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DUKE ENERGY.

September 9, 2013

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Clerk's Office
N.C. Utilities Commission

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

RE: Docket Number E-100, Sub 137

Dear Ms. Mount:

I enclose an original and thirty-one (31) copies of Duke Energy Carolinas, LLC and Duke Energy Progress, Inc.'s Proposed Order Approving Integrated Resource Plans and Renewable Energy and Energy Efficiency Portfolio Standards Compliance Plans for filing in connection with the referenced matter.

Also, pursuant to Commission Rule R1-25(c) a Microsoft Word version of the Proposed Order is being emailed to briefs@ncuc.net.

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

Sincerely,

Lawrence B. Somers

Enclosures

cc: Parties of Record

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC and Duke Energy Progress, Inc.'s Proposed Order 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, properly addressed to parties of record.

This the 9th day of September, 2013.

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STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-100, SUB 137

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of Investigation of Integrated Resource Planning in North Carolina – 2012	)	**DUKE ENERGY CAROLINAS, LLC'S AND DUKE ENERGY PROGRESS, INC.'S PROPOSED ORDER APPROVING INTEGRATED RESOURCE PLANS AND RENEWABLE ENERGY AND ENERGY EFFICIENCY PORTFOLIO STANDARDS COMPLIANCE PLANS**

HEARD: Commission Hearing Room, Dobbs Building
430 North Salisbury Street, Raleigh, North Carolina
February 12, 2013

Mecklenburg County Courthouse, Courtroom 5310
832 E. Fourth Street, Charlotte, North Carolina
February 28, 2013

BEFORE: Commissioner Bryan E. Beatty, presiding, and Chairman Edward S. Finley, Jr., and Commissioners Lucy T. Allen, ToNola D. Brown-Bland, William T. Culpeper, III, and Susan W. Rabon

APPEARANCES:

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For the Using and Consuming Public:

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BY THE COMMISSION: G.S. 62-110.1(c) requires the North Carolina Utilities Commission (Commission) to "develop, publicize, and keep current an analysis of the long-range needs" for electricity in this State. The Commission's analysis should include the following: (1) its estimate of the probable future growth of the use of electricity; (2) the probable needed generating reserves; (3) the extent, size, mix, and general location of generating plants; and (4) arrangements for pooling power to the extent not regulated by the Federal Energy Regulatory Commission (FERC). G.S. 62-110.1 further requires the Commission to consider this analysis in acting upon any petition for construction. In addition, G.S. 62-110.1 requires the Commission to submit annually to the Governor and to the appropriate committees of the General Assembly the following: (1) a report of the Commission's analysis and plan; (2) the progress to date in carrying out such plan; and (3) the program of the Commission for the ensuing year in connection with such plan. G.S. 62-15(d) requires the Public Staff to assist the Commission in its analysis and plan.

G.S. 62-2(a)(3a) declares it a policy of the State to "assure that resources necessary to meet future growth through the provision of adequate, reliable utility service include use of the entire spectrum of demand-side options, including but not limited to conservation, load management and efficiency programs, as additional sources of energy supply and/or energy demand reductions." G.S. 62-2(a)(10) further provides that it is the policy of the State to promote the development of renewable energy and energy efficiency through the implementation of a Renewable Energy and Energy Efficiency Portfolio Standard (REPS) that will (1) diversify the resources used to reliably meet the energy needs of North Carolina's consumers; (2) provide greater energy security through the use of indigenous energy resources available within North Carolina; (3) encourage private investment in renewable energy and energy efficiency (EE); and (4) provide improved air quality and other benefits to the citizens of North Carolina. To that end, G.S. 62-133.9(c) requires that each electric power supplier to which G.S. 62-110.1 applies shall include an assessment of demand-side management (DSM) and energy efficiency (EE) in its resource plans submitted to the Commission and shall submit cost-effective DSM and EE options that require incentives to the Commission for approval.

To meet the requirements of G.S. 62-110.1 and G.S. 62-2(a)(3a), the Commission conducts an annual investigation into the electric utilities' integrated resource planning (IRP). IRP is intended to identify those electric resource options that can be obtained at least cost to the ratepayers consistent with adequate, reliable electric service. IRP considers conservation, load management, and other supply-side options in the selection of resource options. Commission Rule R8-60 requires that each of the electric utilities furnish the Commission with a biennial report in even-numbered years that contains the specific information set out in subsection (c) of that Rule. In odd-numbered years, each of the electric utilities must file an annual report updating its most recently filed biennial report. Further, Commission Rule R8-67(b) requires any electric power supplier subject to Rule R8-60 to file a REPS compliance plan as part of its IRP report. Within 150 days after the filing of each utility's biennial report, and within 60 days after the filing of each electric utility's annual report, the Public Staff or any other intervenor may file its own plan or an evaluation of, or comments on, the electric utilities' IRP reports. Furthermore, the Public Staff or any other intervenor may identify any issue that it believes should be the subject of an evidentiary hearing.

The Commission issued several orders since the filing of the 2011 IRPs, adding new reporting requirements. On October 26, 2011 the Commission, in its *Order Approving 2010 Biennial Integrated Resource Plans and 2010 REPS Compliance Plans*, required utilities to provide certain information in their 2012 and subsequent IRPs, including the following:

- DEC and DEP shall prepare a comprehensive reserve margin requirements study and include the results of such study as part of their 2012 biennial IRPs;
- Each investor-owned utility (IOU) and EMC should investigate the value of activating DSM resources during times of high system load as a means of achieving lower fuel costs by not having to dispatch peaking units with their associated higher fuel costs if it is less expensive to activate DSM resources; and
- Each electric utility should use appropriately updated DSM/EE market potential studies.

On April 11, 2012, the Commission addressed the impact of smart grid technology (SGT) in its *Order Amending Commission Rule R8-60 and Adopting Commission Rule R8-60.1* in Docket No. E-100, Sub 126, amending Commission Rule R8-60(i) to require each utility to provide information regarding the impacts on the overall IRP of its smart grid deployment plan. Specifically the Commission required utilities to include (1) a description of the technology installed and for which installation is scheduled to begin in the next five years and the resulting and projected net impacts from such installation, including if applicable the potential demand and energy savings resulting from the technology; (2) a comparison to "gross" megawatts (MW) and megawatt-hours (MWh) without installation of the described technology; and (3) a description of MW and MWh impacts on a system, North Carolina retail jurisdictional, and North Carolina retail customer class basis, including proposed plans for measurement and verification of customer impacts or actual measurement and verification of customer impacts. On April 10, 2013, DEC, DEP and DNCP filed a Joint Motion to Amend Rule R8-60.1 to change the due date for the initial SGT plans. On May 6, 2013, the Commission granted the motion in its *Order Amending Rule R8-60.1,* amending the requirement to file SGT plans, beginning on October 1, 2014 and every two years thereafter.

On May 30, 2012, the Commission issued its *Order Approving 2011 Annual Updates to the 2010 Biennial Integrated Resource Plan and 2011 REPS Compliance Plans*, which required utilities to include certain information in future IRPs:

- Each IOU shall include a discussion of variance of 10% or more in projected Energy Efficiency savings from one IRP report to the next; and
- Each IOU shall include a discussion of the status of market potential studies or updates in their 2012 and future IRPs.

On October 30, 2012, the Commission issued an Order Denying a Rulemaking Petition in Docket No. E-100, Sub 133 in response to North Carolina Waste Awareness and Reduction Network's (NC WARN) request that Commission Rules R1-17 and R8-60 be amended to include consideration of various cost allocation methods, and in particular, consideration of the cost of meeting new demands. The Commission strongly encouraged the electric utilities "to take reasonable measures to inform all customers of the forecasted summer peak to allow all customers to engage in voluntary demand response and peak shaving," and required all electric utilities to include in future IRPs a full discussion of the drivers of each class' load forecast, including new or changed demand of a particular sector or sub-group.

2012 INTEGRATED RESOURCE PLAN FILINGS

Biennial reports on the 2012 integrated resource plans (2012 biennial reports or 2012 IRPs) have been filed by Duke Energy Progress, Inc., formerly known as Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc. (DEP), Duke Energy Carolinas, LLC (DEC), Virginia Electric and Power Company d/b/a Dominion North Carolina Power (DNCP) (collectively, the electric utilities), and by the North Carolina Electric Membership Corporation (NCEMC) and the four independent electric membership corporations (EMCs), i.e., Piedmont EMC, Rutherford EMC, EnergyUnited EMC (EnergyUnited), and Haywood EMC. REPS compliance plans were filed by DEP, DEC, DNCP, GreenCo Solutions, Inc. (GreenCo), Halifax EMC, and EnergyUnited.

