

LAW OFFICE OF
ROBERT W. KAYLOR, P.A.
3700 GLENWOOD AVENUE, SUITE 330
RALEIGH, NORTH CAROLINA 27612
(919) 828-5250
FACSIMILE (919) 828-5240

FILED
MAY 10 2011
Clerk's Office
N.C. Utilities Commission

OFFICIAL COPY

May 10, 2011

Ms. Renné C. Vance, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4325

RE: Docket No. E-7, Sub 819

Dear Ms. Vance:

Enclosed for filing are the original and thirty (30) copies of Duke Energy Carolinas, LLC's Proposed Order in the above referenced docket.

Also enclosed is the Proposed Order on CD in Microsoft Word format.

Sincerely,

Robert W. Kaylor/RK
Robert W. Kaylor

Encls.

cc: Parties of Record

Full Comm. mth
CD to Barnes

THE NORTH CAROLINA UTILITIES COMMISSION **FILED**

DOCKET NO. E-7, SUB 819

MAY 10 2011

Clerk's Office
N.C. Utilities Commission

Revised Amended Application of)
Duke Energy Carolinas, LLC for) **DUKE ENERGY CAROLINAS, LLC'S**
Approval of Decision to Incur Nuclear) **PROPOSED ORDER**
Generation Project Development Costs)

HEARD: Hearing Room, Dobbs Building, 430 North Salisbury Street, Raleigh,
North Carolina on March 15, 2011

BEFORE: Chairman Edward S. Finley, Presiding; Commissioners Lucy T. Allen;
Bryan E. Beatty; ToNola D. Brown-Bland; William T. Culpepper, III; and
Lorenzo L. Joyner

APPEARANCES:

For the Applicant, Duke Energy Carolinas, LLC:

Timika Shafeek-Horton, Deputy General Counsel
Charles A. Castle, Senior Counsel
Duke Energy Corporation
526 S. Church Street, Charlotte, North Carolina 28202

Robert W. Kaylor, Law Office of Robert W. Kaylor, P.A.
3700 Glenwood Avenue, Suite 330
Raleigh, North Carolina 27612

For the Using and Consuming Public:

Leonard G. Green, Assistant Attorney General, North Carolina
Department of Justice, P.O. Box 629, Raleigh, North Carolina 27602

Gisele Rankin, Staff Attorney with the Public Staff
4326 Mail Service Center, Raleigh, North Carolina 27699

For the Public Advocacy Groups:

John Runkle
P.O. Box 3793, Chapel Hill, North Carolina 27515

BY THE COMMISSION: On November 15, 2010, Duke Energy Carolinas, LLC (“Duke Energy Carolinas” or “Company”) filed an Amended Application pursuant to N.C. Gen. Stat. §§62-60, 1-253, 62-2, and 62-110.7 and the North Carolina Utilities Commission’s (“Commission”) prior orders in this docket. On December 6, 2010, Duke Energy Carolinas filed a Revised Amended Application for approval of Duke Energy Carolinas’ decision to continue to incur up to \$287 million of additional project development costs for the period January 1, 2010 through December 31, 2013 for the Company’s proposed William States Lee, III Nuclear Station in Cherokee County, South Carolina (“Lee Nuclear Station”).

The Revised Amended Application follows two prior approvals by this Commission in this docket to incur project development costs for the Lee Nuclear Station. The Commission’s ruling from its October 9, 2007, *Order of Clarification Concerning Development Costs* stated, “Duke is hereby authorized to incur costs for Development Work through December 31, 2007, not to exceed the North Carolina allocable portion of \$127 million.”¹ Duke Energy Carolinas subsequently incurred approved development costs of approximately \$69.6 million through December 31, 2007. The Commission’s June 11, 2008 *Order Approving Decision to Incur Project Development Costs* approved the Company’s decision to incur an additional \$160 million of the North Carolina allocable portion of project development costs from January 1, 2008 to December 31, 2009. Consequently, from January 1, 2008 through December 31, 2009, Duke Energy Carolinas incurred incremental capital and AFUDC project development costs of approximately \$102.4 million. Accordingly, in the Revised

¹ Two other Commission orders in this docket, *Order Issuing Declaratory Ruling* (March 20, 2007) and *Order Clarifying Declaratory Ruling and Requesting Comments* (August 6, 2007), established the prudence of Duke Energy Carolinas’ incurrence of development costs for the Lee Nuclear Station.

Amended Application, Duke Energy Carolinas sought Commission approval to incur additional project development costs of \$287 million, for a total of \$459 million (including AFUDC), for the period January 1, 2010 through December 31, 2013 in order to continue the additional necessary development work to ensure the Lee Nuclear Station remains a viable option to serve customer needs in the 2021 timeframe.

Petitions to intervene have been filed by and granted to the Attorney General's Office; and N.C. Waste Awareness and Reduction Network, Public Citizen, the N.C. Public Interest Research Group, the Nuclear Information and Resource Service, Common Sense at the Nuclear Crossroads, Clean Water for N.C. and the Blue Ridge Environmental Defense League. The latter group of interveners is referred to collectively as the "Public Advocacy Groups."

