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E-7 Sub 718

E-2 Sub 815

# Implementation of the "Clean Smokestacks Act"

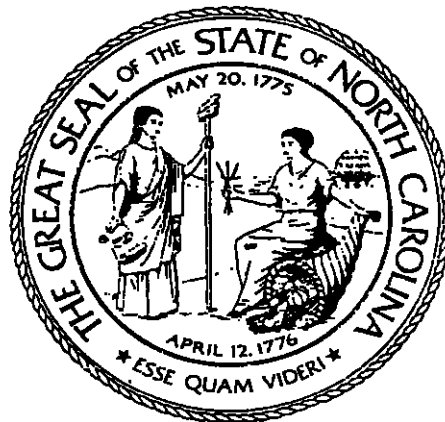
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Clerk's Office  
N.C. Utilities Commission

**A Report to the  
Environmental Review Commission and the  
Joint Legislative Utility Review Committee**

**Submitted by the North Carolina Department  
of Environment and Natural Resources and  
the North Carolina Utilities Commission**



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**Report No. VII**

**June 1, 2009**

# Implementation of the "Clean Smokestacks Act"

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Submitted by the North Carolina Department of Environment and  
Natural Resources and the North Carolina Utilities Commission

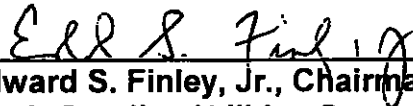
This report is submitted pursuant to the requirement of Section 14 of Session Law 2002-4, Senate Bill 1078 enacted June 20, 2002. The actions taken to date by Progress Energy Carolinas, Inc. and Duke Energy Carolinas, LLC appear to be in accordance with the provisions and requirements of the Clean Smokestacks Act.

Signed:



Dee A. Freeman, Secretary  
Department of Environment and Natural Resources

Signed:



Edward S. Finley, Jr., Chairman  
North Carolina Utilities Commission

June 1, 2009

# **Implementation of the "Clean Smokestacks Act"**

## **A Report to the Environmental Review Commission and the Joint Legislative Utility Review Committee**

**June 1, 2009**

The General Assembly of North Carolina, Session 2001, passed Session Law 2002-4, also known as Senate Bill 1078. This legislation is titled "*An Act to Improve Air Quality in the State by Imposing Limits on the Emission of Certain Pollutants from Certain Facilities that Burn Coal to Generate Electricity and to Provide for Recovery by Electric Utilities of the Costs of Achieving Compliance with Those Limits*" ("the Clean Smokestacks Act" or "the Act"). The Clean Smokestacks Act, in Section 14, requires the Department of Environment and Natural Resources (DENR) and the Utilities Commission (Commission) to report annually, i.e., by June 1 of each year, on the implementation of the Act to the Environmental Review Commission and the Joint Legislative Utility Review Committee.

The Act, in Section 9, requires Duke Energy Carolinas, LLC (Duke Energy), and Progress Energy Carolinas, Inc. (Progress Energy), to submit annual reports to DENR and the Commission containing certain specified information. Duke Energy and Progress Energy filed reports, with DENR and the Commission, by cover letters dated March 27 and 31, 2009, respectively. Specifically, such reports were submitted in compliance with the requirements of G.S. 62-133.6(i). Duke Energy's and Progress Energy's reports are attached, and made part of this report, as Attachments A and B, respectively.

Additionally, by letter dated May 14, 2009, the Secretary of DENR wrote to the Commission stating that, pursuant to G.S. 62-133.6(j), DENR has reviewed the information provided and has determined that the submittals comply with the Act. The Secretary further stated that the plans and schedules of the Companies appear adequate to achieve the emission limitations set out in G.S. 143-215.107D.

Significantly, 2007 marked the first step of the emission reductions required by the Clean Smokestacks Act. Specifically, Duke Energy is limited to 35,000 tons of oxides of nitrogen (NO<sub>x</sub>) in any calendar year beginning 1 January 2007, and Progress Energy is limited to 25,000 tons of NO<sub>x</sub>. Both utilities reported to have met their respective limits as recorded through continuous emission monitoring (CEM) data. Additionally, the raw CEM data is verified by the utilities and reported to the United States Environmental Protection Agency (EPA). The next milestone in reductions occurs in 2009, when Duke Energy must further reduce its NO<sub>x</sub> to 31,000 tons, and both utilities must reduce their sulfur dioxide (SO<sub>2</sub>) emissions, Duke Energy to 150,000 tons and Progress Energy to 100,000 tons.

This report is presented to meet the reporting requirement of the Act pertaining to DENR and the Commission, as discussed above, and is submitted jointly by DENR and the Commission. The report is structured to address the various actions that have occurred pursuant to the provisions of Sections 9, 10, 11, 12, and 13 of the Act. Reports of actions under these Sections describe the extent of implementation of the Act to this date.

**I. Section 9(c) of the Act, Codified as Section 62-133.6(c) of the North Carolina General Statutes**

**G.S. 62-133.6(c) provides:** *The investor-owned public utilities shall file their compliance plans, including initial cost estimates, with the Commission and the Department of Environment and Natural Resources not later than 10 days after the date on which this section becomes effective. The Commission shall consult with the Secretary of Environment and Natural Resources and shall consider the advice of the Secretary as to whether an investor-owned public utility's proposed compliance plan is adequate to achieve the emissions limitations set out in G.S. 143-215.107D.*

**Status:** North Carolina's investor-owned electric utilities, Progress Energy and Duke Energy, filed their initial compliance plans as required in June and July of 2002, respectively, in accordance with G.S. 62-133.6(c), Section 9(c) of Session Laws 2002-4, the Clean Smokestacks Act. DENR reviewed this information and determined that the submittals comply with the Act and, as proposed, appear adequate to achieve the emission limitations set out in G.S. 143-215.107D.

**II. Section 9(d) of the Act, Codified as Section 62-133.6(d) of the North Carolina General Statutes**

**G.S. 62-133.6(d) provides:** *Subject to the provisions of subsection (f) of this section, the Commission shall hold a hearing to review the environmental compliance costs set out in subsection (b) of this section. The Commission may modify and revise those costs as necessary to ensure that they are just, reasonable, and prudent based on the most recent cost information available and determine the annual cost recovery amounts that each investor-owned public utility shall be required to record and recover during calendar years 2008 and 2009. In making its decisions pursuant to this subsection, the Commission shall consult with the Secretary of Environment and Natural Resources to receive advice as to whether the investor-owned public utility's actual and proposed modifications and permitting and construction schedule are adequate to achieve the emissions limitations set out in G.S. 143-215.107D. The Commission shall issue an order pursuant to this subsection no later than 31 December 2007.*

Pursuant to G.S. 62-133.6(b), Progress Energy and Duke Energy are allowed to accelerate the cost recovery of their estimated environmental compliance costs over a seven-year period beginning January 1, 2003 and ending December 31, 2009. During that period, Progress Energy and Duke Energy, referred to collectively hereafter as the

investor-owned utilities (IOUs), are required to amortize \$813 million and \$1.5 billion, respectively. Subsection (b) further provides that the IOUs shall amortize 70% of said costs during the five-year period January 1, 2003 through December 31, 2007. That requirement equates to \$569.1 million for Progress Energy and \$1.05 billion for Duke Energy. As previously reported, according to information provided to the Commission by the IOUs, those amounts had, in fact, been amortized at December 31, 2007, leaving original-estimate, unamortized balances of \$243.9 million<sup>1</sup> and \$450 million<sup>2</sup> for Progress Energy and Duke Energy, respectively, at December 31, 2007.

**Progress Energy:** On March 23, 2007, in Docket No. E-2, Sub 900, Progress Energy filed a petition with the Commission seeking authorization (1) to amortize a total of \$243.9 million<sup>3</sup> of environmental compliance costs during calendar years 2008 and 2009; (2) to treat environmental compliance costs incurred by Progress Energy in excess of \$813 million as eligible for inclusion in Progress Energy's rate base; (3) to allow the accrual of allowance for funds used during construction (AFUDC) on all environmental compliance costs in excess of \$813 million; (4) to defer any determination of the justness, reasonableness, and prudence of Progress Energy's environmental compliance costs in excess of \$813 million, including associated AFUDC, until Progress Energy's next general rate case; (5) to find that Progress Energy's current estimate of its anticipated environmental compliance costs is the most accurate available estimate of the cost that Progress Energy will incur to comply with the emissions limitation provisions of the Act; and (6) to find that the matters raised by Progress Energy's petition should be resolved based on a record consisting of comments and reply comments.

Progress Energy's petition was scheduled for hearing and a number of parties intervened, including the Public Staff – North Carolina Utilities Commission (Public Staff) and the North Carolina Attorney General's Office (Attorney General). Prior to the hearing, Progress Energy filed a Stipulation Agreement (Settlement Agreement or Stipulation) between the parties, except for the Attorney General.

A number of witnesses testified during the hearing, including Mike Abraczinskas, an employee in the Division of Air Quality of DENR.<sup>4</sup> Witness Abraczinskas presented testimony that Progress Energy's actual and proposed Clean Smokestacks compliance modifications and permitting and construction schedules are adequate to achieve the

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<sup>1</sup> Progress Energy: \$813 million less \$569.1 million = \$243.9 million.

<sup>2</sup> Duke Energy: \$1.5 billion less \$1.05 billion = \$450 million.

<sup>3</sup> As noted above, this amount represents the unamortized balance of environmental compliance costs, as originally estimated, at December 31, 2007.

<sup>4</sup> As indicated above, G.S. 62-133.6(d), in pertinent part, provides as follows: *In making its decisions pursuant to this subsection, the Commission shall consult with the Secretary of Environment and Natural Resources to receive advice as to whether the investor-owned public utility's actual and proposed modifications and permitting and construction schedule are adequate to achieve the emissions limitations set out in G.S. 143-215.107D.*

emissions limitations set out in G.S. 143-215.107D, indicating that Progress Energy is in compliance with the Act.

Following the hearing and receipt and review of Progress Energy and the Public Staff's Joint Proposed Order in support of all provisions of the Settlement Agreement, the Attorney General's Brief,<sup>5</sup> and certain additional information, the Commission, by Order issued December 20, 2007, approved the Stipulation on a provisional basis, subject to a review to be initiated by the Commission in 2009. Such review will consider all reasonable alternatives and proposals relating to recovery by Progress Energy of its environmental compliance costs under the Act in excess of \$813 million beginning in calendar year 2010 and thereafter. In particular, the Commission, in its Order provisionally approving the Stipulation Settlement, ruled as follows:

1. That PEC's [that is, Progress Energy's] actual and proposed modifications and permitting and construction schedules under the Clean Smokestacks Act are adequate to achieve the emissions limitations set out in G.S. 143-215.107D.
2. That the most current and accurate estimate of PEC's cost to comply with the requirements of G.S. 143-215.107D is the estimate of \$1.355 billion contained in the Company's March 30, 2007 Annual Clean Smokestacks filing made pursuant to G.S. 62-133.6(i). Any determination of the justness, reasonableness, and prudence of PEC's actual environmental compliance costs, including associated AFUDC, shall be deferred until the Company's next general rate case proceeding.
3. That PEC shall amortize a total of \$813 million of Clean Smokestacks Act environmental compliance costs by December 31, 2009. Pursuant to G.S. 62-133.6(b), PEC shall amortize a total of \$569.1 million of environmental costs by December 31, 2007, and an additional \$243.9 million of such costs during calendar years 2008 and 2009. In accomplishing such amortization, PEC shall be allowed the discretion to amortize up to \$174 million in either of the 2008 or 2009 calendar years.
4. That the appropriate ratemaking treatment for PEC to recover its environmental compliance costs in excess of \$813 million shall not be finally determined at this time. The Commission shall, consistent with the provisions of this Order, initiate a review of this matter in 2009, to

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<sup>5</sup> Although not a party to the Stipulation, the Attorney General recommended that, if the Commission accepted the proposed Stipulation, the Commission's Order should include a condition that Progress Energy should agree not to seek recovery of any portion of the environmental compliance costs allocated to the wholesale and South Carolina retail jurisdictions, even if those jurisdictions did not allow the recovery of those allocated environmental compliance costs. The Attorney General further recommended that the Commission's Order include a condition that Progress Energy's Clean Smokestacks costs would be reviewed in 2009, for the purpose of considering possible additional accelerated amortization in 2010 and 2011.

consider all reasonable alternatives and proposals relating to recovery by PEC of its environmental compliance costs under the Clean Smokestacks Act in excess of \$813 million.

5. That no portion of any environmental compliance costs directly assigned, allocated, or otherwise attributable to another jurisdiction, either through stipulation or by Order of the Commission, shall be recovered from PEC's North Carolina retail customers, even if recovery of those costs is disallowed or denied, in whole or in part, in another jurisdiction.