In addition to the Public Staff, the following parties have intervened in the 2012 proceeding: the Carolina Utility Customers Association (CUCA); the North Carolina Waste Awareness and Reduction Network (NC WARN); the Carolina Industrial Group for Fair Utility Rates I, II, III (CIGFUR); the North Carolina Sustainable Energy Association (NCSEA); Blue Ridge Environmental Defense League (BREDL); Mid-Atlantic Renewable Energy Coalition (MAREC); Greenpeace; and Southern Alliance for Clean Energy (SACE) and the Sierra Club. The intervention of the Attorney General is recognized pursuant to G.S. 62-20.

On October 8, 2012, the Commission issued an *Order Scheduling Public Hearing on the 2012 Biennial IRP Reports and Related 2012 REPS Compliance Plans.* That Order set the public hearing in Docket No. E-100, Sub 137 for February 11, 2013. The public hearing was held as scheduled with 45 public witnesses in attendance. The public witnesses spoke in support of much greater emphasis on energy efficiency and conservation, and additional development of renewable resources, particularly solar and wind. Several witnesses provided testimony in opposition to the expansion of nuclear, coal, and gas generation.

On January 9, 2013, NC WARN, BREDL and Greenpeace requested that additional public hearings be held in Charlotte and Asheville. On January 24, 2013, the Commission issued an order allowing all parties to respond to the motion for additional public hearings. SACE and the Sierra Club filed responses supporting the motion. DEC and DEP filed a joint response opposing additional hearings. On February 5, 2013, the Commission issued an *Order on Motion for Additional Hearings*, granting the motion for an additional hearing to be held in Charlotte for members of the public to comment on the IRPs and REPS compliance plans. The public hearing was held as scheduled on Thursday, February 28, 2013 at 7:00 p.m. at the Mecklenburg County Courthouse, with 70 public witnesses in attendance. The public witnesses spoke in support of much greater emphasis on energy efficiency and conservation, and additional development of renewable resources, particularly solar and wind. Several witnesses provided testimony in opposition to the expansion of nuclear, coal and gas generation.

On January 10, 2013, the Public Staff filed a motion for an extension of time until February 5, 2013 for the Public Staff and other intervenors to file alternative IRP annual reports, evaluations of, or comments on the 2012 IRPs. On January 15, 2013, the Commission issued an *Order Establishing Dates for Comments on Integrated Resource Plans and Related REPS Compliance Plans.*

On February 4, 2013, NC WARN, BREDL and Greenpeace filed joint initial comments on the biennial reports. On February 5, 2013 SACE and the Sierra Club filed joint comments. Both groups of intervenors requested an evidentiary hearing; SACE and the Sierra Club alternatively recommended convening a workshop or establishing a working group to provide input on the development of future IRPs if the Commission elected not to hold an evidentiary hearing. The Public Staff, MAREC and NCSEA also filed initial comments on February 5, 2013. On February 7, 2013 Mid-Atlantic amended its initial comments.

On February 5, 2013, NCSEA filed a motion for disclosure, requesting the Commission to require DEC and DEP to make public certain information in their REPS compliance plans that had been filed under seal as confidential trade secret information. NCSEA also requested that the utilities be ordered to review annually their REPS compliance plans from the prior four years and to make public all information previously redacted or file an explanation of why it should remain confidential. On February 7, 2013, the Commission issued an *Order Requesting Comments* on NCSEA's motion.

On February 15, 2013, DEC and DEP filed a joint motion for an extension of time for all parties to file reply comments. On February 18, 2013, the Commission issued an *Order Granting Extension of Time*. On March 5, 2013, DEC, DEP, DNCP, NCEMC, Rutherford EMC, Halifax EMC, EnergyUnited, SACE and the Sierra Club filed reply comments.

On March 7, DEC and DEP filed joint comments on NCSEA's motion for disclosure of information in REPS compliance plans that had been redacted. On March 8, 2013, DNCP filed initial comments, and SACE and the Sierra Club filed joint comments. On March 25, 2013, NCSEA filed reply comments, and on April 1, 2013, DNCP filed reply comments. On June 3, 2013, the Commission issued an *Order Granting in Part and Denying in Part Motion for Disclosure*, requiring DEP and DEC to amend their 2012 REPS compliance plans and requiring DEC, DEP and DNCP to annually review their REPS compliance plans from the prior four years and disclose any redacted information that is no longer a trade secret. On July 1, 2013, DEC and DEP submitted the amended 2012 REPS compliance plans in compliance with the June 3, 2013 order.

On May 3, 2013, the Commission issued an *Order Requiring Verified Responses*, requiring DEC and DEP to answer questions about concerns raised during the public hearings as well as in comments filed in this proceeding. On May 13, 2013, NC WARN, BREDL and Greenpeace jointly responded to the order and recommended that the Commission include questions about the potential for using combined heat and power to support DEC's and DEP's forecasted need for generation capacity and reserve margin. DEC and DEP filed their joint response to the Commission's May 3, 2013 order on June 10, 2013 as required.

On July 15, 2013, the Commission issued an *Order Denying Request for Evidentiary Hearing and Allowing Proposed Orders and Briefs.* The following parties submitted briefs and/or proposed orders: DEC and DEP; ___ and ___.

Based on the foregoing, the information contained in the utilities' filings, the testimony and exhibits introduced at the public hearings, and the Commission's record of these proceedings, the Commission now makes the following:

FINDINGS OF FACT AND CONCLUSIONS OF LAW

1. DEC's and DEP's 2012 IRPs are in compliance with the filing requirements of Commission Rule R8-60.

2. The peak and energy forecasts included within DEC's and DEP's 2012 IRPs are reasonable, appropriate and comply with R8-60.

3. DEC and DEP, in compliance with Rule R8-60, conducted reasonable and appropriate load forecasts and assessments of supply-side and demand-side resources to meet the projected load and capacity needs over the planning horizons of the 2012 IRP.

4. DEC and DEP, in compliance with Rule R8-60, performed reasonable and appropriate assessments of cost-effective energy efficiency and demand side management

programs.

5. DEC's and DEP's target reserve margins contained within their 2012 IRP are reasonable and appropriate.

6. DEC's and DEP's 2012 REPS compliance plans are in compliance with the Commission's Rules, are reasonable, and are approved as filed.

7. DEC's and DEP's 2012 IRPs are reasonable, prudent and approved as filed.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 1

The evidence supporting this finding of fact appears in DEC's and DEP's 2012 IRPs, the reply comments of DEC and DEP, the comments of Public Staff, and the general requirements of Commission Rules R8-60.

CONCLUSIONS

DEC and DEP have, in their 2012 IRPs, responded to all applicable subsections of Rule R8-60(c). The Public Staff also reviewed DEC's and DEP's 2012 IRPs and agreed that both DEC and DEP complied with the applicable Commission rules and orders in their filings.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 2

The evidence supporting this finding of fact appears in DEC's and DEP's 2012 IRPs, the reply comments of DEC and DEP, the comments of NC WARN, BREDL, Greenpeace and comments of Public Staff, DEC's and DEP's joint response to the Commission's May 3, 2013 order and the general requirements of Commission Rules R8-60.

DEC

DEC used accepted econometric and end-use analytical models to forecast its peak and energy needs in the 2012 IRP. As with any forecasting methodology, there is a degree of uncertainty associated with these models that rely, in part, on assumptions that certain historical trends or relationships will continue in the future. For the 2012 IRP of DEC, the Public Staff reviewed peak and energy forecasts and found them to be reasonable.

The 2012 energy and peak forecasts of DEC reflected lower growth rates relative to its annual forecast from 2011. In DEC's 2012 forecast, it estimated its summer peak to increase at an average annual growth rate of 1.7% (before incorporating the impacts of EE programs), and its winter peak to increase at an average annual growth rate of 1.4%. The Public Staff's five-year analysis of DEC's peak load and energy sales forecasting accuracy showed a forecast error of 8.0% and 6.6% respectively, which the Public Staff found was high, largely due to the economic slowdown in the last several years. The Public Staff's review of DEC's 2011 IRP peak load forecast, however, found less than a 1.0% forecast error.

Based on its assessment, the Public Staff found that DEC's load forecast supporting its 2012 IRP was reasonable for planning. The Public Staff also found that the economic, weather and demographic assumptions that underlie DEC's peak and energy forecasts are reasonable. The following table summarizes DEC's growth rates for its 2012 system peak and energy sales forecasts:

2012- 2031 Growth Rates
(After New Energy Efficiency and DSM)

	Summer Peak	Winter Peak	Energy Sales	Annual MW Growth
DEC	1.7%	1.7%	1.68%	321

In their joint initial comments on DEC's 2012 IRP, NC WARN, BREDL and Greenpeace stated that, despite a decade of little growth in demand, DEC projects a "robust" growth rate of 1.4 percent annually, with a 30 percent increase in electricity sales over the planning period. These forecasts are based in large part on the assumption of full economic recovery and optimistic projections of population growth.