The pre-filed direct testimony of James E. Rogers, Chairman, President, and Chief Executive Officer of Duke Energy Corporation; Dhiaa M. Jamil, Group Executive, Chief Generation Officer and Chief Nuclear Officer for Duke Energy Corporation; and Janice D. Hager, Vice President of Integrated Resource Planning and Regulated Analytics for Duke Energy Corporation, was filed by the Company on November 15, 2010. Supplemental direct testimony of James E. Rogers was filed on February 7, 2011. Pre-filed testimony and exhibits of Michael C. Maness and Kennie D. Ellis were filed by the Public Staff on February 24, 2011. Pre-filed testimony of Peter A. Bradford was filed by the Public Advocacy Groups on February 28, 2011. On March 11, 2011, the Company filed the Rebuttal Testimony of James E. Rogers, Dhiaa M. Jamil, and Janice D. Hager.

The case came on for hearing as ordered on March 15, 2011. On April 5, 2011, the Company filed a Motion for Leave to File a Late-Filed Exhibit and to Amend the Company's Application to reflect the correction of a mathematical error in its calculation of projected allowance for funds used during construction ("AFUDC") through the end of 2013. On May 3, 2011, the Company filed Duke Energy Carolina's Notice of Acceptance of Public Staff's position that the decision to incur additional project development costs of up to \$120 million from January 1, 2011 through June 30, 2012 for the proposed Lee Nuclear Station is reasonable and prudent. The Company also asserted that its decision to incur costs during 2010 was reasonable and prudent. The deadline for proposed orders and briefs was extended from May 5, 2011 to May 10, 2011. Based upon consideration of the pleadings, testimony, and exhibits received into evidence at the hearing, and the record as a whole, the Commission makes the following:

FINDINGS OF FACT AND CONCLUSIONS OF LAW

1. Duke Energy Carolinas, LLC is a public utility with a public service obligation to provide electric utility service to customers in its service area in North Carolina and is subject to the jurisdiction of the Commission.

2. The Commission has jurisdiction over this Application pursuant to the Public Utilities Act. N.C. Gen. Stat. § 62-110.7, which grants the Commission the authority to approve a utility's decision to incur project development costs for a nuclear facility.

3. Duke Energy Carolinas' 2010 Integrated Resource Plan ("IRP") filed with this Commission in Docket No. E-100, Sub 128 shows substantial load growth and the need for significant capacity additions to meet Duke Energy Carolinas customers' needs

over the next twenty years. The 2010 IRP shows a cumulative need for approximately 2,200 MW of additional capacity by 2020, which grows to approximately 6,000 MW of additional capacity by 2030. The Company's 2010 IRP also reflects the retirement by 2015 of 370 MWs of old combustion turbines and 1667 MWs of older, less-efficient coal units as part of the commitments related to the approval of the Company's advanced clean coal Cliffside Unit 6 and assumed additional EPA environmental regulations.

4. In the 2010 IRP, Duke Energy Carolinas developed resource portfolios, which included energy efficiency programs, demand-response programs, renewable resources, natural gas, advanced clean coal, and nuclear generation resources to meet the needs of customers in a reliable and cost-effective manner. The Company tested all of its supply and demand-side resource portfolio options against a wide range of sensitivities and scenarios. The quantitative and qualitative analysis conducted as part of the Company's 2010 integrated resource planning process demonstrates that the addition of the Lee Nuclear Station in the 2020 timeframe has significant value for customers under multiple scenarios. The 2020 timeframe allows the Company to meet its power supply obligations at the least cost to its customers and builds in the opportunity to develop partners and pursue legislation to ensure Lee Nuclear is brought on line at the lowest possible cost. The Lee Nuclear Station would provide needed, reliable and greenhouse gas emission-free base load generation for Duke Energy Carolinas.

5. The Company's need for new base load generation resources over the next decade, combined with the need for greater fuel diversity and a commitment to reducing Duke Energy Carolinas' carbon footprint, makes the continued evaluation and development of new nuclear generation an essential part of future resource planning.

6. The Lee Nuclear Station would be constructed in Cherokee County, South Carolina. Duke Energy Carolinas has selected the Westinghouse AP1000 reactor technology, which is an advanced nuclear power generation technology that uses the forces of nature and simplicity of design to enhance plant safety and operations, and reduce construction costs. Each unit has an anticipated generation capacity of 1,117 MW, and the projected annual capacity factor of the Lee Nuclear Station is expected to exceed 90% based upon current Duke Energy Carolinas nuclear fleet performance.

7. Pursuant to the Commission's prior approval orders in this Docket, Duke Energy Carolinas incurred approximately \$172 million in project development costs through December 31, 2009. In order to continue the necessary pre-construction work to preserve the Lee Nuclear Station as an option in the 2021 timeframe, the Commission finds the Company's decision to continue to incur additional Lee Nuclear Station project development costs during the period Jan. 1, 2010 through December 31, 2010 was reasonable and prudent under the circumstances.

