system's capability to handle large firm and non-firm transactions for purposes of economic access to resources and system reliability;
- Ensure that planned future transmission system improvements do not adversely affect neighboring systems; and
- Ensure interconnected system compliance with NERC Reliability Standards.

Regional reliability groups evaluate transfer capability and compliance with NERC Reliability Standards for the upcoming peak season and five- and ten-year periods. The groups also perform computer simulation tests for high transfer levels to verify satisfactory transfer capability.

Application of the practices and procedures described above have ensured DEC's transmission system is expected to continue to provide reliable service to its native load and firm transmission customers.

APPENDIX J: ECONOMIC DEVELOPMENT

Customers Served Under Economic Development

In the NCUC Order issued in Docket No. E-100, Sub 73 dated November 28, 1994, the NCUC ordered North Carolina utilities to review the combined effects of existing economic development rates within the approved IRP process and file the results in its short-term action plan. The incremental load (demand) for which customers are receiving credits under economic development rates and/or self-generation deferral rates (Rider EC), as well as economic redevelopment rates (Rider ER) as of June 2013 is:

Rider EC:

134 MW for North Carolina
60 MW for South Carolina

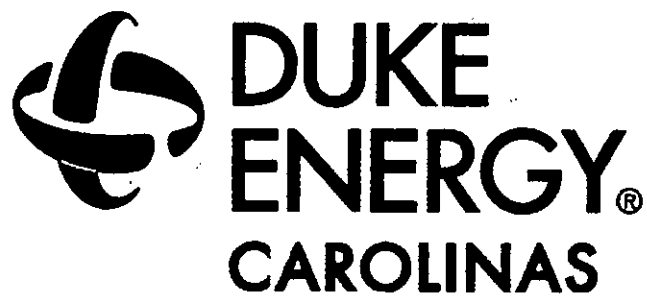
Rider ER:

2 MW for North Carolina
0 MW for South Carolina

APPENDIX K: CROSS-REFERENCE OF IRP REQUIREMENTS

The following table cross-references IRP regulatory requirements for NC R8-60 in North Carolina and S.C. Code Ann. § 58-37-10 in South Carolina, and identifies where those requirements are discussed in the IRP.

| Requirement | Location | Reference | Updated |
|---|----------------------|---------------------|---------|
| 15-year Forecast of Load, Capacity and Reserves | Ch 8, Tables 8.C & D | NC R8-60 (c) 1 | Yes |
| Comprehensive analysis of all resource options | Ch 4, 5 & 8, App A | NC R8-60 (c) 2 | Yes |
| Assessment of Purchased Power | Table H.1 | NC R8-60 (d) | Yes |
| Assessment of Alternative Supply-Side Energy Resources | Ch 5, App B & D | NC R8-60 (e) | Yes |
| Assessment of Demand-Side Management | Ch 4, App D | NC R8-60 (f) | Yes |
| Evaluation of Resource Options | Ch 8, App A, C & F | NC R8-60 (g) | Yes |
| Short-Term Action Plan | Ch 9 | NC R8-60 (h) 3 | Yes |
| REPS Compliance Plan | Attachment | NC R8-60 (h) 4 | Yes |
| Forecasts of Load, Supply-Side Resources, and Demand-Side Resources | | | |
| * 10-year History of Customers and Energy Sales | App C | NC R8-60 (i) 1(i) | Yes |
| * 15-year Forecast w & w/o Energy Efficiency | Ch 3 & App C | NC R8-60 (i) 1(ii) | Yes |
| * Description of Supply-Side Resources | Ch 6 & App A | NC R8-60 (i) 1(iii) | Yes |
| Generating Facilities | | | |
| * Existing Generation | Ch 2, App B | NC R8-60 (i) 2(i) | Yes |
| * Planned Generation | Ch 8 & App A | NC R8-60 (i) 2(ii) | Yes |
| * Non Utility Generation | Ch 5, App H | NC R8-60 (i) 2(iii) | Yes |
| Reserve Margins | Ch 7, 8, Table 8.D | NC R8-60 (i) 3 | Yes |
| Wholesale Contracts for the Purchase and Sale of Power | | | |
| * Wholesale Purchased Power Contracts | App H | NC R8-60 (i) 4(i) | Yes |
| * Request for Proposal | Ch 9 | NC R8-60 (i) 4(ii) | Yes |
| * Wholesale Power Sales Contracts | App C & H | NC R8-60 (i) 4(iii) | Yes |
| Transmission Facilities | Ch 2, 7 & App I | NC R8-60 (i) 5 | Yes |
| Energy Efficiency and Demand-Side Management | | | |
| * Existing Programs | Ch 4 & App D | NC R8-60 (i) 6(i) | Yes |
| * Future Programs | Ch 4 & App D | NC R8-60 (i) 6(ii) | Yes |
| * Rejected Programs | App D | NC R8-60 (i) 4(iii) | Yes |
| * Consumer Education Programs | App D | NC R8-60 (i) 4(iv) | Yes |
| Assessment of Alternative Supply-Side Energy Resources | | | |
| * Current and Future Alternative Supply-Side Resources | Ch 5, App F | NC R8-60 (i) 7(i) | Yes |
| * Rejected Alternative Supply-Side Resources | Ch 5, App F | NC R8-60 (i) 7(ii) | Yes |
| Evaluation of Resource Options (Quantitative Analysis) | App A | NC R8-60 (i) 8 | Yes |
| Levelized Bus-bar Costs | App F | NC R8-60 (i) 9 | Yes |
| Smart Grid Impacts | App D | NC R8-60 (i) 10 | Yes |
| Legislative and Regulatory Issues | App G | | Yes |
| Greenhouse Gas Reduction Compliance Plan | App G | | Yes |
| Other Information (Economic Development) | App J | | Yes |