DEC responded that NC WARN's allegations were incorrect and based upon flawed assumptions and cited, in support, DEC's reply comments filed in prior IRP dockets in 2006 through 2011 and the Commission's recent past IRP orders dismissing similar allegations. DEC asserted that its load growth projections incorporated into the 2012 IRP are reasonable for planning purposes.

DEP

DEP used accepted econometric and end-use analytical models to forecast its peak and energy needs in the 2012 IRP. As with any forecasting methodology, there is a degree of uncertainty associated with these models that rely, in part, on assumptions that certain historical trends or relationships will continue in the future. The Public Staff reviewed the peak and energy forecasts contained in DEP's 2012 IRP and found them to be reasonable.

DEP's 2012 energy and peak forecasts reflected growth rates lower than its annual forecast from 2011, 0.9% as compared to 1.6%. In DEP's 2012 forecast, it estimated retail demand growth of 1.2% after impacts of EE programs are incorporated. The average annual growth of its summer peak is 130 MW for the next 15 years as compared to 201 MW in the 2011 IRP. The Public Staff's analysis of DEP's peak load and energy sales forecasting accuracy showed that the forecasts in DEP's 2011 IRP were reasonably accurate, taking into account the economic slowdown in the last several years.

Based on its assessment, the Public Staff found that DEP's load forecast supporting its 2012 IRP was reasonable for planning. The Public Staff also found that the economic, weather and demographic assumptions that underlie DEP's peak and energy forecasts are reasonable.

2012- 2031 Growth Rates
(After New Energy Efficiency and DSM)

	Summer Peak	Winter Peak	Energy Sales	Annual MW Growth
DEP	0.9%	1.2%	1.0%	130

In their joint initial comments on DEP's 2012 IRP, NC WARN, BREDL and Greenpeace stated that, despite a decade of little growth in demand, DEP projects a growth rate of 1.2 percent annually, with a 15 percent increase in electricity sales over the planning period. NC WARN, BREDL and Greenpeace were critical of the forecasts and contended that these forecasts are based in large part on the assumption of full economic recovery and optimistic projections of population growth.

DEP responded that NC WARN's allegations were incorrect and based upon flawed assumptions and cited, in support, DEP's and DEC's reply comments filed in prior IRP dockets from 2006 through 2011 and the Commission's recent past IRP orders dismissing similar allegations. DEP asserted that its load growth projections incorporated into the 2012 IRP are reasonable for planning purposes.

CONCLUSIONS

Based on the foregoing, the Commission finds that DEC's and DEP's forecasts of native load requirements and other system capacity or firm energy obligations; supply-side and demand-side resources expected to satisfy those loads; and reserve margins thus produced are reasonable for purposes of this proceeding and should be approved. The forecasting methodology of both utilities is well accepted in the industry, and it has proven over time to be accurate.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 3

The evidence supporting this finding of fact appears in DEC's and DEP's 2012 IRPs, the joint reply comments of DEC and DEP, the comments of Public Staff, SACE and the Sierra Club (SACE), NC WARN, BREDL and Greenpeace (NC WARN), and the general requirements of Commission Rule R8-60.

DEC

DEC's 2012 IRP is the product of a resource planning process that provides DEC with a framework to access, analyze and implement a cost-effective approach to meet customers' growing energy needs reliably. In addition to assessing qualitative factors, DEC conducts a quantitative assessment using a simulation model. A variety of sensitivities and scenarios were tested against a base set of inputs for various resource mixes, allowing DEC to better understand how potentially different future operating environments, such as fuel commodity price changes, environmental emission mandates, and structural regulatory requirements can affect resource choices, and, ultimately, the cost of electricity to customers. The results of DEC's quantitative analyses in the 2012 IRP revealed that a combination of additional baseload, intermediate and peaking generation, renewable resources, EE, and DSM programs are required over the next twenty years to meet DEC's customer demand reliably and cost-effectively in a carbon-constrained future.

As DEC has received certificates of public convenience and necessity from the Commission for the new pulverized coal unit at Cliffside Steam Station (Cliffside Unit 6)[1] and the new natural gas combined cycle facilities at the Buck and Dan River Steam Stations[2], it has incorporated those facilities into the base generation portfolio. In addition, DEC included DSM/EE consistent with its energy efficiency plan approved in the Commission's February 9, 2010 *Order Approving Agreement and Joint Stipulation of Settlement Subject to Certain Commission-Required Modifications and Decisions on Contested Issues,* in Docket No. E-7, Sub 831 (SAW Order) and renewable resources required to meet DEC's ongoing annual compliance obligations under the North Carolina REPS. DEC's analysis demonstrated that approximately 100 MWs of nuclear up-rates were cost effective in the 2012 IRP, and specific projects are being developed to be implemented in the 2013-2015 timeframe. DEC also plans to retire Lee Steam Station from coal-fired generation in late 2014 and convert Unit 3 to natural gas generation in 2015. The Company has also assumed for planning purposes that all coal-fired generation where it is not economical to install flue gas desulfurization facilities will be retired by 2015.

DEC projects to have definite capacity needs in 2016 and 2018 and beyond due to annual load growth demonstrated in its load forecasts, existing unit capacity adjustments, unit retirements, existing DSM program reductions, and expirations of existing power purchase agreements. DEC's selected portfolio of supply and demand side resources to meet its system needs over the 20 year planning period consists of 1,800 MW[3] of new natural gas simple cycle capacity, 2,100 of new combined cycle capacity, 2,234 MW of new nuclear capacity, 1,207 MW of Demand-Side Management, 633 MW of Energy Efficiency, and 758 MW of renewable resources. Due to qualitative issues, such as the importance of fuel diversity, the Company's environmental profile, varying stages of technical deployment for different resources and regional economic development considerations, DEC has developed this diverse strategy to meet customers' energy needs reliably and economically while maintaining flexibility pertaining to its long-term resource decisions.

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[1] *Order Granting Certificate of Public Convenience and Necessity with Conditions*, Docket No. E-7, Sub 790, dated March 21, 2007.
[2] See *Order Issuing Certificates of Public Convenience and Necessity*, Docket No. E-7, Subs 791 and 832, dated June 5, 2008.
[3] The ultimate sizes of any generating unit may change somewhat depending on the vendor selected.

As previously approved by the Commission in Docket No. E-7, Sub 819[4], DEC has conducted project development work to evaluate the addition of the proposed William States Lee, III Nuclear Station in Cherokee County, South Carolina. DEC's analysis of new nuclear capacity contained in the 2012 IRP considered a portfolio based on full ownership of the 2,234 MW Lee Nuclear Station by the summer of 2022 and 2024, as well as a portfolio that reflects regional nuclear generation equivalent to the MWs associated with Lee Nuclear Station distributed over 2017 to 2028. Regional nuclear is where two or more partners plan collaboratively to stage multiple nuclear stations over a period of years and each partner would own a portion of each station. The regional nuclear portfolio is illustrative of the potential value to customers of a representative regional nuclear generation plan. The quantitative and qualitative analysis continues to demonstrate the potential benefits of new nuclear capacity in the 2020 timeframe in a carbon-constrained future.

With respect to DEC's forecast and assessment of supply-side and demand-side resources within its 2012 IRP, the Public Staff commended DEC on its analysis and evaluation of alternative supply-side resource additions, which are required by Rule R8-60, as well as its clear delineation of new capacity additions by resource type. The Public Staff recommended that in future IRPS the other utilities provide additional details and discussion of projected alternative supply-side resources in a manner similar to that utilized by DEC.

DEC's 2012 IRP included a Carbon Neutrality Plan for Cliffside Unit 6, part of the Company's Greenhouse Gas Reduction Plan required by the North Carolina Department of Environmental and Natural Resources, Division of Air Quality, in the air quality permit issued for the plant in 2008. Under this plan, DEC projects 1299 MW of coal plant retirements, exceeding the obligations imposed by the air permit by close to 70%. The Public Staff recommended that the Commission approve the Cliffside Unit 6 Carbon Neutrality Plan as a reasonable path for DEC' compliance with the carbon emission reduction standards of the air quality permit but state that it is not approving any individual specific activities or expenditures. The Public Staff also recommended that DEC continue to provide updates in future IRPs regarding its obligations related to the Cliffside Unit 6 air permit.