8. The Company estimates it will need to incur up to an additional \$250 million in Lee Nuclear Station project development costs during the period January 1, 2011 through December 31, 2013, in order to continue the necessary pre-construction work at Lee Nuclear Station. However, the Company has accepted the Public Staff's position that the Commission's approval should be limited to \$120 million through June 30, 2012.

9. Duke Energy Carolinas' decision to incur the North Carolina allocable portion of an amount not to exceed \$120 million in Lee Nuclear Station project development costs for the period from January 1, 2011 to June 30, 2012, is reasonable

and prudent, and is approved subject to the reporting requirements set forth herein. The Commission agrees with Duke Energy Carolinas that preserving the option of new nuclear generation is valuable for the Company's customers and for the future of the State of North Carolina, and is therefore in the public interest.

EVIDENCE AND CONCLUSIONS FOR FINDING NOS. 1-2

The evidence in support of these findings of fact is found in the Revised Amended Application of Duke Energy Carolinas, LLC for Approval of Decision to Incur Continued Nuclear Generation Project Development Costs, the pleadings, testimony, and exhibits in this docket, and the statutes, case law, and rules governing the authority and jurisdiction of this Commission. These findings are informational, procedural, and jurisdictional in nature.

N.C. Gen. Stat. § 62-110.7 provides for project development cost review for a nuclear facility:

At any time prior to the filing of an application for a certificate to construct a potential nuclear electric generating facility...a public utility may request that the Commission review the public utility's decision to incur project development costs...The Commission shall approve the public utility's decision to incur project development costs if the public utility demonstrates by a preponderance of the evidence that the decision to incur project development costs is reasonable and prudent; provided however, the Commission shall not rule on the reasonableness or prudence of specific project development activities or recoverability of specific items of costs.

N.C. Gen. Stat. § 62-110.7(b) (2008). Duke Energy Carolinas has not filed an application for a certificate to construct the Lee Nuclear Station with the Public Service Commission of South Carolina; in fact, the Company has not made a final decision whether to pursue construction of the Lee Nuclear Station. Therefore, the Commission has the authority to

review Duke Energy Carolinas' Application and to approve the Company's decision to incur nuclear generation project development costs.

EVIDENCE AND CONCLUSIONS FOR FINDING NOS. 3-5

The evidence in support of this finding is based upon the 2010 Duke Energy Carolinas IRP and the testimony and exhibits of Duke Energy Carolinas witnesses Rogers and Hager.

James E. Rogers, Chairman, President, and Chief Executive Officer of Duke Energy Corporation, testified that the number of customers that Duke Energy Carolinas serves continues to grow. (Tr. Vol. 1, p.107). Witness Rogers further testified that Duke Energy Carolinas has developed a strategic plan to meet this sustained customer load growth while maintaining prudent flexibility to respond to dynamic circumstances. (Tr. Vol. 1, p. 107). He stated that Duke Energy Carolinas is committed to reducing its environmental footprint and that Lee Nuclear Station is a key component of Duke Energy Carolinas' comprehensive modernization plan, which also includes increased energy efficiency and demand-response programs, renewable energy resources, new natural gas resources, and the advanced clean coal Cliffside Unit 6. (Tr. Vol. 1, pp. 106-107). Witness Rogers also stated that the Company believes that the continued development of the Lee Nuclear Station is prudent in the face of the uncertainties posed by future economic, environmental, regulatory, and operating circumstances. (Tr. Vol. 1, p. 107). Janice D. Hager, Duke Energy's Vice President of Integrated Resource Planning and Regulated Analytics, offered extensive testimony as to the Company's planning process that led to the development of the Duke Energy Carolinas 2010 IRP and its decision to continue to evaluate and develop new nuclear generation. Witness Hager testified that

the Company develops and files an annual resource plan based upon a 20-year load forecast and a target planning reserve margin of 17%. (Tr. Vol. 2, p. 62). Ms. Hager explained that the Company's current load forecast reflects a 1.8 percent average annual growth rate in summer and winter peak demands, and a 2.0 percent average annual growth rate in total energy usage. (Tr. Vol. 2, p. 64). This equates to an average annual growth rate of approximately 360 MWs per year of energy. (*Id.*). No Intervenor offered any evidence to contradict the Company's load forecast.

Witness Hager explained how Duke Energy Carolinas' resource planning process takes into account a wide range of assumptions and uncertainties in order to develop an action plan that preserves the options necessary to meet customers' needs. (Tr. Vol. 2, p. 63). According to Ms. Hager's testimony, key uncertainties considered in the 2010 IRP include, *inter alia*, environmental regulations such as carbon costs, the cost of natural gas, and what level of Demand-Side Management ("DSM"), Energy Efficiency ("EE"), and renewable energy resources can be delivered reliably. (Tr. Vol. 2, p. 64-68.). Witness Hager testified that the Company believes that prudent planning for customer needs requires a plan that is robust under many possible future scenarios, and maintains a number of options to respond to many potential outcomes of major planning uncertainties (e.g., federal greenhouse gas emission legislation/regulation, changes in fuel pricing, etc.). (Tr. Vol. 2, p. 64).