The Duke Energy Carolinas

N.C. Renewable Energy & Energy Efficiency Portfolio Standard (NC REPS) Compliance Plan

October 15, 2013

**NC REPS Compliance Plan
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I. INTRODUCTION

Duke Energy Carolinas, LLC (Duke Energy Carolinas or the Company) submits its annual Renewable Energy and Energy Efficiency Portfolio Standard (NC REPS or REPS) Compliance Plan (Compliance Plan) in accordance with N.C. Gen. Stat. § 62-133.8 and North Carolina Utilities Commission (the Commission) Rule R8-67(b). This Compliance Plan, set forth in detail in Section II and Section III, provides the required information and outlines the Company's projected plans to comply with NC REPS for the period 2013 to 2015 (the Planning Period). Section IV addresses the cost implications of the Company's REPS Compliance Plan.

In 2007, the North Carolina General Assembly enacted Session Law 2007-397 (Senate Bill 3), codified in relevant part as N.C. Gen. Stat. § 62-133.8, in order to:

- (1) Diversify the resources used to reliably meet the energy needs of consumers in the State;
- (2) Provide greater energy security through the use of indigenous energy resources available within the State;
- (3) Encourage private investment in renewable energy and energy efficiency; and
- (4) Provide improved air quality and other benefits to energy consumers and citizens of the State.

As part of the broad policy initiatives listed above, Senate Bill 3 established the NC REPS, which requires the investor-owned utilities, electric membership corporations or co-operatives, and municipalities to procure or produce renewable energy, or achieve energy efficiency savings, in amounts equivalent to specified percentages of their respective retail megawatt-hour (MWh) sales from the prior calendar year.

Duke Energy Carolinas seeks to advance these State policies and comply with its REPS obligations through a diverse portfolio of cost-effective renewable energy and energy efficiency resources. Specifically, the key components of Duke Energy Carolinas' 2013 Compliance Plan include: (1) introduction of energy efficiency programs that will generate savings that can be counted towards the Company's REPS obligation; (2) purchases of renewable energy certificates (RECs); (3) continued operations of company-owned renewable facilities; and (4) research studies to enhance the Company's ability to comply with its REPS obligations in the future. The Company believes that these actions yield a diverse portfolio of qualifying resources and allow a flexible mechanism for compliance with the requirements of N.C. Gen. Stat. § 62-133.8.