With respect to DSM and EE forecasts, the Public Staff noted that DEC projected capacity savings 2 to 22% greater than the projections in its 2011 IRP. DEC's energy savings decrease in the early years by a combined 46% but then increase by 34% by 2026 and beyond. DEC attributes these changes to updating its expectations for program performance, including new DSM and EE programs implemented in 2012 and the expectations identified in its 2012 market potential study.

NC WARN criticized DEC's and DEP's generation expansion plans, commenting that the projected costs of new nuclear generating capacity has risen exponentially to the

[4] *Order Approving Decision to Incur Limited Additional Project Development Costs*, Docket No. E-7, Sub 819, dated August 5, 2011.

point they simply cannot be considered in the least cost mix and that the IRP did not contain sufficient justification for the costs and risks to ratepayers, taxpayers and the State. NC WARN asserted that alternative energy resources compared favorably to new nuclear generation based upon its estimates for the capital costs of nuclear to the costs of renewable resources and energy efficiency, which it asserted were declining. NC WARN further proposed that DEC's pumped storage resources can offset the variability of wind and solar resources, which comprise 24% of NC WARN's proposed resource mix.

As explained in its 2012 IRP, DEP used the same planning assumptions, analytic tools and methods that it has used in the past; however, as more coordinated planning occurs over time, DEP's future IRPs will reflect the effects of coordinated assumptions and analytic approaches between DEC and DEP. DEP's 2012 IRP relied on a mix of existing generating plants, new supply-side resources and demand-side programs to provide for an adequate and reliable supply of electricity to serve its customers at the lowest reasonable cost. The 2012 IRP includes a balanced mix of additional DSM and EE programs, renewable energy, purchased power, combustion turbine generation, combined cycle generation and nuclear generation. This approach helps ensure electricity remains available, reliable and affordable and is produced in an environmentally sound manner. This diversified approach also helps to insulate customers from price volatility with respect to any one fuel source.

Subsequent to DEP filing its 2012 IRP, one new generating unit became operational: the H.F. Lee facility, a 920 MW natural gas-fired combined cycle facility, which began commercial operation on December 31,2012. DEP's planned generation consist of one CC unit under construction at the Sutton facility in Wilmington, North Carolina, with a summer capacity of625 MW, slated to come on line in December 2013. In addition, DEP is investigating the potential for regional ownership of a portion of other nuclear facilities under development including a 5% share in SCANA's V.C. Summer units and a 20% share in DEC's Lee nuclear units. At this time, however, no contractual agreements have been signed.

With respect to DSM and EE forecasts, the Public Staff noted that DEP projected capacity savings.9 to 19% lower than the projections in its 2011 IRP. However, DEP's energy savings increased from 4.2 to 19% over the same planning horizon. DEP attributed these changes to the fact that its new market potential study was conducted by a different consultant who employed a different methodology that assumed a different relationship between MWh energy savings and peak MW demand savings.

DEC and DEP replied to the comments of NC WARN by re-iterating that their comments on load forecasting reflected the same arguments and logic of NC WARN's criticisms of the Company's last 6 IRPs. Additionally, NC WARN in its report "A Responsible Energy Future for North Carolina" relied on the methodology of the late Dr. Blackburn, which the Commission has rejected consistently in IRP proceedings since 2006. DEC and DEP also asserted that NC WARN's recommendation to use pumped storage resources to offset the variability of wind and solar resources reveals an incomplete understanding of the nature and operation of pumped storage resources as well as the difference between baseload and intermittent resources and their importance to system reliability.

Greenpeace criticized DEC and DEP's generation expansion plans and submitted its own report entitled "Charting the Correction Course: A Clean Energy Pathway for Duke Energy." Greenpeace alleged that DEC and DEP could source 33% of their electricity from renewable resources by 2020. DEC and DEP noted in their reply comments that Greenpeace's assumptions regarding greatly increased reliance upon renewable resources disregarded such intermittent resources' requirement to have sufficient dispatchable and reliable back-up generation.

The attachments to NC WARN and Greenpeace's comments supported maximizing EE, DSM and renewable resources while eliminating baseload nuclear, coal and natural gas generation. DEC and DEP asserted that this proposal is not realistic if the State of North Carolina wants to ensure that reliable and affordable electricity are available to the residential, commercial and industrial customers over the IRP planning horizon, as the Companies are obligated to do. DEC and DEP commented that renewable resources, EE and DSM are important and increasingly significant components of its IRP but cannot be realistically relied upon in the almost exclusive nature that NC WARN and Greenpeace have alleged.

SACE asserted that DEC should have prioritized its “High DSM” case over its base DSM case because it costs less, carries lower risk and would result in lower electricity rates than the Company’s selected portfolios that include the base DSM case assumptions. SACE explained that their calculations revealed that DEC's High DSM portfolios were lower cost than all of its base DSM portfolios and also exposed the Company’s customers to less risk due to the reduced exposure to fuel and CO_2 price volatility and capital cost increases and the fact that it lends itself to a regional approach to DSM participation.

As to DEC's plans for new nuclear capacity, SACE asserted that the Company did not demonstrate a significant cost advantage for nuclear as compared to gas, the only resource alternative given serious consideration in the 2012 IRP. SACE also stated that DEC should conduct a more complete evaluation of the risks of construction delays and cost increase associated with new nuclear generation, whether full ownership or investment in a regional nuclear plant. SACE also criticized the Company for failing to consider renewable energy resources beyond the minimum amount of capacity and energy necessary to meet its REPS requirements over the planning period.

With respect to the comments from SACE, DEC and DEP noted that the criticisms were almost identical in form and substance to SACE's comments in the last 2 IRP proceedings, which the Commission dismissed. Generally, these criticisms are that DEC and DEP should include more EE in the selected portfolio plans and conduct additional analysis of the economics of scrubbed coal generation and new nuclear generation. At the present time, DEC believes the selected portfolio within its 2012 IRP, which includes a combination of new nuclear, natural gas, and renewable resources, as well as additional energy efficiency and the retirement of all coal generating units without environmental controls, represents the best plan to meet its customers energy needs in the most clean, affordable and reliable way possible over the planning horizon.

With respect to SACE's comments regarding DEC's and DEP's assumptions on the cost and schedule for new nuclear construction, the Companies relied on its previous response to NC WARN's and SACE's comments on this issue, stating that the Companies stand by their IRP methodologies and analyses of both supply-side and demand-side resources and the selected plans contained in the 2012 IRP.

DEP

CONCLUSIONS

The Commission concludes that DEC and DEP have conducted reasonable and appropriate forecasts and assessments of supply-side and demand-side resources to meet projected load and capacity needs over the planning horizons of their 2012 IRPs and have adequately addressed all issues related to EE, DSM and portfolio selections in the reply comments. The Commission recognizes that the current planning environment is evolving and dynamic and that DEC's and DEP's plans reflect a diverse portfolio of future supply-side and demand-side options and a reasonable plan to cost-effectively meet customer needs under a number of different circumstances. DEC and DEP have comprehensively evaluated supply-side and demand-side resource options, with due consideration to pending federal environmental legislation and regulation regarding greenhouse gas emissions, to meet long-term system requirements in a carbon-constrained energy future at the least cost to their customers.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 4

The evidence supporting this finding of fact appears in DEC's and DEP' 2012 IRPs, the comments of Public Staff, the joint comments of SACE and the Sierra Club (SACE), the joint reply comments of DEC and DEP, and the general requirements of Commission Rule R8-60.

DEC

In the 2012 IRP, DEC identified seven demand response programs and six energy efficiency initiatives or programs in its current demand-side portfolio. The current DSM measures are: (1) Power Manager (residential air conditioning load control), (2) interruptible service (Rider IS), (3) standby generator service (Rider SG), (4) time-of-use rates for residential service, (5) optional time-of-use rates for general and industrial service, (6) hourly pricing rates for incremental load, and (7) PowerShare (non-residential curtailable program). The EE programs are: (1) Residential Neighborhood Program, (2) Residential Energy Assessments, (3) Smart$aver for Residential Customers, (4) Low Income Energy Efficiency and Weatherization, (5) Energy Efficiency Education Program for Schools, and (6) Smart$aver for Non-Residential Customers. DEC intends to continue its demand response and energy efficiency programs through the term of its save-a-watt portfolio pilot, which expires at the end of 2013, and beyond.

DEC also included four proposed DSM or EE programs in the 2012 IRP, namely the PowerShare® CallOption 200, the Residential Retrofit program, the Smart Energy Now program and the My Energy Manager program.[5] The Company also indicated that it was actively working to add new programs to its portfolio that have not yet been developed.