6. That PEC shall be allowed to accrue AFUDC on all environmental compliance costs in excess of \$813 million. The accrual of AFUDC shall cease when construction of a Clean Smokestacks project is complete and the associated facilities are placed in service. PEC shall, not later than Monday, January 14, 2008, file (a) a statement setting forth the calculation of its currently effective AFUDC rate; (b) a brief description of each item entering into the calculation of said AFUDC rate; and (c) an explanation of the mechanics of its AFUDC accrual procedures, including the items to which the rate is applied.

7. That the amount by which the Power Agency's joint ownership share of the total environmental costs associated with the Mayo and Roxboro 4 units exceeds the \$37.9 million cap on those costs agreed to by PEC and the Power Agency shall be treated in the same manner as PEC's Clean Smokestacks costs in excess of \$813 million, as ultimately determined by the Commission.

On July 10, 2008, Progress Energy filed a verified Petition requesting the Commission to terminate the Company's obligation to amortize any Clean Smokestacks Act compliance costs above and beyond \$569.1 million and, instead, to allow the Company to place in rate base all capital costs associated with its compliance with the Act in excess of \$569.1 million, properly allocated between and among its retail and wholesale jurisdictions.

On July 18, 2008, the Commission issued an Order finding good cause to treat Progress Energy's petition as a motion for reconsideration pursuant to G.S. 62-80 and providing notice and opportunity to be heard to the Company and the other parties to the case. The Commission requested that the parties address the applicability to Progress Energy's petition of the following provision of G.S. 62-133.6(b): "For purposes of this subsection, . . . an investor-owned public utility subject to the provisions of subsections (c) and (e) of G.S. 143-215.107D shall amortize environmental compliance costs in the amount of eight hundred thirteen million dollars (\$813,000,000)."

On August 1, 2008, the Carolina Industrial Group for Fair Utility Rates II (CIGFUR II) and the Public Staff filed comments in response to the Company's petition as required by the Commission's July 18, 2008 Order. The Carolina Utility Customers

Association, Inc. (CUCA) concurred with the Public Staff. Progress Energy filed reply comments on August 8, 2008. The Public Staff, CUCA, and CIGFUR in their comments affirmed that they did not oppose the relief requested by Progress Energy in its Petition. The Attorney General filed a statement on August 8, 2008, indicating the Attorney General did not oppose the relief requested by Progress Energy.

On September 5, 2008, the Commission entered an Order on Reconsideration, which modified certain provisions of its December 20, 2007 Order. The Order on Reconsideration set forth the following Findings of Fact and Conclusions (footnotes omitted):

1. PEC's [that is, Progress Energy's] actual and proposed modifications and permitting and construction schedules under the Clean Smokestacks Act are adequate to achieve the emissions limitations set out in G.S. 143-215.107D.

2. The most current and accurate estimate of PEC's cost to comply with the requirements of G.S. 143-215.107D, as of the October 2007 hearing, is the estimate of \$1.355 billion contained in the Company's March 30, 2007 Annual Clean Smokestacks filing made pursuant to G.S. 62-133.6(i). Any determination of the justness, reasonableness, and prudence of PEC's actual environmental compliance costs, including associated AFUDC, should be deferred until the Company's next general rate case proceeding.

3. PEC amortized a total of \$569.1 million of Clean Smokestacks Act environmental compliance costs by December 31, 2007. In its compliance filing in Docket No. E-2, Sub 815 for the second calendar quarter of 2008, PEC reported to the Commission that the Company had amortized a total of \$15 million of Clean Smokestacks compliance costs for the 6-month period of time ending June 30, 2008. PEC should be allowed to include in rate base all reasonable and prudently-incurred environmental compliance costs in excess of \$584.1 million as the projects are closed to Plant in Service, with such costs being allocated among all jurisdictions and all customer classes.

4. No portion of any environmental compliance costs directly assigned, allocated, or otherwise attributable to another jurisdiction, either through stipulation or by Order of the Commission, shall be recovered from PEC's North Carolina retail customers, even if recovery of those costs is disallowed or denied, in whole or in part, in another jurisdiction.

5. PEC should be allowed to accrue AFUDC on all environmental compliance costs in excess of \$813 million. The accrual



of AFUDC should cease when construction of a Clean Smokestacks project is complete and the associated facilities are placed in service.

6. Once construction of Clean Smokestacks facilities are complete and those facilities are placed in service, PEC should immediately begin depreciating such facilities to the extent the actual costs thereof exceed the total amount of accelerated amortization previously recorded and recovered.

7. The amount by which the North Carolina Eastern Municipal Power Agency's (Power Agency's) joint ownership share of the total environmental costs associated with the Mayo and Roxboro 4 units exceeds the \$37.9 million cap on those costs agreed to by PEC and the Power Agency should be treated in the same manner as PEC's Clean Smokestacks costs in excess of \$584.1 million, as ultimately determined by the Commission.

The Commission's Order on Reconsideration had the following effect: Effective July 1, 2008, Progress Energy will record and recover no further accelerated amortization of Clean Smokestacks compliance costs. Rather, all such unamortized costs will be subject to recovery through the more traditional ratemaking practices and procedures employed by the Commission, as governed by other provisions of Chapter 62 of the General Statutes.

**Duke Energy:** By Order issued March 9, 2007, in Docket No. E-7, Sub 829, the Commission initiated a proceeding, instituted an investigation, and scheduled a hearing in regard to the matter of Duke Energy's environmental compliance costs, as required by G.S. 62-133.6(d).<sup>6</sup> Said Order, among other things, required Duke Energy to prefile testimony and exhibits setting forth the information and data upon which it would rely to support its position and proposals made pursuant to the provisions of G.S. 62-133.6(d). A number of parties intervened, including the Public Staff and the Attorney General.

Prior to the hearing, the parties filed an Agreement and Stipulation of Partial Settlement, with regard to the consolidated proceedings, setting forth areas of agreement and nonagreement among all of the parties of record. There were no areas of disagreement with respect to matters involving Duke Energy's compliance with the Act, including matters involving Clean Smokestacks compliance costs.

In keeping with certain specific requirements of G.S. 62-133.6(d), which have been previously noted, DENR presented the testimony of Brock Nicholson, Deputy Director of the Air Quality Division, regarding Duke Energy's compliance with the emissions limitation provisions of the Act. Witness Nicholson testified, in effect, that

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<sup>6</sup> The Clean Smokestacks docket, Docket No. E-7, Sub 829, was consolidated for hearing with Docket No. E-7, Sub.828, *In the Matter of Duke Energy Carolinas, LLC – Investigation of Existing Rates and Charges Pursuant to Regulatory Condition No. 76 as Contained in the Regulatory Conditions Approved by Order Issued March 24, 2006, in Docket No. E-7, Sub 795.*

actions previously taken by Duke Energy, as of the date of his testimony, appeared to be in accordance with the provisions and the requirements of the Act.

Following the hearing and receipt and review of briefs, proposed orders, and certain additional information and following the issuance of the Commission's Notice of Decision and Order, the Commission, on December 20, 2007, issued Order Approving Stipulation and Deciding Non-Settled Issues. As previously explained, there were no non-settled issues with respect to Duke Energy's Compliance with the Act. In particular, the Commission, in its Order of December 20, 2007, in the present regard, found and concluded as follows:

27. The Stipulating Parties agreed that they will not challenge as unjust, unreasonable or imprudent Duke's [that is, Duke Energy's] expenditures through December 31, 2006, for emission controls required by the Clean Smokestacks Act (Environmental Compliance Costs) in the amount of [\$901.4 million]. The Commission finds and concludes, based on the evidence of record, that these costs were reasonably and prudently incurred.

28. The Commission finds and concludes that, as of December 31, 2007, Duke will have amortized pursuant to G.S. 62-133.6(d) a total of [\$1.05 billion] in Environmental Compliance Costs, as provided in the Stipulation.

29. The Stipulation eliminates [\$225.2 million] of Environmental Compliance Cost amortization from the test-period cost of service.<sup>[7]</sup> The Stipulating Parties agree that they will not contest the inclusion in rate base of all prudent and reasonable unamortized Environmental Compliance Costs as the projects are closed to plant in service, with such Environmental Compliance Costs being allocated among all jurisdictions and all customer classes. The Commission finds and concludes that this treatment is just and reasonable, but makes no finding at this time as to the reasonableness or prudence of any such unamortized Environmental Compliance Costs. No portion of any Environmental Compliance Costs directly assigned, allocated, or otherwise attributable to another jurisdiction pursuant to Paragraph 7D of the Stipulation shall be recovered from North Carolina retail customers, even if recovery of those costs is disallowed or denied, in whole or in part, in another jurisdiction. [Footnote added.]

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<sup>[7]</sup> The Commission's adoption of this provision of the Stipulation had the following effect: Effective January 1, 2008, Duke Energy will record and recover no further accelerated amortization of Clean Smokestacks compliance costs. Rather, all such unamortized costs will be subject to recovery through the more traditional ratemaking practices and procedures employed by the Commission, as governed by other provisions of Chapter 62 of the General Statutes.

30. Duke's actual and proposed modifications and permitting and construction schedule are adequate to achieve the emissions limitations set out in G.S. 143-215.107D.

**III. Section 9(i) of the Act, Codified as Section 62-133.6(i) of the North Carolina General Statutes**

**G.S. 62-133.6(i) provides:** *An investor-owned public utility that is subject to the emissions limitations set out in G.S. 143-215.107D shall submit to the Commission and to the Department of Environment and Natural Resources on or before 1 April of each year a verified statement that contains all of the following [specified information]:*

The following are the eleven subsections of G.S. 62-133.6(i) and the related responses from Progress Energy and Duke Energy for each subsection:

1. **G.S. 62-133.6(i)(1) requires:** *A detailed report on the investor-owned public utility's plans for meeting the emissions limitations set out in G.S. 143-215.107D.*

**Progress Energy Response:** "PEC originally submitted its compliance plan on July 29, 2002. Appendix A [of the attached Progress Energy submittal dated March 31, 2009, i.e., Attachment B] contains an updated version of this plan, effective April 1, 2009. We continue to evaluate various design, technology and generation options that could affect our future compliance plans."

**Duke Energy Response:** "Exhibits A and B [of the attached Duke submittal dated March 27, 2009, i.e., Attachment A] outline the plan for technology selections by facility and unit, actual and projected operational dates, actual and expected emission rates, and the corresponding tons of emissions that demonstrate compliance with the provisions of G.S. 143-215.107D."

2. **G.S. 62-133.6(i)(2) requires:** *The actual environmental compliance costs incurred by the investor-owned public utility in the previous calendar year, including a description of the construction undertaken and completed during that year.*

**Summary of Progress Energy Report:** The actual environmental compliance costs (capital costs) incurred by Progress Energy in calendar year 2008 were \$114.16 million. In 2008, Progress Energy continued engineering, procurement and construction work at Mayo. Major accomplishments included completion of the absorber, completion of the chimney, began construction of the wastewater treatment system, and began commissioning and start-up activities. At year end, the project was 83% complete. Construction remains on schedule to support final tie-in of the scrubber in March, 2009 with initial operation in early April, 2009. Scrubber Units 2 and 4 at Roxboro operated successfully throughout the year. Construction of the scrubbers on Units 1 and 3 [at Roxboro] was completed with Unit 3 placed into service on May 6, 2008 and Unit 1 on December 16, 2008. At the end of 2008, the Roxboro project was 96% complete. Activities related to the dry scrubber at Sutton Unit 3

consisted of preliminary engineering and various engineering studies, including the development of the dry scrubber specification.

**Summary of Duke Energy Report:** The actual environmental compliance costs [see Attachment A, Exhibit C] incurred by Duke Energy in calendar year 2008 were \$268.88 million. Of this total, \$153.7 million was incurred at the Allen Steam Station flue gas desulfurizations (FGD), \$34.6 million at Belews Creek Steam Station FGD and \$77.5 million at Cliffside Steam Station Unit 5 FGD. Work at Allen included completion of the wastewater treatment system; duct installation and insulation; stack and flue liners; and the limestone unloading and storage system. All major equipment for Unit 1 absorber operation was installed and commissioned. Auxiliary transformers were received, installed, and placed in service. At Belews Creek, a major milestone was achieved with the startup activities for Unit 1 FGD. A similar achievement was the completion of construction, commissioning, and startup activities for Unit 2 FGD. All systems performance testing was completed, and the overall project completion and closeout milestone was attained. At Cliffside Unit 5 an amended and restated engineering, procurement, and construction agreement was signed and completed activities consisted of: site bulk excavation and initial site preparation; dewatering building foundation; Unit 5 absorber vessel and absorber building foundations; chimney concrete shell; and fabrication of all Unit 5 flue liners. Unit 5 recycle pump motors were received and set. The SNCR (selective non-catalytic reduction) equipment for Allen Steam Station Unit 5 was installed and commissioned.