In addition, the Company has undertaken, and will continue to undertake, specific regulatory and operational initiatives to support REPS compliance, including: (1) submission of regulatory applications to pursue reasonable and appropriate renewable energy and energy efficiency initiatives in support of the Company's REPS compliance needs; (2) solicitation, review, and analysis of proposals from renewable energy suppliers offering RECs and diligent pursuit of the most attractive opportunities, as appropriate;

and (3) development and implementation of administrative processes to manage the Company's REPS compliance operations, such as procuring and managing renewable resource contracts, accounting for RECs, safely interconnecting renewable energy suppliers, reporting renewable generation to the North Carolina Renewable Energy Tracking System (NC-RETS), and forecasting renewable resource availability and cost in the future.

The Company believes these actions collectively constitute a thorough and prudent plan for compliance with NC REPS and demonstrate the Company's commitment to pursue its renewable energy and energy efficiency strategies for the benefit of its customers.

II. REPS COMPLIANCE OBLIGATION

Duke Energy Carolinas calculates its NC REPS Compliance Obligations³ in 2013, 2014, and 2015 based on interpretation of the statute (N.C. Gen. Stat. § 62-133.8), the Commission's rules implementing Senate Bill 3 (Rule R8-67), and subsequent Commission orders, as applied to the Company's actual or forecasted retail sales in the Planning Period, as well as the actual and forecasted retail sales of those wholesale customers for whom the Company is supplying REPS compliance. The Company's wholesale customers for which it supplies REPS compliance services are Rutherford Electric Membership Corporation, Blue Ridge Electric Membership Corporation, City of Dallas, Forest City, City of Concord, Town of Highlands, and the City of Kings Mountain (collectively referred to as Wholesale or Wholesale Customers)⁴. Table 1 below shows the Company's retail and Wholesale customers' REPS Compliance Obligation.

³ For the purposes of this Compliance Plan, Compliance Obligation is more specifically defined as the sum of Duke Energy Carolinas' native load obligations for both the Company's retail sales and for wholesale native load priority customers' retail sales for whom the Company is supplying REPS compliance. All references to the respective Set-Aside requirements, the General Requirements, and REPS Compliance Obligation of the Company include the aggregate obligations of both Duke Energy Carolinas and the Wholesale Customers. Also, for purposes of this Compliance Plan, all references to the compliance activities and plans of the Company shall encompass such activities and plans being undertaken by Duke Energy Carolinas on behalf of the Wholesale Customers.

⁴ For purposes of this Compliance Plan, Retail Sales is defined as the sum of Duke Energy Carolinas retail sales and the retail sales of the wholesale customers for whom the company is supplying REPS compliance.

Table 1: Duke Energy Carolinas' NC REPS Compliance Obligation

| Compliance Year | Previous Year DEC Retail Sales (MWh) | Previous Year Wholesale Retail Sales (MWhs) | Total Retail Sales for REPS Compliance (MWhs) | Solar Set-Aside (RECs) | Swine Set-Aside (RECs) | Poultry Set-Aside (RECs) | REPS Requirement (%) | Total REPS Compliance Obligation (RECs) |
|-----------------|--------------------------------------|---|---|------------------------|------------------------|--------------------------|----------------------|---|
| 2013 | 54,555,907 | 4,006,605 | 58,562,512 | 40,994 | 40,994 | 75,678 | 3% | 1,756,875 |
| 2014 | 55,232,870 | 3,928,975 | 59,161,845 | 41,413 | 41,413 | 313,682 | 3% | 1,774,855 |
| 2015 | 55,756,164 | 3,987,615 | 59,743,779 | 83,641 | 83,641 | 405,824 | 6% | 3,584,627 |

Note: Obligation is determined by prior-year MWh sales. Thus, retail sales figures for compliance years 2014 and 2015 are estimates.

As shown in Table 1, the Company's requirements in the Planning Period include the solar energy resource requirement (Solar Set-Aside), swine waste resource requirement (Swine Set-Aside), and poultry waste resource requirement (Poultry Set-Aside). In addition, the Company must also ensure that, in total, the RECs that it produces or procures, combined with energy efficiency savings, is an amount equivalent to 3% of its prior year retail sales in compliance years 2013 and 2014, and 6% of its prior year retail sales in compliance year 2015. The Company refers to this as its Total Obligation. For clarification, the Company refers to its Total Obligation, net of the Solar, Swine, and Poultry Set-Aside requirements, as its General Requirement.