DEC stated in its 2012 IRP that it has made a strong commitment to EE and DSM and that the Company recognizes EE and DSM as a reliable, valuable resource that is an option in the portfolio available to meet customers' growing need for electricity along with coal, nuclear, natural gas, and renewable energy. DEC's currently approved EE plan has been designed to comply with the requirement set forth in the Commission's *Order Granting Certificate of Public Convenience and Necessity with Conditions*, Docket No. E-7, Sub 790 (March 21, 2007), to spend at least 1% of annual retail revenue requirement from the sale of electricity on future conservation and demand response programs each year, subject to the results of ongoing collaborative workshop and appropriate regulatory treatment. While the EE and DSM initiatives have reduced overall demand for the period between deployment of the Company's save-a-watt portfolio in 2009 and December 31, 2011, DEC still envisions the need to secure additional nuclear and gas generation as well as cost-effective renewable generation.

Table 4.A of DEC's 2012 IRP provides its base case projected load impacts of the EE and DSM through 2032. These were included in the Company's base case IRP analysis. The Company assumes that total energy efficiency savings will continue to grow on an annual basis through 2032; 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 load impacts from the DSM programs are based upon the continuing as well as the new demand response programs. The projected load impacts are set forth in the table below:

Energy Efficiency and Demand Side Management Programs

	Energy Efficiency			Demand Response Peak MW Summer Peak MW					Total Summer Peak MW Impacts
Year	Total Annual MWh Load Reduction (including measures added in 2012 and beyond)	Total Annual MWh Load Reduction (including measures added since 2009 EE program inception)	Summer Peak MW	IS	SG	PowerShare	PowerManager	Total	
2009		70,782							
2010		591,969							
2011		1,159,117							
2012	312,067	1,471,184	29	119	44	390	261	814	843

[5] The Residential Retrofit program was approved by the Commission in Docket No. E-7, Sub 952 (January 25, 2011), and the Smart Energy Now program was approved in Docket No. E-7, Sub 961 on February 14, 2011.

2013	626,576	1,785,693	62	95	5	470	305	875	937
2014	1,059,768	2,218,885	117	90	5	500	357	953	1,070
2015	1,430,299	2,589,416	181	85	5	527	409	1,026	1,207
2016	1,888,405	3,047,522	247	81	5	549	416	1,050	1,297
2017	2,346,512	3,505,629	317	77	4	571	419	1,071	1,388
2018	2,804,618	3,963,735	384	77	4	571	419	1,071	1,455
2019	3,262,725	4,421,842	451	77	4	571	419	1,071	1,523
2020	3,720,831	4,879,948	517	77	4	571	419	1,071	1,588
2021	4,178,938	5,338,055	585	77	4	571	419	1,071	1,657
2022	4,637,044	5,796,161	652	77	4	571	419	1,071	1,724
2023	5,095,151	6,254,268	720	77	4	571	419	1,071	1,791
2024	5,553,257	6,712,374	785	77	4	571	419	1,071	1,856
2025	6,011,363	7,170,481	854	77	4	571	419	1,071	1,925
2026	6,469,470	7,628,587	921	77	4	571	419	1,071	1,992
2027	6,927,576	8,086,693	988	77	4	571	419	1,071	2,060
2028	7,385,683	8,544,800	1,053	77	4	571	419	1,071	2,124
2029	7,843,789	9,002,906	1,123	77	4	571	419	1,071	2,194
2030	8,301,896	9,461,013	1,190	77	4	571	419	1,071	2,261
2031	8,760,002	9,919,119	1,257	77	4	571	419	1,071	2,328
2032	9,218,109	10,377,226	1,320	77	4	571	419	1,071	2,392

DEC's 2012 IRP also provides a high case load impact scenario which represents a significant increase in the amount of EE and DSM impacts that are modeled, consistent with the Company's merger settlement in South Carolina, under which the Company aspires to more aggressive cumulative EE achievement over the period 2014-2018 and annual incremental achievement of 1% of prior year retail electricity sales, beginning in 2015. The impacts in this high case are assumed to level off after 2031 because the projection reaches the theoretical economic potential as determined in the Market Potential Study completed in 2011. However, DEC is committed to ongoing efforts to add incremental savings to the extent they are cost-effective and customers embrace those measures.

With respect to DEC's 2012 IRP, the Public Staff stated that DEC's list of existing DSM/EE programs is consistent with its 2011 IRP and that DEC added three programs to its portfolio and new measures to existing programs: a Tune and Seal measure to the Residential Smart Saver Program, which was approved in Docket No. E-7, Sub 831; My Home Energy Report, which was approved in Docket No. E-7, Sub 1015; Residential Neighbor Low Income Program, which was approved in Docket No. E-7, Sub 1004; Appliance Recycling Program, which was approved in Docket No. E-7, Sub 1005; and the Call Option 200 measure in the Power Share Call Option program, which was approved in Docket No. E-7, Sub 953.

The Public Staff also stated that DEC did not include a specific discussion of its consumer education efforts beyond those associated with the individual DSM/EE programs and recommended that DEC address in its reply comments any activity or initiative that encourages or educates consumers about EE outside of a specific program. In its joint reply comments with Progress, DEC stated that the Company had not discontinued any consumer education programs since the last biennial IRP and currently has no plans to implement any new education programs. The consumer education programs include the following: Smart Energy Now, Non-Residential Assessments, My Home Energy Report, Online Energy Audit, Energy Savings Tips on the DEC Energy website, Home Energy House Call, K-12 Energy Efficiency Program, and DEC Energy's

Online Customer Education Resources which include a variety of free resources for both residential and non-residential customers.

The Public Staff also encouraged each investor-owned utility to take appropriate measures to inform all customers of their system summer peaks so that they might engage in voluntary demand response and peak saving and to discuss those measures in their 2013 IRPs. In its joint reply comments with DEP, DEC stated that the Companies have communication plans that include notifying appropriate state government agencies through existing emergency communication channels, the general public through the news media and other means, as well as notifying Company facilities and employees to conserve electricity. Development in technology in the area of grid modernization, energy efficiency and demand response, combined with innovative program design may allow in future for automation, communication and behavioral modification in the future.

SACE commented that DEC and DEP are delivering high performing, cost-effective EE programs and has improved its EE forecast. But SACE alleged that both Companies failed to adequately consider EE as a resource option in its IRP. SACE focused its criticism of the Companies based on its comparison to what it deems a "leading utility" can achieve and alleged that both DEC and DEP continue to underestimate energy efficiency potential in their 2012 IRPs.

In response to SACE's comments, DEC and DEP referenced their responses to similar criticism raised in prior IRP proceedings and stated that both Companies stand by their IRP methodology and analysis of both supply-side and demand-side resources and the plans selected in their 2012 IRP. DEC and DEP asserted that their 2012 IRPs and REPS compliance plans meet all applicable requirements.

DEP

In the 2012 IRP, DEP identified seven demand response programs and three energy efficiency initiatives or programs in its current demand-side portfolio. The current DSM measures are: (1) Residential Home Energy Improvement; (2) Residential Home Advantage *(Closed to New Participants);* (3) Residential Neighborhood Energy Saver (Low-Income); (4) Residential Lighting Program; (5) Residential Appliance Recycling Program; (6) Residential Energy Efficient Benchmarking Program; and (7) Commercial, Industrial, and Governmental (CIG) Energy Efficiency. The EE programs are: (1) Residential EnergyWise Home^{SM}; (2) CIG Demand Response Automation Program; and (3) Distribution System Demand Response (DSDR) Program. DEP intends to continue its strong commitment to DSM and EE programs as part of its long-term balanced strategy to meet the future electricity needs of its customers.

DEP also included four proposed DSM or EE programs or expansion of existing programs in the 2012 IRP, namely broadening the availability of high efficiency lighting technologies under the Residential Lighting Program; expanding the Neighborhood Energy Saver program to broaden its reach; Residential New Construction program; and Small Business Energy Saver program.

DEP's forecasts of long-term EE program savings were based on the results of a new EE Market Potential Study, conducted in 2012 to obtain new estimates of the technical, economic and achievable potential for EE savings within DEP's service area. DEP stated that the study results should help inform utility program planners as they evaluate EE opportunities but will not be useful in short-term forecasts of EE savings.