3. **G.S. 62-133.6(i)(3) requires:** *The amount of the investor-owned public utility's environmental compliance cost amortized in the previous calendar year.*

**Summary of Progress Energy Report:** Progress Energy amortized \$15 million during the 6-month period of time ending June 30, 2008. The amount of \$584.1 million was amortized in total for the program through June 30, 2008.

**Summary of Duke Energy Report:** Pursuant to the Commission's December 20, 2007 Order in Docket E-7 Sub 829, no additional amounts were amortized related to construction work activity in the 2008 calendar year in support of compliance with the provisions of G.S. 143-215.107D. The amount of \$1.05 billion was amortized in total for the program through year-end 2007.

4. **G.S. 62-133.6(i)(4) requires:** *An estimate of the investor-owned public utility's environmental compliance costs and the basis for any revisions of those estimates when compared to the estimates submitted during the previous year.*

**Summary of Progress Energy Report:** Progress Energy reported that its total estimated net capital costs (that is, excluding the portion for which the Power Agency is responsible) are currently projected to be between \$1.4 billion and \$1.6 billion, with the current point estimate being \$1.402 billion (excluding allowance for funds used during construction or AFUDC), a decrease of \$0.144 billion from the 2008 cost estimate of \$1.546 billion. Prior reports have discussed the cost impact of project scope changes

and the impact of significant increases in the cost of materials and labor which have impacted construction projects across the Southeast. Progress Energy reports that studies on its systems in late-2008 and early-2009, indicate that installing SO<sub>2</sub> controls on Cape Fear Units 5 and 6 is no longer required for compliance in 2013. Instead, Progress Energy considers the use of lower sulfur coal at Cape Fear and at other un-scrubbed units to be a more cost-effective strategy that also allows flexibility to address any new federal environmental requirements and new control technology. Progress Energy will continue to evaluate compliance options with respect to Cape Fear and other un-scrubbed [system] units and believes there to be adequate time to install control technology should evaluations indicate that it is needed in order to maintain compliance with the Clean Smokestacks limits. Information relating to controls at Cape Fear Units 5 and 6 is no longer being shown in the Progress Energy compliance plan [that is, Attachment B].

Progress Energy's current cost estimate of \$1.402 billion is \$589 million or 72%, higher than the original 2002 cost estimate of \$813 million. This cost estimate does not include \$6.158 million of AFUDC which the Company accrued during calendar year 2008.

**Summary of Duke Energy Report:** Duke Energy reported in its compliance plan [Attachment A, Exhibit C] that there has been no significant change to the scope or timing associated with any of its projects but forecasts for active projects are updated. There is a net overall reduction of approximately \$16.7 million or approximately 1% of the previously forecasted costs which is attributed mostly to unused contingency or risk items included in the previous forecast.

Duke Energy's current cost estimate of \$1.827 billion is \$327 million or 22%, higher than the original 2002 cost estimate of \$1.5 billion.

5. **G.S. 62-133.6(i)(5) requires:** *A description of all permits required in order to comply with the provisions of G.S. 143-215.107D for which the investor-owned public utility has applied and the status of those permits or permit applications.*

#### **Summary of Progress Energy Response:**

##### Roxboro Plant

###### Air Permit

Agency approval was received on April 23, 2008, which incorporated revised limits for SO<sub>2</sub> and NO<sub>x</sub> based on scrubber stack dispersion analysis.

###### Authorization to Construct

A request for an Authorization to Construct for revisions to the wastewater system to temporarily reroute the backwash discharge line from the flush pond to the settling pond was submitted on April 10, 2008 and approved on April 19, 2008.

## Mayo Plant

### Erosion and Sediment Control Plan

Revision I to the Erosion and Sediment Control Plan for an increase in disturbed land for additional lay down area for the flue gas desulfurization system was submitted on April 17, 2008 and was approved on May 8, 2008.

Revision J to the Erosion and Sediment Control Plan for an increase in disturbed land (additional borrow area) was submitted on October 28, 2008 and was approved on December 17, 2008.

### **Summary of Duke Energy Response:**

#### Allen

- No change in compliance permitting. The Engineering, Procurement and Construction contractor received a permit from NCDOT to improve Highway NC273 at the Allen FGD entrance road on 12/3/2008

#### Belews Creek

- Received permit to operate the FGD Residue Landfill
- Received Erosion Control Permits to construct Used Oil Building
- Received Building Permit to construct Used Oil Building

#### Cliffside (Unit 5 FGD)

- Landfill Site Suitability Application received
- Permit for Wastewater Treatment System
- Building permits for WFGD Control Room
- Submitted Landfill Construction Plan Application

#### Marshall

No change in compliance permitting.

#### Riverbend

- No change in compliance permitting.

#### Dan River

- No change in compliance permitting.

#### Buck

- No change in compliance permitting.

6. **G.S. 62-133.6(i)(6) requires:** *A description of the construction related to compliance with the provisions of G.S. 143-215.107D that is anticipated during the following year.*

**Summary of Progress Energy Response:** See Appendix C of the attached letter from Progress Energy dated March 31, 2009 (Attachment B of this report) for further details of construction and installation of equipment. At the Mayo plant, 2009 activities will focus on completing, commissioning, and startup of the FGD and supporting systems. At Roxboro, grading, paving, and additional construction relating to the wastewater treatment settling and flush ponds is scheduled. At Sutton, Unit 3 dry scrubber preconstruction studies and activities are planned.

**Summary of Duke Energy Response:** See attached letter from Duke Energy dated March 27, 2009 (Attachment A), for further details of construction anticipated for the next year. Duke will focus on the Allen Steam Station FGD and Cliffside Unit 5 FGD. At the Allen Steam Station operation of absorbers #1 and #3 is planned. Completion of the gypsum handling system, improvements to the entrance road, tie-ins for Units 1-5 and final drawings are planned. At Cliffside Unit 5, major construction activity will encompass steel erection for three buildings and absorber vessel; the wastewater treatment facility; erection of limestone and gypsum material handling; and initial tie-ins of the FGD to the Unit 5 stack, auxiliary power, and receipt of equipment.

7. **G.S. 62-133.6(i)(7) requires:** *A description of the applications for permits required in order to comply with the provisions of G.S. 143-215.107D that are anticipated during the following year.*

#### **Progress Energy Response:**

##### Roxboro Plant

###### **Air Permit**

Air permit revisions are expected to be pursued relating to regulatory changes and opacity monitoring for scrubbed units.

###### **Authorization to Construct**

An addendum to the Authorization to Construct for repairs to the gypsum settling pond and flush pond for the wastewater treatment systems was submitted in January, 2009. A request for Authorization to Construct for an additional settling pond for the wastewater treatment system was submitted in March 2009.

###### **Erosion and Sedimentation Control Plan**

Revisions to the Erosion and Sedimentation Control Plan for soil borrow site development and underground piping and valve installation is expected as is a revision for the expansion of the gypsum storage area. Further revisions may be necessary as construction plans develop.

## Mayo Plant

### Air Permit

A renewal of the Title V Air Permit to include New Source Performance Standards for an emergency quench water punch is expected. A permit change for the limestone silo control device and installation of a dry sorbent injection system is planned. Air permit revisions are expected to be pursued relating to regulatory changes and opacity monitoring for scrubbed units.

### NPDES Permit

Limestone and gypsum truck traffic supporting the scrubber operation requires a revision to the NPDES permit, request submitted February 11, 2009.

### Authorization to Construct

An addendum to the Authorization to Construct for the wastewater treatment system revising the design of the HDPE liner and base of the settling pond was obtained during the first quarter 2009.

### Erosion and Sedimentation Control Plan

Plan revisions may be needed as construction plans develop.

## Sutton Plant

### Air Permit

An application for construction of a dry scrubber for Unit 3 is expected to be submitted in 2009.

### **Duke Energy Response:**

Duke is not expecting additional applications for permits.

8. **G.S. 62-133.6(i)(8) requires:** *The results of equipment testing related to compliance with G.S. 143-215.107D.*

**Progress Energy Response:** "Performance testing of the scrubbers on Roxboro Units 3 and 4 was completed in 2008. The testing confirmed that each scrubber achieved its performance guarantee of 97% SO<sub>2</sub> removal efficiency."

**Duke Energy Response:** "No additional equipment related testing occurred in 2007." Duke Energy included SNCR and SCR tests performed in prior years in the 2008 report for reference.



9. **G.S. 62-133.6(i)(9) requires:** *The number of tons of oxides of nitrogen (NOx) and sulfur dioxide (SO<sub>2</sub>) emitted during the previous calendar year from the coal-fired generating units that are subject to the emissions limitations set out in G.S. 143-215.107D.*

Both utilities determine their actual emissions through continuous emission monitoring (CEM) data. The raw CEM data are recorded and verified by the utilities, and then reported to the EPA.

**Progress Energy Response:** The affected coal-fired Progress Energy units have achieved a 59% reduction in NOx and a 56% reduction in SO<sub>2</sub> since 2002. The total calendar year 2008 emissions from the affected coal-fired Progress Energy Carolinas units are:

- NOx 24,190 tons
- SO<sub>2</sub> 94,221 tons

It should be noted that 2007 marked the first limit imposed by the Clean Smokestacks Act, requiring Progress Energy to meet a limit of 25,000 tons of NOx. Progress Energy's reported NOx emissions for 2008 comply with the Clean Smokestacks Act limit. The Company's next steps to comply with the Clean Smokestacks Act are to maintain the NOx emissions limit of 25,000 tons, reduce its SO<sub>2</sub> emissions to 100,000 tons for the 2009 calendar year, and reduce its SO<sub>2</sub> emissions to 50,000 tons for 2013.

**Duke Energy Response:** In the 2008 calendar year, the following were emitted from the North Carolina-based Duke Energy coal-fired units:

- NOx 29,052.3 tons
- SO<sub>2</sub> 132,405.8 tons

As before, it should be noted that 2007 marked the first limit imposed by the Clean Smokestacks Act, requiring Duke Energy to meet a limit of 35,000 tons of NOx. Duke Energy's reported emissions for 2008 comply with the Clean Smokestacks Act NOx limit. As a next step, in the 2009 calendar year, Duke Energy must further reduce its NOx emissions to 31,000 tons. Additionally in 2009, Duke Energy must meet an SO<sub>2</sub> emissions limit of 150,000 tons; and 80,000 tons in 2013.

10. **G.S. 62-133.6(i)(10) requires:** *The emissions allowances described in G.S. 143-215.107D(i) that are acquired by the investor-owned public utility that result from compliance with the emissions limitations set out in G.S. 143-215.107D.*

**Progress Energy Response:** "During 2008, PEC did not acquire any allowances as a result of compliance with the emission limitations set out in N.C. General Statute 143-215.107D."

**Duke Energy Response:** "No emissions allowances have been acquired by Duke Energy Carolinas resulting from compliance with the emissions limitations set out in G.S. 143-215.107D."

11. **G.S. 62-133.6(i)(11) requires:** *Any other information requested by the Commission or the Department of Environment and Natural Resources.*

**Progress Energy Response:** "There have been no additional requests for information from the North Carolina Utilities Commission or the Department of Environment and Natural Resources since the last report."

**Duke Energy Response:** "No additional information has been requested to be included in this annual data submittal."

**IV. Section 10 of the Act provides:** *It is the intent of the General Assembly that the State use all available resources and means, including negotiation, participation in interstate compacts and multistate and interagency agreements, petitions pursuant to 42 U.S.C. § 7426, and litigation to induce other states and entities, including the Tennessee Valley Authority, to achieve reductions in emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO<sub>2</sub>) comparable to those required by G.S. 143-215.107D, as enacted by Section 1 of this act, on a comparable schedule. The State shall give particular attention to those states and other entities whose emissions negatively impact air quality in North Carolina or whose failure to achieve comparable reductions would place the economy of North Carolina at a competitive disadvantage.*

**DENR/DAQ and Department of Justice (Attorney General) Activities to Implement this Section:**

The State continues to pursue opportunities to carry forward the Legislature's objectives in Section 10 of the Act. The State reports the following recent activities and developments:

- 1) On January 30, 2006, the State, through the Attorney General, sued the Tennessee Valley Authority (TVA) in federal district court in Asheville. The suit alleges that emissions of SO<sub>2</sub> and NOx from TVA's fleet of coal-fired power plants are inadequately controlled and therefore create a public nuisance. The Attorney General asked the Court to require TVA to install NOx and SO<sub>2</sub> controls to abate the public nuisance.

In July 2006 the District Court denied TVA's motions to dismiss the case. On January 31, 2008, the U.S. Court of Appeals for the Fourth Circuit affirmed the District Court's refusal to dismiss the case.