Ms. Hager testified that the 2010 IRP quantitative analyses suggested that a combination of additional base load, intermediate and peaking generation, renewable resources, and EE and DSM programs is required over the next twenty years to reliably and cost-effectively meet customer demand. (Tr. Vol. 2, p. 72). The 2010 IRP continues

to show new nuclear generation as the best option for meeting Duke's long term baseload generating needs in both North Carolina and South Carolina under all scenarios analyzed. (Tr. Vol. 2, p. 73). Witness Hager testified the continued development of the Lee Nuclear Station would allow for continued diversification of resources, which is a benefit to all customers. (Tr. Vol. 2, p. 71).

Under the Company's base case within its IRP, the portfolio consisting of 1,300 MW of new natural gas combined cycle capacity, 1,780 MW of new natural gas combustion turbine capacity, 2,234 MW of new nuclear capacity, 1,267 MW of Demand-Side Management, 633 MW of Energy Efficiency, and 520 MW of renewable resources was selected. (Tr. Vol. 2, p. 72). The Company's 2010 IRP screening results *demonstrate that the 2020 time frame for new nuclear remains beneficial for Duke Energy Carolinas' customers.* (Tr. Vol. 2, p.73). Witness Hager testified that the 2020 timeframe allows the Company to meet its power supply obligations at the least cost to its customers and builds in the opportunity to develop partners and pursue legislation to ensure Lee Nuclear is brought on line at the lowest possible cost. (*Id.*) She concluded that the Lee Nuclear Station would provide needed, reliable and greenhouse gas emission-free base load generation for Duke Energy Carolinas. (Tr. Vol. 2, p.74). Furthermore, Ms. Hager testified that continued development of Lee Nuclear would allow for continued diversification of resources, and less dependence on greenhouse gas-emitting resources. (Tr. Vol. 2, p. 70-71).

The Company's 2010 IRP also reflects the retirement of approximately 370 MW of old combustion turbines and 1,667 MW of older, less-efficient coal units as part of the

commitments related to the approval of the Company's advanced clean coal Cliffside Unit 6, and the anticipated impact of a series of new proposed U.S. Environmental Protection Agency ("EPA") rules regulating multiple areas relating to generation resources, such as mercury, SO₂, NO_x, coal combustion by-products and fish impingement/entrainment. (Tr. Vol. 2, p. 69). Witness Hager testified that each MW of capacity that is no longer available must be replaced with new capacity, either from supply-side or demand-side resources. (Tr. Vol. 2, p. 64). Witness Hager went on to point out that the need for additional capacity grows over time due to load growth, unit capacity adjustments, unit retirements, existing Demand-Side Management program reductions, and expirations of purchased-power contracts. (*Id.*). The need grows to approximately 2,200 MW by 2020 and to 6,000 MW by 2030. (*Id.*).

Public Advocacy Groups witness Peter A. Bradford testified that Duke Energy Carolinas' need for the power from Lee Nuclear has "declined dramatically." (Tr. Vol. 1, p. 67). Ms. Hager explained in her rebuttal testimony that even though the load forecast is lower in 2010 than it was in 2008, Mr. Bradford is not making an accurate comparison because his numbers do not account for approximately 2,100 MW of capacity met by the addition of Cliffside Unit 6 and the Buck and Dan River combined cycle plants. (Tr. Vol. 2, p. 83). Furthermore, Ms. Hager explained that regardless of the comparison, Duke Energy Carolinas still has a definite need for capacity that Lee Nuclear Station could satisfy. (*Id.*).

Public Staff witnesses Maness and Ellis outlined in their testimony concerns regarding a lack of low/no carbon planning scenarios and the Company's planning reserve margin of 17%. Ms. Hager points out in her rebuttal testimony that past

Commission orders in Duke Energy Carolinas' previous IRP's, including the Commission's *Order Approving Integrated Resource Plans and REPS Compliance Plans*, issued in Docket Nos. E-100, Subs 118 and 124, the Commission has approved the Company's 17% target reserve margin for resource planning purposes. (Tr. Vol. 2, p. 84). Alternatively, Ms. Hager states that a change in the reserve margin would not affect Lee's cost-effectiveness because such a change would have a similar impact on the capacity costs of all portfolios. (Tr. Vol. 2, p. 85).

Therefore, the Commission finds Duke Energy Carolinas' use of a 17% planning reserve margin to be reasonable for planning purposes. Ms. Hager's rebuttal testimony points out that the lack of low or no carbon planning scenarios should not stop the pre-construction or project development activities because of uncertainties related to the legislation/regulation of carbon emissions. (Tr. Vol. 2, p. 86). While scenarios of little to no carbon legislation/regulation are not totally without possibility, Ms. Hager points out Duke Energy Carolinas firmly believes it is a matter of how and when, not if, carbon emissions will be regulated. (*Id.*). Because the Company is not seeking a Certificate of Public Convenience and Necessity ("CPCN") in the present application but is instead seeking to preserve the option for Lee Nuclear Station through this proceeding, the lack of low/no carbon scenarios therefore do not undermine the present need to continue pre-development work on Lee Nuclear Station. The Commission therefore finds sufficient evidence of the Company's need for future capacity.