DEP's 2012 IRP also provides a high EE savings scenario which represents a significant increase in the amount of EE and DSM impacts that are modeled, consistent with the Company's December 8, 2011 settlement agreement with Environmental Defense Fund, the South Carolina Coastal Conservation League, SACE, DEC Energy Corporation, DEP Energy, Inc., and DEC. Under that agreement, the Company aspires to a more aggressive cumulative EE achievement over the period 2014-2018 and an annual incremental achievement of 1% of prior year retail electricity sales beginning in 2015. The high EE savings projections are much higher than the forecasted savings contained in both the old and new EE Market Potential studies, and the effort to meet them will require not only a substantial expansion of DEP's current EE portfolio but significantly higher levels of customer participation. In its 2012 IRP, DEP expressed its commitment to ongoing efforts to add incremental savings to the extent they are cost effective and customers embrace those measures.

CONCLUSIONS

The Commission concludes that DEC and DEP have conducted reasonable assessments of cost effective demand-side management and energy efficiency resources and has undertaken appropriate plans to implement their approved demand-side resources and to identify new cost effective demand-side resources as future portfolio options.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 5

The evidence supporting this finding of fact appears in DEC and DEP's 2012 IRP's, the joint reply comments of DEC and DEP's, the comments of the Public Staff, and DEC's and DEP's joint response to the Commission's May 3, 2013 order.

DEC

As part of the Commission's approval of DEC's and DEP's 2010 IRPs, the utilities were ordered to perform a quantitative analysis of their respective reserve margins and provide the study results in their 2012 IRPs. A reserve margin study performed by Astrape demonstrated that a target reserve margin range of 14%-16% performed well in most sensitivity cases for DEC. Based on the results of this analysis, DEC utilized a target planning reserve margin of 15.5%, which is lower than the 17% reserve margin used in the 2011 IRP.

The Public Staff commented that DEC's 2012 IRP indicates that reserve margins will drop below its target reserve margin percentages for short periods. DEC pointed out in its 2012 IRP that significant solar generation is being added to its system. While this generation is not dispatchable, the generation primarily occurs during peak periods. Since the filing of the 2012 IRP, the interconnection of solar facilities has escalated for all electric suppliers in North Carolina due to the dramatic decrease in the cost of solar photovoltaic generation, the tax benefits available for renewable generation, and the REPS requirements in North Carolina. In addition, DEC's short-term load growth appears to be lower than originally projected, and usage is lower, possibly due to economic conditions. The combination of these factors, and the relatively short time periods during which DEC's actual reserve margins fall below its target reserve margins, led the Public Staff to conclude that DEC's planned reserves are adequate.

Based on its review of the 2012 IRP, the Public Staff recommended that DEC be required to file with its reply comments, as required by R8-60(i)(3), the specific explanation for each year in which its projected reserve margin exceeds plus or minus 3% of its target.

In its reply comments, DEC acknowledged that its system reserve margin is projected to exceed its target reserve margin of 15.5% by more than 3% during several years over the course of the planning period. The Company stated that these projected increases in reserve margin are driven by the "lumpiness" of new generation additions. Specifically, the additions of Cliffside Unit 6 (825 MW) and the Dan River combined cycle facility (620 MW) contributed to the increased reserve margin in 2013. The capacity of these units is reflected in the 2013 summer peak. Subsequent to the filing of the 2012 IRP, DEC announced that it will retire Buck Units 5 and 6 and Riverbend Units 4 through 7 in April 2013 as opposed to the planned retirement date of April 2015 listed in the 2012 IRP. The retirement of this 710 MW of capacity in 2013 reduces the planning reserve margin to be within 2% of target reserve margin in 2014.

DEC further advised in its reply comments that in 2019 a new combustion turbine resource is projected to be installed in order to meet the target reserve margin. Due to the block of 800 MW that is installed for a 4-unit site, the reserve margin is greater than 3% of the target reserve margin. In 2022 the installation of one nuclear unit of 1117 MW causes the reserve margin to increase to greater than 3% of the target reserve margin. This occurs again in 2023. DEC explained that the resource need in these years, if not met, would require the reserve margin to dip below the target reserve margin.

DEC's 2012 IRP assumes significant solar increases. By 2015, 253 MW of nameplate solar is projected, climbing to 495 MW y 2020, 840 MW by 2025 and 984 MW by 2030. While there are substantial increases in solar qualifying facility interconnection requests since the filing of DEC's 2012 IRP, DEC feels that the solar projections utilized in the 2012 IRP adequately account for these additions. In addition, DEC stated that it constantly monitors the impacts of these facilities to the system and will make adjustment of the plan going forward, as necessary.

CONCLUSIONS

The Commission concludes that the target reserve margins set by DEC in its 2012 IRP are reasonable and prudent for planning purposes.

DEP

DEP's 2012 IRP indicates that it will meet its projected reserve margin targets for the planning period, and the Public Staff considers the planned reserves adequate.

CONCLUSIONS

The Commission concludes that the target reserve margins set by DEP in its 2012 IRP are reasonable and prudent for planning purposes.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 6

The evidence supporting this finding of fact appears in DEC's and DEP'S 2012 REPS Compliance Plans, the comments of Public Staff and MAREC, and the general requirements of Rule R8-67.

DEC

DEC's 2012 REPS Compliance plan sets forth the Company's strategy to build its portfolio of renewable resources to meet the requirements of G.S. 62-133.8 over the three year planning period. DEC's compliance strategy is based on a combination of resource options: (1) implementation of energy efficiency programs that will generate savings that count toward DEC's REPS obligations; (2) purchases of renewable energy certificates (REC or RECs); (3) continued operation of company-owned renewable energy resources; and (4) research studies to enhance the Company's ability to comply with REPS obligations in the future.

As part of its portfolio of resources, DEC will provide services, including delivery of renewable energy resources, to wholesale customers who request its assistance in meeting the REPS requirements. These wholesale customers — including EMCs, municipalities, and other wholesale customers — may rely on DEC to provide this renewable energy delivery service in accordance with G.S. 62-133.8(c)(2)e. Currently, DEC plans to supply all of the renewable energy resources for Rutherford EMC, Blue Ridge EMC, City of Dallas, Forest City, City of Concord, Town of Highlands, and City of Kings Mountain.

DEC's REPS compliance requirements over the subject planning period of the 2012 REPS Compliance Plans are the 2012, 2013 and 2014 solar resource requirements, as well as the 2012, 2013 and 2014 swine waste, poultry waste and general resource requirements. DEC projected its specific REPS requirements for these resources as follows:

PROJECTED REPS REQUIREMENTS

Compliance Year	Previous Year DEC Retail Sales (MWh)	Previous Year Wholesale Customers' Retail Sales (MWh)	Retail Sales (MWh)	Solar Set-Aside (RECs)	Swine Set-Aside (RECs)	Poultry Set-Aside (RECs	General Requirement (RECs)	Total Compliance Obligation (RECs)
2012	55,966,071*	3,496,738*	59,462,809*	1,624	1,624	77,197	1,623,439	1,783,884
2013	54,678,204	3,409,456	58,087,660	0,661	0,661	317,870	1,343,437	1,742,630
2014	55,169,132	3,510,277	58,679,409	1,076	1,076	408,690	1,269,541	1,760,382

* Compliance Obligation is based on prior year MWh sales. Thus, retail sales figures for compliance years 2013 and 2014 are estimates.

With respect to its solar resource requirements, pursuant to N.C. Gen. Stat. 62-133.8(d), DEC must use solar energy resources equal to a minimum of seven hundredths of one percent (0.07%) of the total electric power in kilowatt hours sold to retail customers in North Carolina, or an equivalent amount of energy, in 2012, 2013 and 2014. Based on actual retail sales in 2011, the Solar Set-Aside is approximately 41,624 MWhs in 2012. Based on forecasted retail sales, the Solar Set-Aside is projected to be approximately 41,661 MWhs and 41,076 MWhs in 2013 and 2014, respectively.

DEC has adhered to the same renewable energy strategy in planning to meet the solar set-aside requirements for 2012, 2012 and 2014 as it did in its prior REPS compliance plan. Specifically, DEC plans to meet its solar set-aside requirements through a combination of Company-owned solar photovoltaic distributed generation program; and solar REC purchase agreements with in-state and out-of-state third parties to procure RECs from both PV and solar water heating installations. DEC stated in its 2012 REPS Compliance Plan that it is confident that it will meet the solar resource requirements for 2012, 2013 and 2014.

As to the swine waste set-aside requirements, pursuant to G.S. 62-133.8(e), for calendar years 2012, 2013 and 2014 at least seven hundredths of one percent (0.07%) of total retail electric power sold in aggregate by utilities in North Carolina must be supplied by energy derived from swine waste. As DEC's share[6] of the State's total electric power in kilowatt hours sold to retail electric customers is approximately forty-five percent (45%), the Company's swine set-aside requirement is estimated to be 41,624 RECs in 2012, 40,661 RECs in 2013 and 41,076 RECs in 2014.