The case was tried without a jury in July 2008 in federal District Court in Asheville before Judge Lacy Thornburg. On January 13, 2009, Judge Thornburg found that four TVA coal-fired generating stations are creating a public nuisance in North Carolina. These facilities are the Bull Run, John

Sevier, and Kingston plants in eastern Tennessee and the Widows Creek plant in northeastern Alabama. All of these facilities are within 100 miles of North Carolina. The Judge ordered that each unit of each facility meet emission limits for SO<sub>2</sub> and NO<sub>x</sub> that are consistent with the installation and continuous operation of modern pollution controls (i.e. selective catalytic reduction for NO<sub>x</sub> removal and scrubbers for SO<sub>2</sub> control). The court ordered that TVA meet these limits on a staggered schedule beginning immediately with the Bull Run plant and ending with the control of emissions from Widows Creek no later than December 2013.

On January 28, 2009, TVA requested that the court extend the schedule for full control of the John Sevier facility from December 2011 to December 2014. The motion was denied on April 1, 2009. TVA has not indicated whether it will appeal any part of the judgment. The deadline for filing a notice of appeal is June 1, 2009.

- 2) On July 8, 2005, the Attorney General filed in the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) a petition for review of the United States Environmental Protection Agency's (EPA) Clean Air Interstate Rule (CAIR). CAIR was designed to reduce emissions of SO<sub>2</sub> and NO<sub>x</sub> from power plants that cause particulate matter and ozone pollution across the eastern United States. Among other things, the State alleged that CAIR fails to take into account significant air quality problems in North Carolina, fails to guarantee a remedy to North Carolina because the rule relies too heavily on the trading of pollution credits, and fails to require controls to be installed expeditiously.

On July 11, 2008, the D.C. Circuit granted North Carolina's petition in part. The court found that CAIR's trading program failed to comply with the Clean Air Act because it did not guarantee that emission reductions would be targeted to the downwind areas that need them, that EPA improperly refused to consider North Carolina's problems with maintaining national air quality standards, and that EPA set the CAIR pollution reduction deadlines without proper consideration of the tight deadlines faced by impacted States. The court also granted petitions from other parties on other issues.

On December 23, 2008, the court allowed EPA to implement CAIR temporarily while EPA developed a replacement rule that corrects CAIR's legal errors. This was consistent with North Carolina's request that the rule not be vacated, but instead be remanded to EPA to fix the deficiencies. EPA is currently working with DAQ and other stakeholders to craft a replacement rule. EPA has indicated that it will take at least two years to finalize a new rule.

- 3) On July 8, 2005, the Attorney General filed a petition with EPA requesting that EPA administratively reconsider certain aspects of CAIR. EPA denied this

petition. This petition was reviewed by the D.C. Circuit and resolved along with the petition for review discussed in the preceding item.

- 4) On March 18, 2004, the State filed a petition under §126 of the Clean Air Act requesting that EPA impose NO<sub>x</sub> and/or SO<sub>2</sub> controls on large coal-fired utility boilers in 13 upwind states that impact North Carolina's air quality. On March 15, 2006, EPA denied the State's petition. The Attorney General then petitioned EPA for administrative reconsideration, which was also denied. The Attorney General petitioned the D.C. Circuit for judicial review of both of these decisions.

Based on subsequent events, including the court's holding in the CAIR case, EPA conceded that it must reconsider its denial of North Carolina's §126 petition. The court agreed and, on March 5, 2009 remanded the matter back to EPA for further consideration.

- 5) In April 2008, EPA finalized a rule that exempts sources of NO<sub>x</sub> in Georgia from any summertime NO<sub>x</sub> cap under EPA's "NO<sub>x</sub> SIP Call" rule. The NO<sub>x</sub> SIP Call was designed to help downwind States reduce ambient levels of ozone. Sources in Georgia are also exempt from summertime NO<sub>x</sub> controls for ozone pollution under CAIR. On June 20, 2008 the Attorney General petitioned the D.C. Circuit for review of EPA's decision to exempt Georgia sources from the NO<sub>x</sub> SIP Call. Briefing is expected to be completed in August 2009 and a decision should follow in early 2010.

**V. Section 11 of the Act provides:** *The Environmental Management Commission shall study the desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of Nitrogen (NO<sub>x</sub>) and Sulfur Dioxide (SO<sub>2</sub>) beyond those required by G.S. 143-215.107D, as enacted by Section 1 of this act. The Environmental Management Commission shall consider the availability of emission reduction technologies, increased cost to consumers of electric power, reliability of electric power supply, actions to reduce emissions of oxides of nitrogen (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) taken by states and other entities whose emissions negatively impact air quality in North Carolina or whose failure to achieve comparable reductions would place the economy of North Carolina at a competitive disadvantage, and the environment, and the natural resources, including visibility. In its conduct of this study, the Environmental Management Commission may consult with the Utilities Commission and the Public Staff. The Environmental Management Commission shall report its findings and recommendations to the General Assembly and the Environmental Review Commission annually beginning 1 September 2005.*

Note: Session Law 2006-79 changed the beginning date of the requirements of this Section to September 1, 2007.

**Environmental Management Commission and DENR Response:** A letter was submitted to the Environmental Review Commission from Mr. Stephen T. Smith,

Environmental Management Commission Chairman, dated January 7, 2009, which stated the following:

"Since the Clean Smokestacks Act was passed in June 2002, significant Federal regulatory changes have occurred. The Clean Air Interstate Rule (CAIR) requires North Carolina's neighboring states to achieve major reductions in NO<sub>x</sub> and SO<sub>2</sub> – reductions that require installation of state-of-the-art control equipment. Although on July 11, 2008 the D. C. Circuit [Court] vacated CAIR, on December 23, 2008, the Court granted EPA's petition to remand the case without vacatur. EPA now expects to propose a revised CAIR rule in about two years.

As Federal decision-makers revise CAIR to address the Court's order, they may also consider separate action taken on March 12, 2008 when the EPA promulgated the most stringent 8-hour standard ever for ozone, revising the standard for the first time in more than a decade. The North Carolina Division of Air Quality has begun the technical analysis necessary to define which sources need additional NO<sub>x</sub> controls beyond Clean Smokestacks requirements in order for areas in North Carolina to attain the new ozone standard. It is reasonable to believe that the revised CAIR will require power plant emission reductions even greater than the original rule in order to meet the more stringent ozone standard.

The Clean Smokestacks Act already required installation of state-of-the-art control equipment on many units in North Carolina. CAIR annual budgets of NO<sub>x</sub> and SO<sub>2</sub> emissions are even lower than those set by the Clean Smokestacks Act. Implementation of CAIR could result in installation of state-of-the-art control equipment on more units in N.C.

Given the recent action by the Federal government and the D.C. Circuit Court regarding power plant emissions, it is recommended that the study as to whether or not further State action is required be deferred for evaluation of the progress of North Carolina and its neighbors in complying with the original CAIR and of improvements EPA may propose to the revised CAIR. The EMC proposes to begin this reporting on December 1, 2013. This will give the specified electric generation facilities in North Carolina time to implement their control strategies and will also give the DAQ time to quantify the air quality impacts. Any reports made prior to the implementation of these control strategies likely would provide little new or beneficial information. Also since evolution of new control technologies is fairly long-term, we recommend that reporting thereafter be on a three-year basis."

**VI. Section 12 of the Act provides:** *The General Assembly anticipates that measures implemented to achieve the reductions in emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO<sub>2</sub>) required by G.S. 143-215.107D, as enacted by Section 1 of this act, will also result in significant reductions in the emissions of mercury from coal-fired generating units. The Division of Air Quality of the Department of Environment and Natural Resources shall study issues related to monitoring emissions of mercury and the development and implementation of standards and plans to implement programs to control emissions of mercury from coal-fired generating units. The Division shall evaluate available control technologies and shall estimate the benefits and costs of alternative strategies to reduce emissions of mercury. The Division shall annually report its interim findings and recommendations to the Environmental Management Commission and the Environmental Review Commission beginning 1 September 2003. The Division shall report its final findings and recommendations to the Environmental Management Commission and the Environmental Review Commission no later than 1 September 2005. The costs of implementing any air quality standards and plans to reduce the emission of mercury from coal-fired generating units below the standards in effect on the date this act becomes effective, except to the extent that the emission of mercury is reduced as a result of the reductions in the emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO<sub>2</sub>) required to achieve the emissions limitations set out in G.S. 143-215.107D, as enacted by Section 1 of this act, shall not be recoverable pursuant to G.S. 62-133.6, as enacted by Section 9 of this act.*

**DAQ Actions to Implement this Section:** The DAQ submitted reports in September of 2003, 2004, and 2005, as required by this Section. The first report primarily focused on the "state of knowledge" of the co-benefit of mercury control that will result from the control of NOx and SO<sub>2</sub> from coal-fired utility boilers. Also, preliminary estimates were made for this co-benefit for North Carolina utility boilers based on the initial plans submitted by Progress Energy and Duke Energy. The second report primarily focused on "definition of options". The Division has also submitted the third and final report titled Mercury Emissions and Mercury Controls for Coal-Fired Electrical Utility Boilers. In 2006, DAQ developed a state mercury rule that goes beyond the now-vacated federal Clean Air Mercury Rule (CAMR). The North Carolina mercury rules, contained in Section 15A NCAC 02D .2500, became effective January 1, 2007. The coal-fired units of Duke Energy and Progress Energy have to meet this State-only requirement. This requirement is that the emissions of mercury from each coal-fired unit at Duke Energy and Progress Energy have to be controlled to the maximum degree that is technically and economically feasible or shut down by a prescribed date.

Although the courts have since vacated CAMR, and it is unclear when and how EPA will respond, mercury reductions in North Carolina remain on schedule. The controls needed to comply with the North Carolina Clean Smokestacks Act provide significant co-benefits in the form of mercury emission reductions. Therefore, mercury emission reductions in North Carolina will continue through the year 2013. By 2018, all of the Duke Energy and Progress Energy units will either have controls in place or be shut down, as a matter of State law. The North Carolina Clean Smokestacks Act

greatly reduces mercury emissions (as a co-benefit of the NO<sub>x</sub> and SO<sub>2</sub> controls) from sources within the State. Although CAIR has been remanded to EPA for revisions, it is reasonable to believe that a revised CAIR will require emission reductions beyond Clean Smokestacks, of which mercury reduction is a likely co-benefit. It is expected that CAIR reductions from our border states will provide further reductions in mercury deposition in North Carolina.

**VII. Section 13 of the Act provides:** *The Division of Air Quality of the Department of Environment and Natural Resources shall study issues related to the development and implementation of standards and plans to implement programs to control emissions of carbon dioxide (CO<sub>2</sub>) from coal-fired generating units and other stationary sources of air pollution. The Division shall evaluate available control technologies and shall estimate the benefits and costs of alternative strategies to reduce emissions of carbon dioxide (CO<sub>2</sub>). The Division shall annually report its interim findings and recommendations to the Environmental Management Commission and the Environmental Review Commission beginning 1 September 2003. The Division shall report its final findings and recommendations to the Environmental Management Commission and the Environmental Review Commission no later than 1 September 2005. The costs of implementing any air quality standards and plans to reduce the emission of carbon dioxide (CO<sub>2</sub>) from coal-fired generating units below the standards in effect on the date this act becomes effective, except to the extent that the emission of carbon dioxide (CO<sub>2</sub>) is reduced as a result of the reductions in the emissions of oxides of nitrogen (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) required to achieve the emissions limitations set out in G.S. 143-215:107D, as enacted by Section 1 of this act, shall not be recoverable pursuant to G.S. 62-133.6, as enacted by Section 9 of this act.*

**DENR Actions to Implement this Section:** The DAQ submitted reports in September of 2003, 2004, and 2005, as required by this Section. The first report primarily focused on the "state of knowledge" and actions being taken or planned elsewhere regarding CO<sub>2</sub> control from coal-fired utility boilers. The second report primarily focused on "definition of options". The DAQ submitted the third and final report titled, "Carbon Dioxide (CO<sub>2</sub>) Emission Reduction Strategies for North Carolina", to the Environmental Management Commission and the Environmental Review Commission as required. Numerous recommendations were set forth in this report, including a recommendation for a North Carolina Climate Action Plan.

The North Carolina Global Warming/Climate Change Bill (HB 1191/SB 1134) was enacted during the 2005 Session of the General Assembly. Along with the passage of the bill, the North Carolina 2005 Session of the General Assembly passed the Global Climate Change Act. This act established a Legislative Commission on Global Climate Change (LCGCC). Additionally, a formalized stakeholder group, the Climate Action Plan Advisory Group (CAPAG), was formed by DENR. The CAPAG's purpose was to assess possible mitigation options, carry out analysis and make recommendations that state policy makers could consider for state-level climate action planning which included CO<sub>2</sub> and other greenhouse gas reductions. Impacts on economic opportunities, and co-benefits of proposed potential mitigation options were evaluated through a formal

consensus-based stakeholder process. Determination of economic benefits to North Carolina was also assessed. The inaugural meeting of the CAPAG was held on February 16, 2006 and the CAPAG made recommendations regarding 56 mitigation options in the following five sectors: (1) Agriculture, Forestry, and Waste; (2) Energy Supply; (3) Transportation and Land Use; (4) Residential, Commercial, and Industrial; and (5) Cross Cutting (for issues that cut across different sectors, such as establishing a greenhouse gas registry). The work of developing these recommendations and evaluating potential greenhouse gas emissions reductions was divided among five technical work groups.