The Commission agrees with the Company that given the future economic, regulatory and operational uncertainties, particularly future CO₂ regulation, it is prudent to preserve the option of creating new nuclear generation. If future carbon constraints

become a reality, the greenhouse gas-emission-free generation from the Lee Nuclear Station will become an even more valuable resource for the Company's customers. The Commission finds that, in light of this testimony and the significant benefits flowing from the maintenance of the nuclear generation option, granting the Company's Application is necessary to allow the Company to move forward with the continued development of nuclear generation capacity.

EVIDENCE AND CONCLUSIONS FOR FINDING NOS. 6-7

The evidence in support of these findings is based upon the Company's application, the testimony of Company witnesses Jamil and Rogers, and the testimony of Public Staff witnesses Maness and Ellis.

In his testimony, Mr. Jamil outlined the details of a potential project at Lee Nuclear Station. Lee Nuclear Station would be constructed in Cherokee County, South Carolina, at the Company's former Cherokee Nuclear Station site. (Tr. Vol. 2, p. 11). Duke Energy Carolinas has selected the Westinghouse AP1000 reactor technology, which is an advanced nuclear power generation technology that uses the forces of nature and simplicity of design to enhance plant safety and operations, and reduce construction costs. (*Id.*). Mr. Jamil demonstrated that the plant would utilize the best components of currently deployed technologies, providing a high confidence that the facility will operate at high levels of safety and reliability. (*Id.*). Each unit has an anticipated generation capacity of 1,117 MW, and the projected annual capacity factor of the Lee Nuclear Station is expected to exceed 90% based upon current Duke Energy Carolinas nuclear fleet performance. (*Id.*).

Public Advocacy Groups witness Bradford expressed concerns in his testimony that any changes to the AP1000 design that occur after construction has begun could result in cost overruns. (Tr. Vol. 1, p. 93-95). Company witness Jamil, however, stated the Company is not in the construction phase but instead in the process of getting its Combined Construction and Operating License Application (“COLA”) for Lee Nuclear Station. (Tr. Vol. 2, p. 12). Company witness Rogers also stated that the Company will benefit incrementally from the fact that there will be a reference plant constructed, both in the United States and in China, before Duke Energy Carolinas undertakes the construction of Lee Nuclear Station. (Tr. Vol. 1, p. 152). Mr. Rogers specifically testified that reference plants for the AP1000 design will provide the Company with *greater capability to predict and manage the actual costs to construct the proposed plant. (Id.).*

Witnesses Maness and Ellis testified that Duke Energy Carolinas has incurred Lee Nuclear Station project development costs of \$172 million through December 31, 2009. (Tr. Vol. 2, p. 138). Witnesses Maness and Ellis also testified that Duke Energy Carolinas has incurred an additional \$36 million in pre-development costs from January 1, 2010 through December 31, 2010. (Tr. Vol. 2, p. 148). Though Public Staff witnesses Maness and Ellis express concern about the uncertainties regarding Duke Energy Carolinas’ for a nuclear unit to be online by any certain date in the future, they nevertheless opined that the Company’s general decision to incur additional project development costs is reasonable and prudent so that the proposed Lee Nuclear Station can be maintained as a potential resource option to satisfy future projected load and energy requirements. (Tr. Vol. 2, p. 143). Witnesses Maness and Ellis indicated that

they do not contest the Company's general decision to continue to incur projected development costs during 2010, and specifically stated the Public Staff believes Duke Energy Carolina's decision to continue to incur project development costs as of January 1, 2010, was not unreasonable. (Tr. Vol. 2, p. 147).

The Commission finds that the Company's decision to continue to incur development costs on the Lee Nuclear Station project in 2010 was reasonable under the circumstances. Such decision was supported by Duke Energy Carolinas' 2008 and 2009 IRPs, both of which have been approved as reasonable for planning purposes by this Commission. The timing of the Company's Application does not impact the reasonableness of the decision-making regarding the continued spending on Lee Nuclear Station. The statute is silent with respect to timing, and the Commission is satisfied that the Company's decision to continue incurring project development costs in 2010 to maintain Lee Nuclear Station as a resource option for customers is supported by the record in this proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDING NO. 8

The evidence in support of this finding is based upon the application and the testimony of Public Staff witnesses Maness and Ellis and Company witness Jamil.

As stated in the Company's application and by Public Staff witnesses Maness and Ellis proposes to incur up to \$250 million from January 1, 2011, through December 31, 2013 in additional pre-development costs. (Tr. Vol. 2, p. 148). Witnesses Maness and Ellis also state that Duke Energy Carolina's general decision to incur additional project development costs is reasonable and prudent so that the proposed Lee Nuclear Station can be maintained as a potential resource option to satisfy future projected load and

energy requirements. (Tr. Vol. 2, p. 144). Witness Jamil testified that Duke Energy Carolinas will continue to update the Commission on its cost estimates and schedule periodically, as it does with any major project. (Tr. Vol. 2, p. 16). The Commission makes a reporting requirement a condition of its approval as set forth herein.