III. REPS COMPLIANCE PLAN

In accordance with Commission Rule R8-67b(1)(i), the Company describes its planned actions to comply with the Solar, Swine, and Poultry Set-Asides, as well as the General Requirement below. The discussion first addresses the Company's efforts to meet the Set-Aside requirements and then outlines the Company's efforts to meet its General Requirement in the Planning Period.

A. SOLAR ENERGY RESOURCES

Pursuant to N.C. Gen. Stat. § 62-133.8(d), the Company must produce or procure solar RECs equal to a minimum of 0.07% of the prior year total electric energy in megawatt-hours (MWh) sold to retail customers in North Carolina in 2013 and 2014, rising to a minimum of 0.14% in 2015.

Based on the Company's actual retail sales in 2012, the Solar Set-Aside is approximately 40,994 RECs in 2013. Based on forecasted retail sales, the Solar Set-Aside is projected to be approximately 41,413 RECs and 86,641 RECs in 2014 and 2015, respectively.

The Company's plan for meeting the Solar Set-Aside in the Planning Period is consistent with its plan from the previous year, as described in further detail below.

1. Solar Photovoltaic Distributed Generation (PVDG) Program

The Duke Energy PVDG Program, approved by the Commission in 2009⁵, refers to solar installations across multiple sites, totaling approximately ten (10) megawatts (DC) of installed capacity. The Company continues to operate these facilities in support of our REPS compliance obligations, and the facilities remain an integral part of the Company's renewable portfolio.

2. Solar PPAs and Solar REC Purchase Agreements

Duke Energy Carolinas has executed multiple solar REC purchase agreements with third parties for the purchase of solar RECs. These agreements include contracts with multiple in-state and out-of-state counterparties to procure solar RECs from both photovoltaic (PV) and solar water heating installations. Additional details with respect to the REC purchase agreements are set forth in Exhibit A.

3. Review of Company's Solar Set-Aside Plan

The Company has made and continues to make reasonable efforts to meet the Solar Set-Aside requirement in the Planning Period, and remains confident that it will be able to comply with this requirement. Therefore, the Company sees minimal risk in meeting the Solar Set-Aside and will continue to monitor the development and progress of solar initiatives and take appropriate actions as necessary.

B. SWINE WASTE-TO-ENERGY RESOURCES

Pursuant to N.C. Gen. Stat. § 62-133.8(e), for calendar years 2013 and 2014, at least 0.07% of prior year total retail electric energy sold in aggregate by utilities in North Carolina must be supplied by energy derived from swine waste. In 2015, at least 0.14% of prior year total retail electric energy sold in aggregate by utilities in North Carolina must be supplied by energy derived from swine waste. The Company's Swine Set-Aside is estimated to be 40,994 RECs in 2013, 41,413 RECs in 2014, and 83,641 RECs in 2015.

In spite of Duke Energy Carolinas' active and diligent efforts to secure resources to comply with its Swine Set-Aside requirements, the Company has been unable to secure sufficient volumes of RECs to meet its pro-rata share of the swine set-aside requirements in 2013. The Company remains actively engaged in seeking additional resources and continues to make every reasonable effort to comply with the swine waste set-aside requirements. The Company's ability to comply in 2014 and 2015 remains highly uncertain and subject to multiple variables, particularly relating to counterparty achievement of projected delivery requirements and commercial operation milestones. Additional details with respect to

⁵ See *Order Granting Certificate of Public Convenience and Necessity Subject to Conditions*, Docket No. E-7, Sub 856 (May 2009).

the Company's compliance efforts and REC purchase agreements are set forth in Exhibit A and the Company's tri-annual progress reports, filed confidentially in Docket E-100 Sub113A.

Due to its expected non-compliance in 2013, the Company will submit a motion to the Commission for approval of a request to relieve the Company from compliance with the swine-waste requirements until calendar year 2014 by delaying the compliance obligation for a one year period.