The CAPAG commissioned a secondary economic analysis expanding the technical work groups' implementation-only cost analysis to also include jobs impacts. This analysis, by Appalachian State University (ASU) was incorporated into the final CAPAG report. A summary conclusion from the ASU analysis stated:

"By 2020, the mitigation options analyzed would result in the creation of more than 15,000 jobs, \$565 million in employee and proprietor income, and \$302 million in gross state product. For the study period, 2007-2020, the mitigation options analyzed would generate more than \$2.2 billion net present value (NPV) in get gross state product".

One of the earlier recommendations of the CAPAG, a Renewable Energy and Energy Efficiency Portfolio Standard (REPS), was enacted by Session Law 2007-397 (SB3) and codified under G.S. 62-133.8. The Utilities Commission, in the context of an extensive rulemaking proceeding, has developed and issued comprehensive rules implementing the provisions of G.S. 62-133.8, including provisions related to REPS. The final CAPAG report can be found at <http://www.ncclimatechange.us/>.

On October 28, 2008, the Air Quality Committee of the Environmental Management Commission held a public hearing on proposed amendments to the Air Quality Annual Emissions Reporting Rules for major stationary (point) sources. The amendments propose to add greenhouse gases including CO<sub>2</sub>, to the list of compounds reported as emissions releases annually by major point sources, including electric power utilities such as Duke Energy and Progress Energy. An inventory of greenhouse gas emissions was identified by the CAPAG technical workgroup on cross-cutting issues and unanimously supported as a mitigation option. On April 10, 2009, EPA proposed the 'Mandatory Reporting of Greenhouse Gases', a regulation to require reporting of greenhouse gas emissions from all sectors of the economy. The rule would apply to electricity generation. It is anticipated that state rules which require the reporting of greenhouse gases, including CO<sub>2</sub>, will be in place sometime in 2009.

**VIII. Supplementary Information:** As noted in earlier reports, the Public Staff - North Carolina Utilities Commission (Public Staff) will audit the books and records of Progress Energy and Duke Energy on an ongoing basis in regard to the costs incurred and amortized in compliance with the provisions of the Act. The Public Staff filed its



most recent reports with the Commission on May 12, 2009.<sup>8</sup> Such reports, which are a continuation of the Public Staff's ongoing review, present an overview of certain work performed by the Public Staff and its findings for the 12-month period ending December 31, 2008.

Regarding Progress Energy, the Public Staff conducted a review which focused on the verification of costs related to complying with the Act, the amortization of those costs, and the operating results of emission reduction equipment installed by the Company. Regarding Duke Energy, the Public Staff noted that: "Based on a review of the 2009 Update, as well as the understanding that Duke's unamortized environmental compliance costs will be subject to review in the general rate case it is expected to file on or about June 2, 2009, the Public Staff believes that no investigation exclusively relating to the Company's compliance with the Act is required at this time."

Attached, and made part of this report, are the Public Staff's reports for Duke Energy and Progress Energy, Attachments C and D, respectively.

## **IX. Conclusions**

The DENR/DAQ carefully reviewed and considered the information provided by Progress Energy and Duke Energy in their March 31 and 27, 2009 compliance plan submittals.

Progress Energy has completed installation of its NO<sub>x</sub> controls and has maintained its CSA NO<sub>x</sub> limit for 2008 through measured monitoring data. There is reason to believe that it is on track to also meet its SO<sub>2</sub> limits (100,000 tons in 2009 and 50,000 tons in 2013). Progress Energy's SO<sub>2</sub> control plan includes putting scrubbers on eight units and FSI on two others. Progress Energy's 2004 SO<sub>2</sub> emissions were 195,655 tons with no scrubbers. The 2007 emissions were reduced to 147,242 tons with two scrubbers operational the entire year in Asheville. And in 2008, SO<sub>2</sub> emissions were reduced to 94,221 tons with two scrubbers fully operational at Roxboro and two others available for part of the year (Roxboro). The Mayo unit is scheduled to become operational in 2009. It is reasonable to conclude that in addition to the two Asheville units, and with the annual operation of all four Roxboro units and completion and operation of the Mayo unit, Progress Energy is likely to meet and maintain its CSA SO<sub>2</sub> emissions limit for 2009. The air permits have been issued for the three units scheduled to come online in 2008 and 2009. Additionally, DAQ field staff noted construction on the Roxboro and Mayo units during inspections since February 2008.

Similarly, Duke Energy has maintained its 35,000 tons CSA NO<sub>x</sub> limit reached in 2007. Its 2007 NO<sub>x</sub> emissions were 33,013 tons and 2008 emissions were 29,052.3 tons. Duke Energy indicates that it has achieved its final annual NO<sub>x</sub> target of 31,000 tons per year (2009) with the completion and commissioning of the SNCR at Allen. Duke Energy's SO<sub>2</sub> control plan includes 12 scrubbers to meet limits of

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<sup>8</sup> The Public Staff filed a correction to page 5 of its report for Progress Energy on May 14, 2009, in order to correct a typographical error.

150,000 tons in 2009 and 80,000 tons in 2013. The first unit came online in 2006 with two others in 2007, these three at Marshall, and two units at Belews in 2008. These units have so far reduced Duke Energy's SO<sub>2</sub> emissions from 298,781 tons (2005) to 132,405 tons (2008). Five scrubbers are planned at Allen in 2009. The air permits for these units have been issued, and the facilities have been inspected by DAQ since August 2007. An inspection in March 2008 confirmed that one of the Belews Creek scrubbers is operating.

The Commission has also carefully reviewed and considered the information and data provided by the investor-owned public utilities in their 2008 Clean Smokestacks annual reports. Further, as discussed elsewhere herein, the Commission has conducted proceedings and issued Orders pursuant to the provisions of G.S. 62-133.6(d). The Commission's findings and conclusions in those regards are set forth in Part II of this report. As explained in Part II, both Progress Energy and Duke Energy have met the statutorily imposed 70% accelerated amortization requirement during the five-year period January 1, 2003 through December 31, 2007, and procedures have been put in place by the Commission which provide for the amortization/recovery of the remaining cost of compliance with the Clean Smokestacks Act, assuming of course, that such costs are reasonable and prudently incurred.

In summary, it appears that the actions taken to date by Progress Energy and Duke Energy are in accordance with the provisions and requirements of the Clean Smokestacks Act. Further, the compliance plans and schedules proposed by Progress Energy and Duke Energy appear adequate to achieve the emissions limitations set out in G.S. 143-215.107D.

## **Attachments**

- Attachment A:** Duke Energy Carolinas, LLC, Clean Smokestacks Compliance Plan Annual Update for 2009, Submitted by Cover Letter Dated March 27, 2009
- Attachment B:** Progress Energy Carolinas, Inc. Annual North Carolina Clean Smokestacks Act Compliance Report, Submitted by Cover Letter Dated March 31, 2009
- Attachment C:** Report of the Public Staff Regarding Compliance Plan Annual Update for Duke Energy Carolinas, LLC in Compliance with Session Law 2002-4, Filed on May 12, 2009 .
- Attachment D:** Report of the Public Staff on Costs Incurred and Amortized by Progress Energy Carolinas, Inc. in Compliance With Session Law 2002-4, Filed on May 12, 2009. A Revision to Page 5 of Such Report Was filed on May 14, 2009, in Order to Correct a Typographical Error



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March 27, 2009

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**FILED**

**MAR 27 2009**

Clerk's Office  
N.C. Utilities Commission

**OFFICIAL COPY**

Subject: Docket No. E-7, Sub 718  
Duke Energy Carolinas, LLC NO<sub>x</sub> and SO<sub>2</sub> Compliance Plan Annual Update

Record No. NC CAP 008

Dear Ms. Vance:

Duke Energy Carolinas, LLC is required by Senate Bill 1078 ("North Carolina Clean Air Legislation") to file information on or before April 1 of each year to update the North Carolina Utilities Commission ("Commission") of the progress to date, upcoming activities and expected plans to achieve the emissions limitations set out in G.S. 143-215.107D. Enclosed for filing are the original and thirty (30) copies of Duke Energy Carolinas' Compliance Plan Annual Update for 2009 that fully describe the Company's efforts to comply with the North Carolina Clean Air Legislation.

The current plan to meet the emission requirements for NO<sub>x</sub> and SO<sub>2</sub> includes:

**NO<sub>x</sub> Control** – Duke Energy Carolinas has completed installing controls for NO<sub>x</sub> reductions originally planned under the North Carolina Clean Air Legislation. The combination of SCR, SNCR, and low NO<sub>x</sub> burners, along with year round operation of these controls, has achieved and continues to maintain annual emissions below Duke Energy Carolinas' final annual target of 31,000 tons of NO<sub>x</sub> per year.

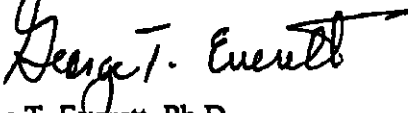
**SO<sub>2</sub> Control** – The installation of wet scrubbers on our twelve largest generating units continues to be our plan for compliance with the 2009 and 2013 SO<sub>2</sub> caps under the North Carolina Clean Air Legislation. During 2008, we completed installation of wet scrubbers on both units at the Belews Creek Station, and we will complete the scrubber controls for the five units at Plant Allen in 2009. As a result of these projects, Duke Energy Carolinas expects to operate well below its 2009 SO<sub>2</sub> emission limit of 150,000 tons. With the final scrubber work at Cliffside Unit 5 to be completed in 2010, we expect to complete our SO<sub>2</sub> controls several years ahead of the 2013 final deadline in the Clean Air Legislation.

Exhibits A and B outline current unit specific technology selections, projected operational dates, expected emission rates, and the corresponding tons of emissions that demonstrate compliance with the legislative requirements to the best of Duke Energy Carolinas' knowledge at this time.

The current estimate of Environmental Compliance Costs for these pollution control projects is included in Exhibit C and reflects some improvement since last year.

Duke Energy Carolinas will continue to examine the technology selection, implementation schedule and associated costs. Annual updates will be provided to the Commission as required. If you have questions regarding any aspect of our plan, please do not hesitate to contact my office at 919-235-0955.

Sincerely,



George T. Everett, Ph.D.  
Director, Environmental/Legislative Affairs  
Duke Energy Carolinas

Enclosures

cc: Robert P. Gruber  
Executive Director – Public Staff  
4326 Mail Service Center  
Raleigh, NC 27699-4326

**Duke Energy Carolinas, LLC**

**General Assembly of North Carolina Session 2001**

**Senate Bill 1078 - Improve Air Quality/Electric Utilities (NC Clean Air Legislation)  
2009 Annual Data Submittal**

1. **A detailed report on the investor-owned public utility's plans for meeting the emissions limitations set out in G.S. 143-215.107D.**

Exhibits A and B outline the plan for technology selections by facility and unit, actual and projected operational dates, actual and expected emission rates, and the corresponding tons of emissions that demonstrate compliance with the provisions of G.S. 143-215.107D. Changes to the expected plan for meeting these emissions limitations as compared to past compliance plans are described below:

**NO<sub>x</sub> Compliance**

- Emission Rate Changes – Expected rates for certain units have been adjusted in this 2009 update based on operating experience in 2008 with installed controls and targeted future performance.

**SO<sub>2</sub> Compliance**

- Emission Rate Changes – Expected rates have been adjusted in this 2009 update based on operating experience in 2008 and targeted future performance.
- Unit Retirements – Retirement of Dan River 1 & 2 as discussed in the Certificate of Public Convenience and Necessity ("CPCN") Order for the Dan River Combined Cycle Project (Docket E-7 Sub 832) are now reflected in the 2013 SO<sub>2</sub> compliance plan.