Witness Jamil listed the following categories of project development work that must be completed during calendar years 2010 thru 2013 to continue the development of the Lee Nuclear Station through the projected receipt of the COL for the project:

COLA Preparation – Labor, expenses, and contract support for preparation of the COLA tendered to the NRC on December 13, 2007. The NRC determined the application was suitable for review and docketed the application on February 25, 2008.

NRC Review and Hearing Fees – Labor, expenses, and contract support for activities required as a follow-up to submittal of the NRC COLA including NRC review fees and costs associated with responding to NRC RAIs regarding the COLA, which include revisions and periodic updates required to the COLA. Also included are costs associated with development and regulatory review of various required permits and labor and expenses required for periodic updates to Duke Energy Carolinas' application to the Department of Energy for a Loan Guarantee for Nuclear Power Facilities.

Land and Right of Way Purchases – Cost of purchasing approximately 4000 acres for construction of Lee Nuclear Station, the make-up ponds, and rights of way for railroads. The original site purchase was completed in late 2005; however, additional property has been acquired for the land needed to construct a

supplemental pond for make-up water for the plant in the event of an extended drought and for railroad rights of way. Additional land rights may be acquired to complete the desired buffer zone around Make-Up Pond C. Acquisition of transmission rights of way has not yet begun.

Pre-construction and Site Preparation – Costs associated with remediation and demolition of onsite structures. Other site preparation activities include the engineering required for bringing water, sewer, transmission, and railroads to and from the site, as well as engineering for traffic improvements around the site. This category also includes ongoing industrial 24 by 7 security and miscellaneous site maintenance, such as mowing, utilities, maintenance of excavation dewatering pumps, perimeter fence repairs, repairs to site drainage system and erosion repairs.

Supply Chain, Construction Planning and Detailed Engineering – Costs and activities associated with working with the supplier to define a complete project scope and estimate and subsequent costs for negotiating an EPC agreement in 2008. This category also includes site specific engineering activities from 2011 to 2013 that to date have been limited to conceptual design necessary to support licensing and permitting activities. These items include: the raw water system, including river intake structures, pumps and piping designs; a conceptual site drainage plan; physical site security features; routing and material types for condenser circulating water systems, cooling tower basins; make-up pond A, B and C intake structures; and, waste water retention basins. Looking forward, detailed design engineering of the site specific structures, systems, and

components will begin. A key Duke Energy risk mitigation strategy is to complete engineering work prior to site deployment, which is currently scheduled for 2014. Completing site specific engineering is a three to four year activity and therefore needs to begin in 2011 to support the Company's current schedule. Site specific systems, structures and components include: e.g., storm drainage system; sanitary drain system; yard fire protection system; waste water system; potable water system; circulating water; raw water system; liquid radwaste water system; retail onsite power; chilled water plant system; meteorological system; utilities; security; commercial and temporary buildings; and, site specific support buildings.

Operational Planning – Continued activities associated with development of plant procedures and programs, as well as training material. Duke Energy is working in concert with other AP1000 utilities to develop these procedures, programs and training materials in a cost efficient manner. Development of these items using shared resources from across the member utilities leverages the resources and expertise of the member utilities and should ensure that the cost of completing this work is substantially lower than the cost that a single utility would incur to complete.

(Tr. Vol. 2, p. 14-16).

Public Staff Witnesses Maness and Ellis propose the Commission should approve Duke Energy Carolinas' decision to incur additional project development costs but limiting those costs to a maximum of \$120 million, including any AFUDC accrued, from January 1, 2011, through June 30, 2012. (Tr. Vol. 2, p. 149-150). Importantly, when

asked about potential impact of the events in Japan on nuclear development projects in the United States, Public Staff Witness Ellis said he did not have any additional reservations about the advisability of incurring nuclear costs for the Lee Nuclear Station at this time. (Tr. Vol. 2, p. 171). The Company has agreed to the Public Staff's position in its Notice of Acceptance of Public Staff's position that the decision to incur additional project development costs of up to \$120 million from January 1, 2011 through June 30, 2012 for the proposed Lee Nuclear Station is reasonable and prudent. For these reasons, the Commission approves the Company's request to incur additional project development costs of up to \$120 million from January 1, 2011 through June 30, 2012 for the proposed Lee Nuclear Station.

EVIDENCE AND CONCLUSIONS FOR FINDING NO. 9

The evidence in support of this finding is based upon evidence in support of the previous findings, the 2010 Duke Energy Carolinas IRP and the testimony of Duke Energy Carolinas witness Jamil, Rogers, and Hager; Public Staff witnesses Maness and Ellis; and the totality of the record before the Commission.

Mr. Rogers emphasized that the Lee Nuclear Station is a key component to the Company's modernization plan and an important resource to meet customer's energy needs in a changing regulatory landscape. (Tr. Vol. 1, p. 107-108). Witness Rogers further stated that nuclear resources provide significant system planning benefit from a reliability and emissions perspective. (Tr. Vol. 1, p. 110). Mr. Rogers also reiterated the Company's commitment to regional nuclear generation opportunities to benefit Duke Energy Carolinas' customers, which would include additional participants in Lee Nuclear

Station, or the Company's participation in other regional nuclear projects. (Tr. Vol. 1, p. 112-113).