[6] In its *Order on Pro Rata Allocation of Aggregate Swine and Poultry Waste Set Aside Requirements and Motion for Clarification* in Docket No. E-100, Sub 113 (March 31, 2010), the Commission approved the electric power suppliers' proposed pro-rata allocation of the statewide aggregate swine and poultry waste set-aside requirements, such that the aggregate requirements will be allocated among the electric power suppliers based on the ratio of each electric power supplier's prior year retail sales to the total statewide retail sales.

DEC's 2012 REPS Compliance Plan states that in spite of diligent efforts to secure resources to comply with the swine set-aside requirement in the planning period, the Company was unable to secure sufficient volumes of RECs to meet its pro rata share of the swine set-aside in 2012 and 2013.

Due to the projected non-compliance over the short-term, DEC along with DEP, DNCP, GreenCo Solutions, Public Works Commission of the City of Fayetteville, Halifax EMC, EnergyUnited EMC, Tennessee Valley Authority, North Carolina Eastern Municipal Power Agency, and North Carolina Municipal Power Agency Number 1 (Electric Power Suppliers) jointly moved the Commission to modify and delay the swine and poultry set-asides for two years. As required by the Commission's November 29, 2012 *Order Modifying the Poultry and Swine Waste Set-Aside Requirements and Granting Other Relief* in Docket No. E-100, Sub 113, the Commission eliminated the 2012 swine waste set-aside requirement of G.S. 62-133.8(e) and delayed for one year the poultry waste set-aside requirement of G.S. 63-133.8(f). The Commission allowed the Electric Power Suppliers to bank poultry and swine waste RECs acquired prior to 2013 for retirement and REPS compliance in years 2013 and beyond.

In that order, the Commission also required DEC and DEP to file tri-annual progress reports summarizing efforts to comply with the poultry and swine waste set-aside requirements. Because these tri-annual reports contain trade secret and proprietary, confidential and commercially sensitive information, DEC and DEP filed them under seal.

Based on the REC agreements that DEC has executed and expects to executed in the future, DEC in its 2012 IRP stated that compliance with the 2014 poultry waste set-aside requirement according to the proposed, delayed schedule was possible, provided counterparties reach commercial operation and deliver expected REC quantities in line with current REC expectations.

As to the poultry waste aside requirements for 2012, 2013 and 2014, pursuant to G.S. 62-133.8(f), at least 170,000 MWhs, 700,000 MWhs and 900,000 MWhs respectively of the prior year total electric power sold to retail electric customers in the State or an equivalent amount of energy shall be produced or procured each year, by poultry waste. As DEC's retail sales share of the State's total retail kWh sales is approximately forty-five percent (45%), the Company's poultry set-aside requirement is approximately 78,001 RECs. in 2012, 317,870 RECs in 2013 and 408,690 in 2014.

DEC's 2012 REPS Compliance Plan stated that in spite of diligent efforts to secure resources to comply with the poultry set-aside requirement in the planning period, the Company was unable to secure sufficient volumes of RECs to meet its pro rata share of the poultry set-aside in 2012 and 2013. Compliance in 2014 also seems unlikely. As described above, the Electric Suppliers jointly proposed to modify and delay the swine and poultry set-asides in June 2012.

On July 13, 2013 the Electric Power Suppliers filed a letter with the Commission seeking approval of a request for proposals (RFP) for electric power generated from poultry waste, to be issued jointly by the Electric Suppliers. The letter stated that a joint RFP would assist the Electric Power Suppliers in coordinating poultry waste proposals and determining the amount of poultry waste generation and/or RECs that can be expected to be available. The Commission requested comments on this proposal and expects to issue an order in the coming weeks.

DEC stated that compliance with the 2014 poultry waste set-aside requirement was possible; however, many uncertainties remain to be addressed in negotiations and subsequent project development. DEC listed a number of challenges relating to compliance with the poultry waste set-aside requirement, but articulated that it would continue to pursue its adopted strategies to meet the set-aside requirement and would make all reasonable efforts to comply with the proposed delayed schedule.

As to the general REPS requirements, pursuant to G.S. 62-133.8(b)(1), DEC must submit for retirement a total volume of RECs equal to three percent (3%) of its retail sales in the prior year, approximately 1,783,884 MWhs in 2012, 1,742,632 in 2013 and 1,760,382 in 2014. This requirement, net of the solar, swine waste, and poultry waste set-aside requirements, is estimated to be 1,623,439 RECs in 2012, 1,343,437 RECs in 2013 and 1,269,541 RECs in 2014.

DEC plans to meet twenty-five percent (25%) of the general REPS requirement through energy efficiency savings, which is the maximum allowable amount under G.S. 62-133.7(b)(2)c. DEC projects that, in concert with its customers, it will achieve more energy efficiency savings than can be utilized under REPS for the foreseeable future. Because the Company's first general requirement began in 2012, these savings were banked during the years 2009-2011 for future use, and DEC plans to utilize its banked energy efficiency savings in 2012 and thereafter. DEC will also continue to develop and offer new and innovative programs that will deliver savings and count toward DEC's future REPS requirements.

DEC stated that it further plans to meet its general REPS requirement, for its retail and wholesale customers, through purchases of energy and/or RECs from qualifying hydroelectric power facilities, landfill gas and biomass providers, including combined heat and power facilities. DEC further stated that because of uncertainty with environmental permit requirements, it has reduced its reliance on biomass for future REPS compliance. DEC will continue to pursue wind energy, either through REC-only purchases or through energy delivered to its customers in North Carolina to meet the in-state general requirement. However, continuation of the federal production tax credit is uncertain, and repeal of the credit could limit future wind projects.

DEC submitted in its 2012 REPS Compliance Plan its projections of customer accounts by class and its current avoided cost rates. Such projections are as follows:

NUMBER OF CUSTOMER ACCOUNTS

year	2012*	2013	2014
Residential Accts	1,744,155	1,780,837	1,794,511
Commercial Accts	235,086	238,602	242,701
Industrial Accts	5,392	5,533	5,543

ANNUALIZED CAPACITY AND ENERGY RATES (CENTS PER KWH)

	2012 (Current)	2013 (Projected)	2014 (Projected)
Variable Rate	5.48¢	5.48¢	5.48¢
5 Year	5.63¢	5.63¢	5.63¢
10 Year	6.28¢	6.28¢	6.28¢
15 Year	6.63¢	6.63¢	6.63¢

DEC also projected its REPS compliance cost caps over the 2012 REPS compliance planning period to be as follows:

PROJECTED ANNUAL COST CAPS

year	2012	2013	2014
Projected Annual Cost Caps	$61,572,760	$62,593,344	$63,482,282
Total projected compliance costs	$51,094,206	$38,184,049	$53,132,484
Total incremental costs	$11,578,250	$15,617,619	$25,096,637

Based on its review of DEC's REPS compliance plan, the Public Staff believed that the Company could meet the general and solar REPS requirements for itself and the electric power suppliers for which it is providing REPS compliance services for the time period covered by the 2012 REPS compliance plan. No other parties filed any comments regarding DEC's 2012 REPS compliance plan.

DEP

DEP's compliance strategy to meet the requirements of G.S. 62-133.8 over the three-year planning period is based on a combination of resource options: (1) purchases of RECs or electricity from renewable energy generators; (2) implementation of energy efficiency programs that will generate savings that count toward DEP's REPS obligations; and (3) research regarding the use of alternative fuels meeting the definition of renewable energy resources at existing generation facilities.

As part of its portfolio of resources, DEP will provide services, including delivery of renewable energy resources, to wholesale customers who request its assistance in meeting the REPS requirements. These wholesale customers — including EMCs, municipalities, and other wholesale customers — may rely on DEP to provide this renewable energy delivery service in accordance with G.S. 62-133.8(c)(2)e. Currently, DEP plans to supply all of the renewable energy resources to the City of Waynesville, the Town of Sharpsburg, the Town of Stantonsburg, the Town of Black Creek and the Town of Lucama.