2. **The actual environmental compliance costs incurred by the investor-owned public utility in the previous calendar year, including a description of the construction undertaken and completed during that year.**

In the 2008 calendar year, Duke Energy Carolinas spent \$268,883,600 on activities in support of compliance with the provisions of G.S. 143-215.107D. Exact amounts associated with each project are provided in Exhibit C, and a description of the associated activities is provided below:

**Allen Steam Station FGD**

- Completed wastewater treatment system
- Completed duct installation and insulation
- Completed stack and flue liners
- Installed and commissioned all major equipment for Unit 1 absorber operation
- Completed limestone unloading and storage system
- Received, installed and placed auxiliary transformers in service

Belews Creek Steam Station FGD

- Completed startup activities and achieved substantial completion milestone for the Unit-1-FGD
- Completed construction, commissioning and startup activities for the Unit 2 FGD and achieved substantial completion milestone
- Completed all systems performance testing
- Achieved overall project completion and closeout milestone

Cliffside Steam Station Unit 5 FGD

- Signed Amended and Restated Engineering, Procurement and Construction ("EPC") Agreement with Shaw, Stone & Webster
- Completed site bulk excavation and initial site preparation
- Completed dewatering building foundation
- Completed Unit 5 absorber vessel and absorber building foundations
- Completed chimney concrete shell
- Completed fabrication of all Unit 5 flue liners
- Received and set Unit 5 recycle pump motors

Allen Steam Station SNCR, Unit 5

- Completed installation and commissioning of the Unit 5 SNCR equipment

3. **The amount of the investor-owned public utility's environmental compliance costs amortized in the previous calendar year.**

As discussed in the December 20, 2007 order associated with rates and environmental compliance costs (Docket E-7 Sub 829), no additional amounts were amortized related to construction work activity in the 2008 calendar year in support of compliance with the provisions of G.S. 143-215.107D. \$1,050,000,000 was amortized in total for the program through year-end 2007.

4. **An estimate of the investor-owned public utility's environmental compliance costs and the basis for any revisions of those estimates when compared to the estimates submitted during the previous year.**

The estimated 'environmental compliance costs' as defined in G.S. 143-215.107D are provided in Exhibit C. While there has been no significant change to the scope or timing associated with any of these projects, forecasts for active projects have been updated as compared to the 2008 filing. The net overall reduction is \$16,672,700 or approximately 1% of the previously forecasted costs and can mostly be attributed to unused contingency or risk items included in the previous forecast.

5. **A description of all permits required in order to comply with the provisions of G.S. 143-215.107D for which the investor-owned public utility has applied and the status of those permits or permit applications.**

Allen Steam Station FGD

- Request to revise NPDES Permit to include FGD wastewater – Submitted 1/24/2006; received revision 9/11/2006

- Submittal to DENR/ACOE regarding stream crossing of entrance road – Received permits 5/25/2006
- ~~Air Permit Application – Submitted 4/10/2006; received Permit 6/30/2006~~
- Authorization to Construct (ATC) application for Wastewater Treatment System – Submitted 9/14/2006; received Permit to Construct 12/15/2006
- NOTE: all erosion control permits are in EPC contractor's scope for the Allen FGD Project and were received in 2006 (7/13/2006 and 12/18/2006). EPC contractor also received permit from NCDOT to improve Highway NC273 at the Allen FGD entrance road on 12/3/2008. Stack contractor also applied for air permit associated with flue liner fabrication on 11/1/2006 and received on 2/2/2007.

#### Belews Creek Steam Station FGD

- Request to revise NPDES Permit to include FGD wastewater – Submitted 6/30/2004; received Permit Revision 5/16/2005
- Initial Erosion Control Permit – Submitted 2/4/2005; received Permit 3/7/2005
- Landfill Site Suitability Application – Submitted 3/30/2005; received Site Suitability Approval Letter 6/19/2006
- Air Permit Application for Belews Creek FGD project – Submitted 4/18/2005; received Air Permit 2/6/2006
- Authorization to Construct (ATC) application for Wastewater Treatment System – Submitted 7/21/2005; received Permit to Construct 12/27/2005
- Authorization to Construct (ATC) application for Constructed Wetlands – Submitted 7/21/2005; received Permit to Construct 12/27/2005
- Revised Landfill Construction Plan Application – Submitted 9/30/2005; received Permit to Construct 6/29/2006
- Air Permit – Notice of Intent to Construct – Submitted 10/11/2005; received Permit to Construct 10/24/2005
- Authorization to Construct Sanitary Waste Lagoon – Submitted 3/23/2006; received Permit to Construct 9/1/2006
- Existing Sewage Lagoon Approval to Decommission – Submitted 10/31/2006; received permit 1/25/2007
- Permit to operate the FGD Residue Landfill – Submitted Certification Report on 9/28/2007; received permit 1/24/2008
- Erosion Control Permit to construct Used Oil Building – Submitted August 2008; received permit 10/10/2008
- Building Permit to construct Used Oil Building – Submitted August 2008; received permit 10/21/2008
- NOTE: Revisions to Erosion Control Permit submitted on various dates; most recent revised permit received 3/30/2006

#### Cliffside Steam Station Unit 5 FGD

- Air Permit Application for Cliffside Unit 5 FGD project – Submitted 12/16/2005; received 12/15/2006
- Request to revise NPDES Permit (including new Cliffside Unit 6) – Submitted 4/30/2007; Received Permit Revision 8/13/2007
- FAA Permit for Stack – received permit 10/30/2007



- Landfill Site Suitability Application – Submitted 1/7/2008; received 11/18/2008
- Authorization to Construct (ATC) application for Wastewater Treatment System –  
~~received: Permit to Construct: 9/22/2008~~
- Building Permits from Cleveland & Rutherford Counties for WFGD Control Room –  
received 1/26/2009
- Landfill Construction Plan Application – Submitted 12/18/08; expect approval in  
March 2009

Marshall Steam Station FGD

- Landfill Construction Plan Application – Submitted 4/1/04; received 2/4/05
- Sedimentation and Erosion Control Plan Permits
  - Limestone/Gypsum Conveyor – Submitted 6/17/04; received 7/9/04
  - Limestone/Gypsum Conveyor Expansion – Submitted 12/15/04; received  
12/30/04
  - Constructed Wetland Treatment System – Submitted 7/26/04; received 8/18/04
  - Gypsum Landfill – Submitted 3/31/04; received 4/21/04
- Authorization to Construct (ATC) application for Solids Removal System –  
Submitted 11/19/04; received 12/22/04
- Authorization to Construct (ATC) application for Constructed Wetlands – Submitted  
5/21/04; received 8/10/04
- Air Permit Revisions (for material handling issues) – Submitted 9/2/05; received  
12/7/05
- Landfill Permit Documents (to line landfill) – Submitted 12/15/05; received 6/5/06
- Permit to Operate Marshall FGD Landfill – Submitted 10/27/06; received 11/21/06

Allen Steam Station SNCR, Unit 2

- Air Permit Application – Submitted 4/24/06; Received 6/30/06

Allen Steam Station SNCR, Unit 3

- Air Permit Application – Submitted 7/15/04; Received 2/5/05

Allen Steam Station SNCR, Unit 4

- Air Permit Application – Submitted 7/15/05; Received 1/15/06
- Building/Plumbing permit from Gaston County Building and Standards – Received  
4/27/06 for municipal water tie-ins

Allen Steam Station SNCR, Unit 5

- Air Permit Application – Submitted 4/24/06; Received 6/30/06

Buck Steam Station Burners, Unit 3

- Air Permit Application – Submitted 9/15/06; Received 2/15/07

Buck Steam Station Burners, Unit 4

- Air Permit Application – Submitted 9/15/06; Received 2/15/07

Buck Steam Station SNCR, Unit 5

- Air Permit Application – Submitted 3/10/06; Received 5/16/06
- 

Buck Steam Station SNCR, Unit 6

- Air Permit Application – Submitted 3/10/06; Received 5/16/06

Dan River Steam Station Burners, Unit 1

- Air Permit Application – Submitted 2/23/06; Received 9/11/06

Dan River Steam Station Burners, Unit 2

- Air Permit Application – Submitted 2/23/06; Received 9/11/06

Dan River Steam Station Burners, Unit 3

- Air Permit Application – Submitted 2/23/06; Received 9/11/06

Marshall Steam Station SNCR, Unit 1

- Air Permit Application – Submitted 9/18/05; Received 12/20/05

Marshall Steam Station SNCR, Unit 2

- Air Permit Application – Submitted 9/18/05; Received 12/20/05

Marshall Steam Station SNCR, Unit 3

- Air Permit Application – Submitted 5/14/04; Received 10/13/04

Marshall Steam Station SNCR, Unit 4

- Air Permit Application – Submitted 4/28/06; Received 9/12/06

Riverbend Steam Station SNCR, Unit 4

- Air Permit Application – Submitted 3/20/05; Received 8/1/05

Riverbend Steam Station Burners, Unit 5

- Air Permit Application – Submitted 4/2/04; Received 4/30/04

Riverbend Steam Station SNCR, Unit 5

- Air Permit Application – Submitted 3/20/06; Received 8/1/06

Riverbend Steam Station Burners, Unit 6

- Air Permit Application – Submitted 5/14/03; Received September 2003

Riverbend Steam Station SNCR, Unit 6

- Air Permit Application – Submitted 11/5/05; Received 1/1/06

Riverbend Steam Station SNCR, Unit 7

- Air Permit Application – Submitted 11/5/05; Received 1/1/06

**6. A description of the construction related to compliance with the provisions of G.S. 143-215.107D that is anticipated during the following year.**

Allen Steam Station FGD

- Begin operation of the Unit #1 absorber
- Begin operation of the Unit #3 absorber
- Complete gypsum handling system
- Complete final drawing turnover and archival
- Complete modification to Highway NC273 at the Allen FGD entrance road
- Complete generating unit tie-ins for Units 1-5

Cliffside Steam Station Unit 5 FGD

- Complete erection of the Unit 5 absorber vessel
- Complete initial tie-in to the Unit 5 stack and installation of blanking plates
- Receive and set Unit 5 auxiliary transformer and backfeed power
- Construct wastewater treatment facility
- Erect limestone and gypsum material handling equipment
- Complete steel erection for dewatering building, absorber building and reagent prep building
- Receive equipment and begin ball mill assembly

**7. A description of the applications for permits required in order to comply with the provisions of G.S. 143-215.107D that are anticipated during the following year.**

No additional applications for permits are expected.

**8. The results of equipment testing related to compliance with G.S. 143-215.107D.**

No additional equipment related testing occurred in 2008. The SNCR and SCR tests that occurred in prior years that were used in evaluating technology selections are repeated in this 2009 report for reference.

Allen Steam Station SNCR, Unit 1

- SNCR Equipment installation was completed in May 2003 followed by equipment acceptance testing in late 2003. During this test run, it was determined that the SNCR system met all commercial performance guarantees with approximately a 25% reduction in NO<sub>x</sub> with ammonia slip of less than 5 ppm at full load.
- During the 2004 ozone season, Allen Unit 1 achieved a 0.162# NO<sub>x</sub>/MMBTU outlet rate, 5% better than the 0.17#/MMBTU target established for the unit.

Belews Creek Steam Station SCR

- SCR Equipment installation was completed in 2003 in support of the EPA/SIP Call requirements for NO<sub>x</sub> reduction. While Belews Creek had operational problems in the first half of the 2004 ozone season, many of these issues were addressed on Belews Creek Unit 1 by August, 2004. Subsequently, tests performed during the months of August and September showed that when the SCR Equipment was in service during this time, emissions averaged 0.07# NO<sub>x</sub>/MMBTU.

- 9. The number of tons of oxides of nitrogen (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) emitted during the ~~previous calendar year from the coal-fired generating units that are subject to the emissions limitations set out in G.S. 143-215.107D.~~**

In the 2008 calendar year, 29,052.3 tons of NO<sub>x</sub> and 132,405.8 tons of SO<sub>2</sub> were emitted from the North Carolina based Duke Energy Carolinas coal-fired units located in North Carolina and subject to the emissions limitations set out in G.S. 143-215.107D.

- 10. The emissions allowances described in G.S. 143-215.107D(i) that are acquired by the investor-owned public utility that result from compliance with the emissions limitations set out in G.S. 143-215.107D.**

No emissions allowances have been acquired by Duke Energy Carolinas resulting from compliance with the emissions limitations set out in G.S. 143-215.107D.

- 11. Any other information requested by the Commission or Department of Environment and Natural Resources.**

No additional information has been requested to be included in this annual data submittal.