In his supplemental testimony, Rogers detailed that Duke Energy Carolinas had executed an option agreement for JEA to potentially purchase up to 20% of the capacity of Lee Nuclear Station at a future point in time after the Company's receipt of its COL. (Tr. Vol. 1, p. 116). Duke Energy Carolinas views the option agreement with JEA as a positive step towards regional nuclear generation that will allow it to share risks, smooth rate impact to customers and increase its financial flexibility during construction. (Tr. Vol. 1, p. 117). Witness Rogers emphasized that the sale of the option to JEA did not mean that Duke Energy Carolinas did not need the full capacity of the Lee Nuclear Station project; he stated that to the extent that the Company will receive less than 100% of the capacity and energy from the two units, it will need to procure substitute resources to meet its customers' needs in the future. (Tr. Vol. 1, p. 118). Mr. Rogers also informed the Commission that Duke Energy Carolinas had engaged in discussions with Santee Cooper regarding potential participation with Santee Cooper in the Summer Nuclear Plant in Jenkinsville, South Carolina being constructed by Santee Cooper and South Carolina Electric & Gas. (Tr. Vol. 1, p. 129).

Witness Rogers further stated that the Company had not made a decision yet to construct Lee Nuclear Station, and that it was taking a careful, methodical approach to its development activities to minimize risk to the Company's customers and investors. (Tr. Vol. 1, p. 162). Mr. Rogers acknowledged that Duke Energy Carolinas would not ultimately move forward to build Lee Nuclear Station absent a legislative change in North Carolina to allow the recovery of financing costs for nuclear construction outside

of a general rate case, but indicated his confidence that such legislation would be passed either this session or during a subsequent session. (Tr. Vol. 1, p. 172-173). Witness Rogers also emphasized that if such legislation is not passed, North Carolina would lose the option to have nuclear generation to serve the State's customers unless the Company filed rate cases each year during the construction period. (Tr. Vol. 1, p. 188-189).

Public Advocacy Groups witness Bradford testified in opposition to the Company's application and to his opinion that the fundamental reasons Duke Energy put forth to justify the Lee project several years ago have been substantially undermined by the events of the last three years. (Tr. Vol. 1, p. 66). He also testified that nuclear power is not essential to combating climate change and stated his opinion that Duke Energy should be required by the Commission to use a competitive power procurement process to screen possible power supply resources. (Tr. Vol. 1, p. 79; p. 77). Mr. Bradford also expressed his opinion that new nuclear generation would reduce jobs in energy efficiency and in other types of generation. (Tr. Vol. 1, p. 75). Mr. Bradford also expressed concerns in his testimony that events at the Fukushima Daiichi nuclear plant in Japan could have negative implications on the U.S. nuclear industry. (Tr. Vol. 1, p. 82, p. 84, p. 94).

In her rebuttal testimony, Duke Energy Carolinas witness Hager testified to her disagreement with Mr. Bradford's opinions about the usefulness of nuclear generation to combat climate change, the impact from nuclear construction on North Carolina jobs, and the use of a competitive power procurement process for baseload generation. First, Ms. Hager explained that without the addition of new nuclear generation, carbon emissions in 2030 will be substantially higher than in 2010, even with aggressive energy efficiency efforts and while meeting the North Carolina renewable energy and energy efficiency

portfolio standard. (Tr. Vol. 2, p. 93). Next, Ms. Hager testified the IRP was designed to minimize customer rate impact by selecting generation portfolios with the best potential to minimize the present value of revenue requirements. (Tr. Vol. 2, p. 94). Ms. Hager testified the resource portfolio that provides the lower cost to customers includes new nuclear capacity rather than those portfolios that included only new natural gas-fired generation. (Tr. Vol. 2, p. 73). Lastly, Ms. Hager testified as to why baseload generation is fundamentally different than peaking or intermediate capacity. Ms. Hager states this difference primarily arises because supplier default for baseload generation could jeopardize the Company's ability to provide reliable service and baseload generation outside Duke Energy Carolinas' control area could be subject to interruption due to transmission issues more so than generation within the control area (Tr. Vol. 2, p. 92-93).

Mr. Bradford also states the U.S. "nuclear renaissance" is in shambles while projected natural gas prices are significantly lower than they were in 2008, improving the cost combinations of natural gas and renewable-based generation. (Tr. Vol. 1, p. 67-68). However, Ms. Hager points out in her Confidential Rebuttal Exhibit A, the natural gas projected prices used in the 2007 and 2010 IRP's are actually similar. (Tr. Vol. 2, p. 89). Furthermore, Duke Energy Carolinas' analyses for the 2010 IRP clearly show the portfolio with new nuclear generation is projected to be cost-effective for customers even in light of lower natural gas prices. (*Id.*) Additionally, Mr. Rogers states in his rebuttal testimony that many of the "nuclear renaissance" reactors Mr. Bradford cites as being cancelled or delayed have been proposed under different market regulation or technology choices than Lee Nuclear. (Tr. Vol. 1, p. 121-122). These differences can account for the different construction timelines for each project. (*Id.*) Mr. Rogers further

emphasized that reference plant AP1000 projects are moving forward in both South Carolina and Georgia, as well as in China. (Tr. Vol. 1, p. 122). He stated that the Company will incorporate lessons learned from these projects into Lee Nuclear Station to assist in reducing the construction risk to the Company's customers. (*Id.*).