C. POULTRY WASTE-TO-ENERGY RESOURCES

Pursuant to N.C. Gen. Stat. § 62-133.8(f) and as amended by NCUC *Order on Pro Rata Allocation of Aggregate Swine and Poultry Waste Requirements and Motion for Clarification* in Docket E-100, Sub113, for calendar years 2013, 2014, and 2015, at least 170,000 MWh, 700,000 MWh, and 900,000 MWh, respectively, of the prior year total electric energy sold to retail electric customers in the State or an equivalent amount of energy shall be produced or procured each year from poultry waste, as defined per the Statute and additional clarifying Orders. As the Company's retail sales share of the State's total retail megawatt-hour sales is approximately 45%, the Company's Poultry Set-Aside is estimated to be 75,678 RECs in 2013, 313,682 RECs in 2014, and 405,824 in 2015.

In spite of Duke Energy Carolinas' active and diligent efforts to secure resources to comply with its Poultry Set-Aside requirements, the Company has been unable to secure sufficient volumes of RECs to meet its pro-rata share of the poultry set-aside requirements in 2013 and 2014. The Company remains actively engaged in seeking additional resources and continues to make every reasonable effort to comply with the poultry waste set-aside requirements. The Company's ability to comply in 2015 remains highly uncertain and subject to multiple variables, particularly relating to counterparty achievement of projected delivery requirements and commercial operation milestones. Additional details with respect to the Company's compliance efforts and REC purchase agreements are set forth in Exhibit A and the Company's tri-annual progress reports, filed confidentially in Docket E-100 Sub113A.

Due to its expected non-compliance in 2013, the Company will submit a motion to the Commission for approval of a request to relieve the Company from compliance with the poultry-waste requirements until calendar year 2014 by delaying the compliance obligation for a one year period.

D. GENERAL REQUIREMENT RESOURCES

Pursuant to N.C. Gen. Stat. § 62-133.8, Duke Energy Carolinas is required to comply with its Total Obligation in 2013 and 2014 by submitting for retirement a total volume of RECs equivalent to 3% of retail sales in North Carolina in the prior year, rising to 6% of retail sales in 2015: approximately 1,756,875 RECs in 2013, 1,774,855 RECs in 2014, and 3,584,627 RECs in 2015. This requirement, net of the Solar, Swine, and Poultry Set-Aside requirements; is estimated to be 1,599,213 RECs in 2013,

1,378,364 RECs in 2014, and 3,011,555 in 2015.⁶ The various resource options available to the Company to meet the General Requirement are discussed below, as well as the Company's plan to meet the General Requirement with these resources.

1. Energy Efficiency

During the Planning Period, the Company plans to meet 25% of the Total Obligation EE savings, which is the maximum allowable amount under N.C. Gen. Stat. § 62-133.7(b)(2)c. This will be accomplished by utilizing EE savings from the Company's Commission-approved programs which began in 2009. Because the Company's first General Requirement began in 2012, EE savings was banked during the years 2009-2011 for future use. The Company will also continue to develop and offer its customers new and innovative EE programs in the future that will deliver savings and count towards its future NC REPS requirements.

Please refer to Appendix D, for descriptions of the Company's Energy Efficiency programs.

Pursuant to Commission Rule R8-67b(1)(iii), the Company has attached a list of those EE measures that it plans to use toward REPS compliance, including projected impacts, as Exhibit B.

2. Hydroelectric Power

Duke Energy Carolinas plans to use hydroelectric power from three sources to meet the General Requirement in the Planning Period: (1) Duke-owned hydroelectric stations that are approved as renewable energy facilities; (2) Wholesale Customers' Southeastern Power Administration (SEPA) allocations; and (3) hydroelectric generation suppliers whose facilities have received Qualifying Facility (QF or QF Hydro) status. The Company has received Commission approval for ten of its hydroelectric stations as renewable energy facilities. The Company continues to evaluate the use of the RECs generated by these facilities to meet the General Requirements of Duke Energy Carolinas' Wholesale Customers, pursuant to N.C. Gen. Stat. § 62-133.8(c)(2)c and 62-33.8(c)(2)d. Wholesale Customers may also bank and utilize hydroelectric resources arising from their full allocations of SEPA. When supplying compliance for the Wholesale Customers, the Company will ensure that hydroelectric resources do not comprise more than 30% of each Wholesale Customers' respective compliance portfolio, pursuant to N.C. Gen. Stat. § 62-133.8(c)(2)c. In 2012, the Company also received Commission approval for a new, incremental capacity addition at another of its hydrofacilities, Bridgewater. The Company intends to apply RECs generated by this facility toward the General Requirements of Duke Energy Carolinas' retail customers. In addition, the Company is purchasing RECs from multiple QF Hydro facilities in the Carolinas and will use RECs from these facilities toward