Expected Duke Energy Carolinas Compliance for NC Clean Air Legislation as of 4/1/2009  
(Exhibit A)

NO <sub>x</sub>									
				2007 Compliance		2008 Compliance		2009 Compliance	
Facility	Unit	Technology	Operational Date	Actual Rate #MMBTUs	Tons	Actual Rate #MMBTUs	Tons	Expected Rate #MMBTUs	Tons
Allen	1	SNCR	2003	0.176	854	0.176	811	0.170	757
Allen	2	SNCR	2007	0.172	822	0.188	766	0.170	783
Allen	3	SNCR	2005	0.174	1,428	0.180	1,307	0.180	1,464
Allen	4	SNCR	2006	0.192	1,500	0.178	1,304	0.180	1,574
Allen	5	SNCR	2008	0.223	1,837	0.199	1,583	0.180	1,418
Belaws Creek	1	SCR	2003	0.047	1,308	0.036	1,446	0.060	2,190
Belaws Creek	2	SCR&Burners	2004	0.063	2,122	0.046	1,704	0.060	1,814
Buck	3	Burners	2007	0.255	301	0.262	261	0.260	203
Buck	4	Burners	2007	0.308	222	0.298	198	0.300	138
Buck	5	SNCR	2006	0.156	582	0.163	367	0.160	511
Buck	6	SNCR	2006	0.159	542	0.166	506	0.160	547
Cliffside	1	Tuning Only	2004	0.417	235	0.457	244	0.430	131
Cliffside	2	Tuning Only	2004	0.380	279	0.403	178	0.410	120
Cliffside	3	Tuning Only	2004	0.376	479	0.383	365	0.410	355
Cliffside	4	Tuning Only	2004	0.403	512	0.394	407	0.410	362
Cliffside	5	SCR	2002	0.065	998	0.058	1,066	0.060	1,088
Dan River	1	Burners	2008	0.342	465	0.249	282	0.250	274
Dan River	2	Burners	2006	0.231	372	0.252	299	0.250	297
Dan River	3	Burners	2006	0.219	684	0.197	684	0.210	607
Marshall	1	SNCR	2006	0.210	5,329	0.205	4,706	0.200	4,645
Marshall	2	(combined stack)	2007						
Marshall	3	SNCR/SCR <sup>1</sup>	2005/2008	0.218	5,056	0.225	4,135	0.060	1,376
Marshall	4	SNCR	2007	0.204	4,862	0.210	4,380	0.200	4,472
Riverbend	4	SNCR	2007	0.248	488	0.196	398	0.190	374
Riverbend	5	SNCR&Burners	2008	0.241	473	0.184	392	0.190	360
Riverbend	6	SNCR&Burners	2006	0.213	603	0.187	627	0.190	595
Riverbend	7	SNCR	2006	0.218	684	0.196	656	0.190	588
<b>Expected Total:</b>					<b>33,013</b>		<b>29,052</b>		<b>27,023</b>
<b>Compliance Limit:</b>					<b>35,000</b>		<b>35,000</b>		<b>31,000</b>

<sup>1</sup> SNCR Technology in service on Marshall Unit 3 was replaced by SCR Technology in 2008 in support of 8-hour ozone attainment demonstration in the Charlotte region. Similar to other SCR additions to comply with other laws besides the North Carolina Clean Air Legislation, costs associated with this Marshall Unit 3 SCR project are not "environmental compliance costs" within the meaning of that term as used in the North Carolina Clean Air Legislation.

**Technology**

Burners -- Overfired Air or Separated Overfired Air with associated Mill Classifier installations

SCR -- Selective Catalytic Reduction

SNCR -- Selective Non-Catalytic Reduction

Expected Duke Energy Carolinas Compliance for NC Clean Air Legislation as of 4/1/2009  
(Exhibit B)

SO <sub>2</sub>							
				2009 Compliance		2013 Compliance	
Facility	Unit	Technology	Operational Date	Expected Rate #MMBTUs	Tons	Expected Rate #MMBTUs	Tons
Allen	1	Scrubber	2009	0.300	1,336	0.150	660
Allen	2	Scrubber	2009	0.400	1,842	0.150	644
Allen	3	Scrubber	2009	0.700	5,694	0.150	1,239
Allen	4	Scrubber	2009	0.750	6,556	0.150	1,321
Allen	5	Scrubber	2009	0.550	4,333	0.150	1,134
Belews Creek	1	Scrubber	2008	0.150	5,476	0.150	5,177
Belews Creek	2	Scrubber	2008	0.150	4,535	0.150	4,811
Buck	3			1.400	1,017		0
Buck	4			1.400	642		0
Buck	5			1.400	4,472	1.400	3,334
Buck	6			1.400	4,784	1.400	3,449
Cliffside	1			1.600	488		0
Cliffside	2			1.600	469		0
Cliffside	3			1.600	1,385		0
Cliffside	4			1.600	1,414		0
Cliffside	5	Scrubber	2010	1.600	28,476	0.150	2,858
Cliffside	6	Scrubber	2011		0	0.080	2,158
Dan River	1			1.750	1,919		0
Dan River	2			1.750	2,081		0
Dan River	3			1.750	5,062	1.750	661
Marshall	1	Scrubber	2007				
Marshall	2	(combined stack)	2007	0.150	3,484	0.150	3,631
Marshall	3	Scrubber	2007	0.150	3,439	0.150	3,534
Marshall	4	Scrubber	2006	0.150	3,354	0.150	3,386
Riverbend	4			1.700	3,344	1.700	1,885
Riverbend	5			1.700	3,219	1.700	1,705
Riverbend	6			1.700	5,320	1.700	3,197
Riverbend	7			1.700	5,260	1.700	2,825
<b>Expected Total:</b>					<b>109,401</b>		<b>47,611</b>
<b>Compliance Limit:</b>					<b>150,000</b>		<b>80,000</b>

Expected Duke Energy Carolinas Compliance Costs for NC Clean Air Legislation as of 4/1/2009  
(Exhibit C)

Facility	Unit(s)	Technology	Operational Date	Spent to Date								Remaining	Project Total (\$000)
				2001 (\$000)	2002 (\$000)	2003 (\$000)	2004 (\$000)	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009-2011 (\$000)	
Allen	1-5	Scrubber	2009	\$0.9	(\$0.9)	\$1,099.8	(\$11.8)	\$5,348.3	\$62,752.8	\$209,083.2	\$153,697.9	\$70,851.0	\$501,801.2
Belewn Creek	1-2	Scrubber	2008	\$0.0	\$0.0	\$1,121.3	\$5,999.1	\$106,433.5	\$250,648.5	\$126,058.2	\$34,626.7	\$1,149.3	\$521,838.5
Coffdale	5	Scrubber	2010	\$0.0	\$0.0	\$978.5	\$267.5	\$112.0	\$3,175.2	\$57,777.9	\$77,524.8	\$145,844.4	\$285,708.8
Marshall	1-4	Scrubber	2007	\$0.0	\$0.0	\$10,213.7	\$82,096.3	\$218,129.8	\$74,162.8	\$23,632.0	(\$1,249.5)	\$0.0	\$416,985.0
Allen	1	SNCR	2003	\$177.3	\$162.4	\$2,884.1	\$384.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$3,588.7
Allen	2	SNCR	2007	\$0.0	\$0.0	\$0.0	\$0.0	\$239.3	\$2,710.6	\$2,331.9	(\$207.9)	\$0.0	\$3,074.0
Allen	3	SNCR	2005	\$0.0	\$0.0	\$215.7	\$2,584.1	\$4,091.5	\$32.5	\$0.0	\$0.0	\$0.0	\$6,923.9
Allen	4	SNCR	2006	\$0.0	\$0.0	\$0.0	\$0.0	\$1,122.2	\$4,258.0	\$170.9	\$16.1	\$0.0	\$5,785.1
Allen	5	SNCR	2008	\$0.0	\$0.0	\$98.9	\$164.5	\$122.3	\$22.7	\$2,160.9	\$2,424.6	\$0.0	\$4,982.9
Buck	3	Burner	2007	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$814.5	\$3,564.6	\$0.0	\$0.0	\$4,179.1
Buck	3	Classifier	2007	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$216.0	\$0.0	\$0.0	\$216.0
Buck	4	Burner	2007	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$358.3	\$1,882.2	\$0.0	\$0.0	\$2,241.1
Buck	4	Classifier	2007	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$93.1	\$0.0	\$0.0	\$93.1
Buck	5	SNCR	2006	\$0.0	\$0.0	\$0.0	\$268.2	\$345.9	\$4,836.8	\$182.7	\$160.3	\$0.0	\$5,793.9
Buck	6	SNCR	2006	\$0.0	\$0.0	\$0.0	\$265.8	\$335.3	\$3,814.2	(\$885.2)	(\$28.8)	\$0.0	\$3,201.4
Dan River	1	Burner	2008	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,560.3	\$1,633.2	\$0.0	\$3,193.5
Dan River	1	Classifier	2008	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$124.4	\$0.0	\$0.0	\$124.4
Dan River	2	Burner	2006	\$0.0	\$0.0	\$0.0	\$0.0	\$775.4	\$1,693.5	\$238.8	\$0.0	\$0.0	\$2,707.8
Dan River	2	Classifier	2005	\$0.0	\$0.0	\$0.0	\$0.0	\$130.8	\$0.0	\$0.0	\$0.0	\$0.0	\$130.8
Dan River	3	Burner	2006	\$7.5	\$162.3	\$22.2	\$512.8	\$679.0	\$1,441.4	\$377.2	\$0.0	\$0.0	\$3,282.4
Dan River	3	Classifier	2005	\$0.0	\$0.0	\$0.0	\$0.0	\$184.3	\$0.0	\$0.0	\$0.0	\$0.0	\$184.3
Marshall	1	SNCR	2006	\$0.0	\$0.0	\$0.0	\$187.2	\$1,418.4	\$2,106.3	\$181.7	\$0.0	\$0.0	\$3,874.4
Marshall	2	SNCR	2007	\$0.0	\$0.0	\$197.8	\$185.4	\$778.3	\$2,760.7	\$1,382.3	\$322.2	\$0.0	\$5,626.5
Marshall	3	SNCR	2005	\$0.0	\$0.0	\$1,577.4	\$652.1	\$2,042.4	\$32.0	\$0.0	\$0.0	\$0.0	\$4,303.8
Marshall	4	SNCR	2007	\$0.0	\$0.0	\$0.0	\$0.0	\$43.3	\$2,613.8	\$494.2	\$0.0	\$0.0	\$3,151.6
Riverband	4	SNCR	2007	\$0.0	\$0.0	\$0.0	\$45.6	\$474.3	\$1,082.2	\$1,981.8	(\$53.1)	\$0.0	\$3,530.7
Riverband	5	Burner	2005	\$362.8	\$284.3	\$2.8	\$2,313.4	\$180.0	\$0.0	\$0.0	\$0.0	\$0.0	\$3,143.3
Riverband	5	Classifier	2005	\$0.0	\$0.0	\$0.0	\$159.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$159.6
Riverband	5	SNCR	2006	\$0.0	\$0.0	\$0.0	\$1.5	\$321.7	\$1,474.8	\$2,586.5	\$5.6	\$0.0	\$4,389.9
Riverband	6	Burner	2005	\$144.0	\$416.1	\$12.2	\$510.4	\$2,096.4	\$0.0	\$0.0	\$0.0	\$0.0	\$3,779.1
Riverband	6	Classifier	2005	\$0.0	\$0.0	\$0.0	\$0.0	\$189.4	\$0.0	\$0.0	\$0.0	\$0.0	\$189.4
Riverband	6	SNCR	2006	\$0.0	\$0.0	\$0.0	\$1.5	\$340.3	\$3,454.1	\$503.7	\$4.4	\$0.0	\$4,304.1
Riverband	7	SNCR	2006	\$0.0	\$0.0	\$0.0	\$48.5	\$485.8	\$3,839.0	\$520.9	\$4.7	\$0.0	\$4,998.0
Subtotals:				\$692.4	\$1,024.2	\$18,424.9	\$106,834.5	\$348,420.0	\$427,984.4	\$438,400.1	\$268,883.6	\$217,844.7	
											NC Clean Air Legislation program forecast <sup>1</sup> :	\$1,828,508.8	

SO<sub>2</sub>

NO<sub>x</sub>

<sup>1</sup> The NC Clean Air Legislation program forecast excludes all financing-related accounting entries

**VERIFICATION**

I, George T. Everett, state and attest that the attached information updating the North Carolina Utilities Commission on progress to date, upcoming activities, and expected strategies to achieve the emissions limitations set out in N.C.G.S. 143-215.107.D (Annual Update) is filed on behalf of Duke Energy Carolinas, LLC; that I have reviewed said Annual Update, and, in the exercise of due diligence have made reasonable inquiry into the accuracy of the information provided therein; and that, to the best of my knowledge, information, and belief, all of the information contained therein is accurate and true, and no material information or fact has been knowingly omitted or misstated therein.



George T. Everett  
Director, Environmental and Legislative Affairs

3/27/2009  
Date

Subscribed and sworn to before me,  
this 27<sup>th</sup> day of March, 2009.

  
NOTARY PUBLIC

My commission expires: 3/2/2013



CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC's NO<sub>x</sub> and SO<sub>2</sub> Compliance Plan Annual Update in No. E-7, Sub 718, 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 27<sup>th</sup> day of March, 2009.