Mr. Bradford also suggests in his testimony that any decision by the Commission granting a prudency determination on Lee Nuclear should adjust the Company's allowed return on equity accordingly. (Tr. Vol. 1, p. 78). Similarly, Mr. Bradford testifies that approval of the current application would expose Duke Energy Carolinas' customers to costs and harm. (*Id.*) Yet, as Mr. Rogers correctly points out in his rebuttal testimony, the Company is not seeking a Certificate of Public Convenience and Necessity for this project and Mr. Bradford's arguments are similar to several of the same arguments he made during the prior proceeding in this docket. (Tr. Vol. 1, p. 123). As noted by this Commission in this docket in its Order Approving Decision to Incur Project Development Costs issued on June 11, 2008,

[m]ost of the recommendations made by the Groups appear to be based on the assumption that this proceeding entails greater assurances than it will actually provide. . . .many of the concerns expressed by the Groups are more appropriately addressed in a certificate proceeding or its equivalent or in other proceedings in which the prudence and reasonableness of specific activities and costs will be evaluated and determined.

(Tr. Vol. 1, p. 124).

Further, this application does not include or involve any request for adjustment of Duke Energy Carolinas' customers' rates; this application pertains only to the Company's decision to incur additional development costs in the Lee Nuclear Station project. Therefore, the Commission finds that a reduction in the Company's return on equity is neither reasonable nor warranted at this time.

As discussed previously, the Commission finds that the continued development of the Lee Nuclear Station and the nuclear generation option is ultimately beneficial for Duke Energy Carolinas' customers and for the future of the State of North Carolina. The Commission acknowledges the variety of uncertainties facing Duke Energy Carolinas in its development of the proposed Lee Nuclear Station. In the face of all the uncertainties discussed by the parties to this proceeding, the Commission must attempt to ensure that the State and its citizens have reliable supplies of electricity to support future growth and evolving energy needs. The Company has created certain conditions precedent to its ultimate construction of the Lee Nuclear Station, and such conditions have yet to be satisfied. However, the Company is not seeking a CPCN in this case; it is merely seeking approval of its decision to continue developing a potential future resource for its customers. At this time, based on the facts before the Commission, we conclude that the continued development of Lee Nuclear Station remains in the best interest of the Company's customers. The continued development of the Lee Nuclear Station ensures that this important potential source of greenhouse gas emission-free base load generation will remain an option to meet the future needs of Duke Energy Carolinas' customers.

The Commission finds that Duke Energy Carolinas has met its burden of establishing the reasonableness and prudence of its decision to incur project development costs for the Lee Nuclear Station by a preponderance of the evidence. The Commission therefore approves the Company's application, as modified by its acceptance of the position taken by the Public Staff, and approves the Company's decision to incur the North Carolina allocable portion of project development costs for the Lee Nuclear

Station, which the Company has estimated as a system-wide maximum amount of \$120 million for the period January 1, 2010 to June 30, 2012.

IT IS, THEREFORE ORDERED:

1. That the Applications filed in this docket should be, and the same are hereby, approved;

2. Duke Energy Carolinas' decision to incur \$36 million in Lee Nuclear Station project development costs for the period January 1, 2010 to December 31, 2010 is reasonable and prudent.

3. Duke Energy Carolinas' decision to incur up to \$120 million in Lee Nuclear Station project development costs for the period January 1, 2011 to June 30, 2012 is reasonable and prudent.

4. Duke Energy Carolinas' is authorized to incur the North Carolina allocable share of up to \$120 million in Lee Nuclear Station project development costs for the period January 1, 2011 to June 30, 2012.

5. For ratemaking purposes, the issuance of this Order does not constitute approval of the reasonableness or prudence of specific project development activities or recoverability of specific items of cost, and that the approval and grant contained herein is without prejudice to the right of any party to take issue with the treatment of specific project development costs for ratemaking purposes in a future proceeding.

6. Duke Energy Carolinas shall file with the Commission the following

a. a report on July 31, 2011, detailing its project development activities and costs incurred through June 30, 2011;

b. a report on January 31, 2012, detailing its project development activities and costs incurred through December 31, 2011;

c. a report on July 31, 2012, detailing its project development activities and costs incurred through June 30, 2012;

IT IS THEREFORE SO ORDERED.

This the ____ day of May, 2011.

NORTH CAROLINA UTILITIES COMMISSION

Renné C. Vance, Chief Clerk

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC's Proposed Order in Docket No. E-7, Sub 819, has been served by electronic mail (e-mail), hand delivery or by depositing a copy in the United States Mail, first class postage prepaid, properly addressed to parties of record.

This the 10th day of May, 2011.

Robert W. Kaylor 

Robert W. Kaylor
Law Office of Robert W. Kaylor, P.A.
3700 Glenwood Avenue, Suite 330
Raleigh NC 27612
(919) 828-5250
NC State Bar No. 6237