⁶ If the Commission grants relief from the 2013 swine-waste and poultry-waste obligations, the Company's Total Obligation would not change but its General Requirement would increase as the Swine and Poultry Set Asides would not be netted against the Total Obligation in compliance year 2013.

General Requirements of Duke Energy Carolinas' retail customers. Please see Exhibit A for more information on each of these contracts.

3. Biomass Resources

Duke Energy Carolinas plans to meet a portion of the General Requirement through a variety of biomass resources, including landfill gas to energy, combined-heat and power, and direct combustion of biomass fuels. The Company is purchasing RECs from multiple biomass facilities in the Carolinas, including landfill gas to energy facilities and biomass-fueled combined heat and power facilities, all of which qualify as renewable energy facilities. Please see Exhibit A for more information on each of these contracts.

Duke Energy Carolinas notes, however, that reliance on direct-combustion biomass has decreased in long-term planning horizons. This reduction is in part due to continued uncertainties around the developable potential of such resources in the Carolinas and the projected availability of other forms of renewable resources to offset the need for biomass.

4. Wind

Duke Energy Carolinas plans to meet a portion of the General Requirement with RECs from wind facilities. As discussed in the Company's 2013 IRP, the Company believes it is reasonable to expect that land-based wind will be developed in both North and South Carolina in the next decade. However, in the short-term, extension of the federal tax subsidy available to new wind generation facilities remains uncertain. While the company expects to rely upon wind resources for our REPS compliance effort, the extent and timing of that reliance will likely vary commensurately with changes to supporting policies and prevailing market prices. The Company also has observed that opportunities may exist to transmit land-based wind energy resources into the Carolinas from other regions, which could supplement the amount of wind that could be developed within the Carolinas.

5. Use of Solar Resources for General Requirement

Duke Energy Carolinas plans to meet a portion of the General Requirement with RECs from solar facilities. As discussed in the Company's 2013 IRP, the Company views the downward trend in solar equipment and installation costs over the past several years as a positive development. Additionally, new solar facilities also benefit from generous supportive federal and state policies that are expected to be in place through the middle of this decade. While uncertainty remains around possible alterations or extensions of policy support, as well as the pace of future cost declines, the Company fully expects solar resources to contribute to our compliance efforts beyond the solar set-aside minimum threshold for NC REPS during the Planning Period.

6. Review of Company's General Requirement Plan

The Company has contracted for or otherwise procured sufficient resources to meet its General Requirement in the Planning Period. Based on the known information available at the time of this filing, the Company is confident that it will meet this General Requirement during the Planning Period and submits that the actions and plans described herein represent a reasonable and prudent plan for meeting the General Requirement.

E. SUMMARY OF RENEWABLE RESOURCES

The Company has evaluated, procured, and/or developed a variety of types of renewable and energy efficiency resources to meet its NC REPS requirements within the compliance Planning Period. As noted above, several risks and uncertainties exist across the various types of resources and the associated parameters of the NC REPS requirements. The Company continues to carefully monitor opportunities and unexpected developments across all facets of its compliance requirements. Duke Energy Carolinas submits that it has crafted a prudent, reasonable plan with a diversified balance of renewable resources that will allow the Company to comply with its NC REPS obligation over the Planning Period.

IV. COST IMPLICATIONS OF REPS COMPLIANCE PLAN

A. CURRENT AND PROJECTED AVOIDED COST RATES

The current avoided cost rates represent the annualized avoided cost rates in Schedule PP-N (NC), Distribution Interconnection, approved in the Commission's *Order Establishing Standard Rates and Contract Terms for Qualifying Facilities*, issued in Docket No. E-100, Sub 127 (July 27, 2011). The projected avoided cost rates represent the annualized avoided cost rates proposed by the Company in Docket No. E-100, Sub 136.