DEP's REPS compliance requirements over the subject planning period of the 2012 REPS Compliance Plans are the 2012, 2013 and 2014 solar resource requirements, as well as the 2012, 2013 and 2014 swine waste, poultry waste and general resource requirements. DEP projected its specific REPS requirements for these resources as follows:

PROJECTED REPS REQUIREMENTS

Compliance Year	Previous Year DEC Retail Sales (MWh)	Previous Year Wholesale Customers' Retail Sales (MWh)	Total Retail Sales (MWh)	Solar Set-Aside (RECs)	Swine Set-Aside (RECs)	Poultry Set-Aside (RECs	General Requirement (%)	Total Compliance Obligation (RECs)
2012	37,353,311*	155,584*	37,508,895*	26,256	26,256	49,354	3%	1,125,267
2013	36,868,966	155,568	37,024,535	25,917	25,917	203,224	3%	1,110,736
2014	37,255,920	155,982	37,411,902	26,188	26,188	261,288	3%	1,122,357

* Note: Annual compliance REC requirements are based on prior year MWh sales. MWh sales presented above are for compliance years 2-12-2014 and represent actual MWh sales for 2011 and projected MWh sales for 2013 and 2014.

To comply with the solar set-aside requirement of G.S. 62-188.8(d), DEP has executed a number of solar contracts, purchased out-of-state solar RECs and implemented Commercial and Residential SunSense programs. Under the Commercial SunSense program, in operation since July 2009, commercial customers agree to install rooftop-mounted solar PV facilities or solar thermal water heating facilities on their property. This program aims to add 5 MW or equivalent capacity per year. The Residential SunSense program, in operation since January 2011, incentivizes solar PV systems up to 10 kW and aims to add 1 MW of capacity per year. In June 2011 DEP issued a request for proposals for solar PV energy and RECs from facilities ranging from 1 to 3 MW.

Regarding the purchase of energy or RECs from new renewable energy facilities, DEP has adopted a competitive bidding and evaluation process whereby market participants have an opportunity to propose projects on a continuous basis. DEP maintains an open RFP for non-solar projects less than 10 MWs in size. In addition, DEP from time-to-time issues resource specific RFPs, as needed, to meet Senate Bill 3 obligations.

DEP plans to meet twenty-five percent (25%) of the general REPS requirement through energy efficiency savings, which is the maximum allowable amount under N.C. Gen. Stat. 62-133.7(b)(2)c. Any energy efficiency MWhs that exceed the specified cap in any given year will be banked and used in future compliance years.

Compliance	Energy	Allowed	PEC REPS	Allowed	Energy

Year	Efficiency Forecast	Energy Efficiency for REPS Compliance (%)	Requirement (RECs)	Energy Efficiency for REPS Compliance (REC Equivalent)	Efficiency Banked for Future Compliance (REC Equivalent)
2012	505,081	25%	1,120,599	280,150	224,931
2013	678,740	25%	1,106,069	276,517	402,222
2014	848,132	25%	1,117,678	279,419	568,712

DEP is well positioned to meet the general requirements obligation. The Company has executed numerous contracts; continues to solicit additional proposals for renewable projects; has purchased RECs from numerous projects, some of which began producing RECs in 2008; has implemented energy efficiency programs, which began producing RECs in 2008; and has executed agreements with several projects for out-of-state wind and solar RECs.

As to the swine waste set-aside requirements, pursuant to G.S. 62-133.8(e), DEP's swine set-aside requirement is estimated to be 26,256 RECs in 2012, 25,917 RECs in 2013 and 26,188 RECs in 2014. And pursuant to G.S. 62-133.8(f), DEP's poultry set-aside requirement is estimated to be 49,354 RECs in 2012, 203,224 RECs in 2013 and 261,288 RECs in 2014.

As discussed above, all Electric Power Suppliers have indicated that they will be unable to comply with the swine and poultry set-aside requirements in 2012 and 2013. DEP is one of the Electric Power Suppliers that sought to delay the swine and poultry waste set-aside requirements of G.S. 62-133.8(e) and (f) until 2014.

DEP submitted in its 2012 REPS Compliance Plan its projections of customer accounts by class and its current avoided cost rates. Such projections are as follows:

NUMBER OF CUSTOMER ACCOUNTS

year	2012*	2013	2014
Residential Accts	1,126,546	1,137,912	1,151,075
Commercial Accts	185,011	188,420	192,762
Industrial Accts	2,090	2,110	2,131

ANNUALIZED CAPACITY AND ENERGY RATES (CENTS PER KWH)

	2012 (Current)	2013 (Projected)	2014 (Projected)
Variable Rate	5.786¢	5.786¢	5.786¢
5 Year	6.184¢	6.184¢	6.184¢
10 Year	6.816¢	6.816¢	6.816¢
15 Year	7.286¢	7.286¢	7.286¢

DEP also projected its REPS compliance cost caps over the 2012 REPS compliance planning period to be as follows:

PROJECTED ANNUAL COST CAPS

year	2012	2013	2014
Projected Annual Cost Caps	$42,703,052	$43,360,012	$44,028,334
Total projected compliance costs	$126,663,218	$131,011,101	$134,861,111
Total incremental costs	$20,477,202	$20,155,392	$22,639,757

Based on its review of DEP's REPS compliance plan, the Public Staff believed that the Company could meet the general and solar REPS requirements for itself and the electric power suppliers for which it is providing REPS compliance services for the time period covered by the 2012 REPS compliance plan. No other parties filed any comments regarding DEP's 2012 REPS compliance plan.

MAREC's Comments

MAREC alleged that DEC and DEP did not adequately consider wind energy in their 2012 IRPs and contended that the Companies should include a new RFP process that would solicit at least 100 MW of new wind energy capacity through long-term contracts in future IRPs. In their joint reply comments, DEC and DEP pointed out that MAREC failed to offer specific criticism of the Companies' assumptions and modeling as to wind energy resources and stated that DEC Energy Corporation, the parent company of DEC and DEP, is one of the largest wind energy developers in the United States and therefore recognizes the valuable potential of new wind energy resource development. While DEP's 2012 IRP included only committed renewable resources that will be need to comply with the REPS standard, DEC's 2012 IRP included an assumed 457 MW of wind resources, with a contribution of 69 MW to summer peak in 2032. Both DEC and DEP regularly assess the marketplace for competitive wind and other renewable resources, including formal RFPs or unsolicited bids, making MAREC's proposed RFP requirement unnecessary.

CONCLUSIONS

The Commission concludes that DEC's and DEP'S 2012 REPS Compliance Plans comply with the requirements of Rule R8-67(b), are reasonable for the purposes of this proceeding and are approved as filed.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 7

The evidence supporting this finding of fact appears in DEC's 2012 IRP and REPS Compliance Plan, the comments of Public Staff, NC WARN, BREDL and Greenpeace, SACE and the Sierra Club, and the joint reply comments of DEC and DEP filed in this proceeding, and the general requirements of Commission Rules R8-60 and R8-67.

CONCLUSIONS

Based on the foregoing, the Commission's review of DEC's and DEP's 2012 IRPs and REPS Compliance Plans, all comments filed in this consolidated docket, and the entire record of this proceeding, the Commission concludes that DEC's and DEP's 2012 IRPs and REPS Compliance Plans comply with the requirements of G.S. 62-110.1, G.S. 62-2(a)(3a) and Rules R8-60 and R8-67, are reasonable for the purposes of this proceeding and are approved as filed. The Commission further concludes that DEC and DEP have responded to all subsections of Rule R8-60(c) and Rule R8-67(b) as required and that DEC and DEP have developed reasonable resource plans to reliably meet future needs at least cost to their customers and reasonable REPS compliance plans to meet the relevant requirements under Senate Bill 3.

IT IS, THEREFORE, ORDERED as follows:

1. That this Order shall be adopted as a part of the Commission's current analysis and plan for the expansion of facilities to meet future requirements for electricity for North Carolina pursuant to G.S. 110.1(c);

2. That the 2012 Integrated Resource Plans filed by DEC and DEP hereby are approved; and

3. That the 2012 REPS Compliance Plans filed by DEC and DEP hereby are approved; and

4. That DEC's Cliffside Carbon Neutrality Plan, as contained in Appendix J of its 2012 IRP, is appropriately before the Commission for approval as part of DEC's IRP. As such, the Commission is approving only the Plan itself as a reasonable path for DEC's compliance with the carbon emission reduction standards of the air quality permit and is not approving any individual specific activities nor expenditures for any activities shown in the Plan. As noted by DEC, this Plan shall also be submitted to the Division of Air Quality, which will evaluate the effect of the plans on carbon, and provide its conclusions to this Commission; and

5. That DEC and DEP shall include a discussion of variance of 10% or more in projected Energy Efficiency savings from one IRP report to the next; and

6. That DEC and DEP shall include a discussion of the status of market potential studies or updates in future IRPs; and

7. That DEC and DEP shall include in future IRPs a full discussion of the drivers of each class' load forecast, including new or changed demand of a particular sector or sub-group.

ISSUED BY ORDER OF THE COMMISSION.

This the ____ day of _____, 2013.

NORTH CAROLINA UTILITIES COMMISSION

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