Table 2: Annualized Capacity and Energy Rates (cents per kWh)

| | 2013 (Current) | 2014 (Projected) | 2015 (Projected) |
|---------------|-------------------|---------------------|---------------------|
| Variable Rate | 5.48¢ | 4.94¢ | 4.94¢ |
| 5 Year | 5.63¢ | 5.15¢ | 5.15¢ |
| 10 Year | 6.28¢ | 5.48¢ | 5.48¢ |
| 15 Year | 6.63¢ | 5.80¢ | 5.80¢ |

B. PROJECTED TOTAL NORTH CAROLINA RETAIL AND WHOLESALE SALES AND YEAR-END NUMBER OF CUSTOMER ACCOUNTS BY CLASS

The tables below reflect the inclusion of the Wholesale Customers in the Compliance Plan.

Table 3: Retail Sales for Retail and Wholesale Customers

| | 2012 (Actuals) | 2013 | 2014 |
|---|----------------|------------|------------|
| Retail MWh Sales | 54,555,907 | 55,232,870 | 55,756,164 |
| Wholesale MWh Sales | 4,006,605 | 3,928,975 | 3,987,615 |
| Total MWh Sales | 58,562,512 | 59,161,845 | 59,743,779 |
| Note: The MWh sales reported above are those applicable to REPS compliance years 2013 – 2015, and represent actual MWh sales for 2012, and projected MWh sales for 2013 and 2014, respectively. | | | |

Table 4: Retail and Wholesale Year-end Number of Customer Accounts

| | 2012 (Actuals) | 2013 | 2014 | 2015 |
|--------------------------|----------------|-----------|-----------|-----------|
| Residential Accts | 1,625,359 | 1,634,116 | 1,647,527 | 1,666,206 |
| General Accts | 253,030 | 258,407 | 262,960 | 267,090 |
| Industrial Accts | 5,069 | 5,254 | 5,263 | 5,256 |

Note: The number of accounts reported above are those applicable to the cost caps for compliance years 2013 – 2015, and represent the actual number of accounts for year-end 2012, and the projected number of accounts for year-end 2013 through 2015.

C. PROJECTED ANNUAL COST CAP COMPARISON OF TOTAL AND INCREMENTAL COSTS, REPS RIDER AND FUEL COST IMPACT

Projected compliance costs for the Planning Period are presented in the cost tables below by calendar year. The cost cap data is based on the number of accounts as reported above.

Table 5: Projected Annual Cost Caps and Fuel Related Cost Impact

| | 2013 | 2014 | 2015 |
|---|---------------|---------------|----------------|
| Total projected REPS compliance costs | \$ 32,969,472 | \$ 46,126,516 | \$ 50,567,253 |
| Recovered through the Fuel Rider | \$ 24,690,757 | \$ 33,996,739 | \$ 35,985,121 |
| Total incremental costs (REPS Rider) | \$ 8,278,714 | \$ 12,129,777 | \$ 14,582,132 |
| Total Including GRT and Regulatory Fee | \$ 8,575,016 | \$ 12,563,910 | \$ 15,104,036 |
| Projected Annual Cost Caps (REPS Rider) | \$ 63,600,083 | \$ 64,543,124 | \$ 106,425,364 |

EXHIBIT A
Duke Energy Carolinas, LLC's 2013 REPS Compliance Plan
Duke Energy Carolinas' Renewable Resource Procurement from 3rd Parties
(signed contracts)

[BEGIN CONFIDENTIAL]

| | Resource Supplier | Contract Duration | Estimated RECs | | |
|---------------------------|-------------------|-------------------|----------------|------|------|
| | | | 2013 | 2014 | 2015 |
| | Solar Resources | | | | |
| | | 5 years* | | | |
| | | | | | |
| | | 20 Years* | | | |
| | | | | | |
| | | 10 Years | | | |
| | | | | | |
| | | 5 Years | | | |
| | | 5 Years* | | | |
| | | 5 Years | | | |
| | | | | | |
| | | 5 Years* | | | |
| | | 15 Years | | | |
| | | | | | |
| | | 20 Years* | | | |
| | | 15 Years* | | | |
| | 20 Years* | | | | |
| Total Solar REC Purchases | | | | | |

| | Resource Supplier | Contract Duration | Estimated RECs | | |
|-----------------------------|-------------------|-----------------------------------|----------------|------|------|
| | | | 2013 | 2014 | 2015 |
| | | Biomass Resources | | | |
| | | 20 Years* | | | |
| | | 20 Years* | | | |
| | | 20 Years* | | | |
| | | 20 Years* | | | |
| | | 10 Years* | | | |
| | | 20 Years* | | | |
| | | 10 Years* | | | |
| | | 10 Years* | | | |
| | | 9 Years* | | | |
| | | 20 Years* | | | |
| | | | | | |
| | | 15 Years* | | | |
| | | | | | |
| | | | | | |
| Total Biomass REC Purchases | | | | | |
| | | Poultry Waste to Energy Resources | | | |
| | | 10 Years | | | |
| | | | | | |
| | | 20 Years* | | | |
| Total Poultry REC Purchases | | | | | |
| | | Swine Waste to Energy Resources | | | |
| | | 10 Years | | | |
| | | 10 Years | | | |
| | | 20 Years | | | |
| | | 20 Years | | | |
| | | 20 Years | | | |
| | | 20 Years | | | |
| Total Swine REC Purchases | | | | | |

| | Resource Supplier | Contract Duration | Estimated RECs | | |
|-----------------------|--------------------------|-------------------|----------------|------|------|
| | | | 2013 | 2014 | 2015 |
| | Hydro Electric Resources | | | | |
| | | | 2013 | 2014 | 2015 |
| | | 5 years* | | | |
| | | 5 Years* | | | |
| | | 5 Years* | | | |
| | | 5 Years* | | | |
| | | 5 Years* | | | |
| | | 5 Years* | | | |
| | | 5 Years* | | | |
| | | | | | |
| | | | | | |
| | | 5 Years* | | | |
| | | 5 Years* | | | |
| | | 5 Years* | | | |
| | | 8 Years* | | | |
| | | 8 Years* | | | |
| | | 8 Years* | | | |
| | | 8 Years* | | | |
| | | 5 Years* | | | |
| | | 5 Years* | | | |
| | | 5 Years* | | | |
| | | 5 Years* | | | |
| | | | | | |
| 5 years* | | | | | |
| Total Hydro Purchases | | | | | |

* Indicates bundle purchase of RECs and energy, as opposed to REC-only purchase.

[END CONFIDENTIAL]

EXHIBIT B**Duke Energy Carolinas, LLC's 2013 REPS Compliance Plan
Duke Energy Carolinas, LLC's EE Programs and Projected REPS Impacts**

| Forecasted Annual Energy Efficiency Impacts for the REPS Compliance Planning Period 2013, 2014, 2015 (MWh) | | | |
|---|----------------|----------------|----------------|
| | 2013 | 2014 | 2015 |
| <u>Residential Programs</u> | | | |
| Residential Energy Assessments | 4,935 | 4,116 | 4,116 |
| Smart Saver® for Residential Customers | 48,562 | 37,080 | 39,667 |
| Low Income Energy Efficiency and Weatherization Assistance | 1,842 | 1,842 | 1,832 |
| Energy Efficiency Education Program for Schools | 5,318 | 5,297 | 5,297 |
| Appliance Recycle | 30,429 | 34,868 | 34,868 |
| Residential Neighborhood Low Income Program | 8,454 | 7,655 | 7,017 |
| My Home Energy Report | 101,110 | 1,508 | 3,061 |
| | | | |
| Sub Total | 200,650 | 92,366 | 95,858 |
| <u>Non Residential Programs</u> | | | |
| Smart Saver® for Non-Res Customers | 213,697 | 223,834 | 235,026 |
| | | | |
| Sub Total | 213,697 | 223,834 | 235,026 |
| | | | |
| Total | 414,346 | 316,200 | 330,885 |