George T. Everett  
Director, Environmental/Legislative Affairs  
Duke Energy Carolinas, LLC  
3700 Glenwood Avenue, Suite 330  
Raleigh NC 27612  
(919) 239-0955



March 31, 2009

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

**FILED**  
**MAR 31 2009**  
Clerk's Office  
N.C. Utilities Commission

Re: Annual NC Clean Smokestacks Act Compliance Report  
Docket No. E-2, Sub 815

Dear Ms. Vance:

Progress Energy Carolinas, Inc. submits the attached report for calendar year 2008 regarding the status of compliance with the provisions of the North Carolina Clean Smokestacks Act. Section 9(i) of the Act requires that an annual report of compliance progress be submitted to the Commission by April 1 of each year for the previous calendar year.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Len S. Anthony', written over a large, stylized loop.

Len S. Anthony  
General Counsel  
Progress Energy Carolinas, Inc.

LSA:mhm

Attachment

232822



March 31, 2009

Mr. Dee Freeman  
Secretary  
North Carolina Department of Environment and Natural Resources  
1601 Mail Service Center  
Raleigh, NC 27699-1601

Dear Secretary Freeman:

Progress Energy Carolinas, Inc. (PEC, Company) submits the attached report for calendar year 2008 regarding the status of its compliance with the provisions of the North Carolina Clean Smokestacks Act (Act).

During 2008, the Company's annual NO<sub>x</sub> emissions from its North Carolina coal-fired units again totaled less than 25,000 tons. We have developed plans and processes to assure that we continue to meet the requirements of the Act.

We regularly review and refine our compliance strategy, weighing a number of factors such as system load projections, expected fuel selection, available control equipment and anticipated performance and costs of emissions control equipment. Studies performed in late 2008 and early 2009, which consider current resource plans, current load and energy forecasts, current fuel costs, current capital and operating costs of dry scrubbers, and the performance capabilities of the existing scrubbers on the PEC system, indicate that installing SO<sub>2</sub> controls on Cape Fear Units 5 and 6 is not required for compliance in 2013. Instead, the use of lower sulfur coal at Cape Fear and other un-scrubbed units appears to be a more cost-effective strategy that also provides the additional benefit of providing flexibility to address any new federal environmental requirements and to incorporate any new technological options. We will continue to evaluate our compliance options with respect to Cape Fear and our other un-scrubbed units and believe there is adequate time to install control technology should future evaluations indicate that it is warranted in order to maintain compliance with the Clean Smokestacks limits.

We appreciate the excellent work of the Department staff, particularly those in the Air Quality and Water Quality divisions, who support our efforts to complete the projects in a timely manner to assure compliance with the Act's requirements. We look forward to continuing our positive working relationship to facilitate fulfillment of the Company's obligations with this important law.

Progress Energy Service Company, LLC  
P.O. Box 11251  
Raleigh, NC 27602

Please contact me at (919) 546-3775 if you have any questions.

Sincerely,

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A handwritten signature in black ink, appearing to read "Caroline Choi". The signature is fluid and cursive, with a long horizontal stroke at the end.

Caroline Choi  
Director, Energy Policy and Strategy

c: North Carolina Utilities Commission  
Keith Overcash, DAQ

**Progress Energy Carolinas, Inc. (PEC)  
North Carolina Clean Smokestacks Act  
Calendar Year 2008 Progress Report**

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On June 20, 2002, North Carolina Senate Bill 1078, also known as the "Clean Smokestacks Act," was signed into effect. This law requires significant reductions in the emissions of nitrogen oxides (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) from utility owned coal-fired power plants located in North Carolina. Section 9(i), which is now incorporated as Section 62-133.6(i) of the North Carolina General Statutes, requires that an annual progress report regarding compliance with the Clean Smokestacks Act be submitted on or before April 1 of each year. The report must contain the following elements, taken verbatim from the statute:

1. A detailed report on the investor-owned public utility's plans for meeting the emissions limitations set out in G.S. 143-215.107D.
2. The actual environmental compliance costs incurred by the investor-owned public utility in the previous calendar year, including a description of the construction undertaken and completed that year.
3. The amount of the investor-owned public utility's environmental compliance costs amortized in the previous calendar year.
4. An estimate of the investor-owned public utility's environmental compliance costs and the basis for any revisions of those estimates when compared to the estimates submitted during the previous year.
5. A description of all permits required in order to comply with the provisions of G.S. 143-215.107D for which the investor-owned public utility has applied and the status of those permits or permit applications.
6. A description of the construction related to compliance with the provisions of G.S. 143-215.107D that is anticipated during the following year.
7. A description of the applications for permits required in order to comply with the provisions of G.S. 143-215.107D that are anticipated during the following year.
8. The results of equipment testing related to compliance with G.S. 143-215.107D.
9. The number of tons of oxides of nitrogen (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) emitted during the previous calendar year from the coal-fired generating units that are subject to the emissions limitations set out in G.S. 143-215.107D.
10. The emissions allowances described in G.S. 143-215.107D(i) that are acquired by the investor-owned public utility that result from compliance with the emissions limitations set out in G.S. 143-215.107D.
11. Any other information requested by the Commission or the Department of Environment and Natural Resources.

Information responsive to each of these report elements follows. The responses are given by item number in the order in which they are presented above.

**1. A detailed report on the investor-owned public utility's plans for meeting the emissions limitations set out in G.S. 143-215.107D.**

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Under G.S. § 143-215.107D(f), "each investor-owned public utility...may determine how it will achieve the collective emissions limitations imposed by this section." PEC originally submitted its compliance plan on July 29, 2002. Appendix A contains an updated version of this plan, effective April 1, 2009. We continue to evaluate various design, technology and generation options that could affect our future compliance plans.

**2. The actual environmental compliance costs incurred by the investor-owned public utility in the previous calendar year, including a description of the construction undertaken and completed that year.**

In 2008, Progress Energy Carolinas, Inc. incurred actual capital costs of \$114,164,000.

Mayo

Engineering, procurement, and construction work continued throughout 2008. Major accomplishments included completion of the absorber, completion of the chimney, beginning construction of the waste water treatment system, and beginning commissioning and start-up activities. At year end, the project was 83% complete. Construction remains on schedule to support final tie-in of the scrubber in March, 2009 with initial operation in early April, 2009.

Roxboro

The scrubbers on Units 2 and 4 operated successfully throughout the year. Construction of the scrubbers on Units 1 and 3 was completed with Unit 3 going into service on May 6, 2008 and Unit 1 going into service on December 16, 2008. At the end of 2008, the Roxboro project was 96% complete.

Sutton

Activities related to the dry scrubber at Sutton Unit 3 consisted of preliminary engineering and various engineering studies, including the development of the dry scrubber specification.

**3. The amount of the investor-owned public utility's environmental compliance costs amortized in the previous calendar year.**

Progress Energy Carolinas, Inc. amortized \$15,000,000 in 2008.

**4. An estimate of the investor-owned public utility's environmental compliance costs and the basis for any revisions of those estimates when compared to the estimates submitted during the previous year.**

Appendix B contains the capital costs incurred toward compliance with G.S. § 143-215.107D through 2008 and the projected costs for future years through 2013. The costs shown are the net costs to PEG, excluding the portion for which the Power Agency is responsible. The estimated total capital costs, including escalation, are currently projected to be between \$1.4 and \$1.6 billion, with the current point estimate being \$1.402 billion. This represents a decrease of \$0.144 billion from the 2008 cost estimate of \$1.546 billion.

In prior reports we have indicated our commitment to continuously evaluate our plans to meet the requirements of the Clean Smokestacks Act with common-sense, cost-effective solutions.

Studies performed in late 2008 and early 2009, which consider current resource plans, current load and energy forecasts, current fuel costs, current capital and operating costs for control technologies, and the performance capabilities of the existing scrubbers on the PEG system, indicate that installing SO<sub>2</sub> controls on Cape Fear Units 5 and 6 is no longer required for compliance in 2013. Instead, the use of lower sulfur coal at Cape Fear and other un-scrubbed units appears to be a more cost-effective strategy that also provides the additional benefit of providing flexibility to address any new federal environmental requirements and to incorporate any new technological options. We will continue to evaluate our compliance options with respect to Cape Fear and our other un-scrubbed units and believe there is adequate time to install control technology should future evaluations indicate that it is warranted in order to maintain compliance with the Clean Smokestacks limits.

Since additional controls are not needed at Cape Fear Units 5 and 6 to meet the 2013 Clean Smokestacks Act limits, those units are no longer shown in Appendix B.

**5. A description of all permits required in order to comply with the provisions of G.S. 143-215.107D for which the investor-owned public utility has applied and the status of those permits or permit applications.**

Progress Energy applied for or received the following permits in 2008:

**Roxboro Plant**

**Air Permit**

Agency approval was received on April 23, 2008, which incorporated revised limits for SO<sub>2</sub> and NO<sub>x</sub> based on scrubber stack dispersion analysis.

**Authorization to Construct**

A request for an Authorization to Construct for revisions to the waste water system to temporarily reroute the backwash discharge line from the flush pond to the settling pond was submitted on April 10, 2008 and approved on April 18, 2008.

Mayo Plant

Erosion and Sediment Control Plan

Revision I to the Erosion and Sediment Control Plan for an increase in disturbed land for additional lay down area for the flue gas desulfurization system was submitted on April 17, 2008 and was approved on May 8, 2008.

Revision J to the Erosion and Sediment Control Plan for an increase in disturbed land (additional borrow area) was submitted on October 28, 2008 and was approved on December 17, 2008.

**6. A description of the construction related to compliance with the provisions of G.S. 143-215.107D that is anticipated during the following year.**

Mayo

During 2009, construction activities will focus on completion, commissioning, and start-up of the FGD system. Activities are on schedule to support a spring 2009 plant outage during which the final FGD tie-in will occur. Initial operation of the FGD system will occur when the generating unit returns to service in early April, 2009. The bioreactor and associated waste water treatment pond will go into service shortly after the FGD system goes operational.

Roxboro

During 2009, the remaining construction activities at Roxboro involve final grading, paving and roadwork, resolution of project punch-list items, and additional construction related to the waste water treatment settling and flush ponds.

Sutton Unit 3

2009 activities for the Sutton Unit 3 dry scrubber include continued engineering studies and evaluations, procurement planning, and preliminary construction planning.

**7. A description of the applications for permits required in order to comply with the provisions of G.S. 143-215.107D that are anticipated during the following year.**

General

We appreciate the collaborative efforts the DAQ and DWQ staffs have made to assure our construction and installation schedules remain on track. However, the potential for longer permit processing times continues to be a serious concern for future projects. PEC will work collaboratively with the agency staff to prevent any delays from occurring.



The following permit applications and permit approvals are anticipated for 2009:

Roxboro Plant

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**Air Permit**

Regulatory changes and air permit revisions are expected to be pursued relating to opacity monitoring for scrubbed units.

**Authorization to Construct**

A request for addendum for the Authorization to Construct for repairs to the gypsum settling pond and flush pond for the waste water treatment system was submitted on January 12, 2009 with approval anticipated in the first quarter 2009.

A request for Authorization to Construct for an additional settling pond for the waste water treatment system was submitted on March 11, 2009 with approval anticipated in the third quarter 2009.

**Erosion and Sedimentation Control Plan**

A revision to the Erosion and Sedimentation Control Plan for soil borrow site development and underground piping and valve installation work around the west waste water pond is expected to be submitted in the first quarter 2009 with approval in the second quarter 2009.

A revision to the Erosion and Sedimentation Control Plan for expansion of the gypsum storage area is expected to be submitted in the second quarter 2009 with approval in the third quarter 2009.

Additional plan revisions may be necessary as construction plans are further developed.

Mayo Plant

**Air Permit**

A renewal application for the Title V Air Permit was submitted on November 30, 2007. This application contained an update to include NSPS requirements for the emergency quench water pump. Agency approval is expected in the second quarter of 2009.

A permit application submitted for changes to the air permit on January 15, 2009 included revisions to the limestone silo control device arrangement and installation of a dry sorbent injection system for SO<sub>3</sub> control. Agency approval is expected in the second quarter of 2009.

Regulatory changes and air permit revisions are expected to be pursued relating to

opacity monitoring for scrubbed units.

#### NPDES Permit

A revision to the NPDES permit to include limestone and gypsum truck traffic in support of scrubber operation was requested on February 11, 2009 with approval expected in the second quarter 2009.

#### Authorization to Construct

A request for an addendum to the Authorization to Construct for the waste water treatment system was submitted on September 12, 2008, which revises the design of the HDPE liner and base of the settling pond. Approval of this request was issued on February 23, 2009.

#### Erosion and Sedimentation Control Plan

Plan revisions may be necessary as construction plans are further developed.

#### Sutton Plant

#### Air Permit

An application for construction of a dry scrubber for Unit 3 may be submitted in 2009.

#### **8. The results of equipment testing related to compliance with G.S. 143-215.107D.**

Performance testing of the scrubbers on Roxboro Units 3 and 4 was completed in 2008. The testing confirmed that each scrubber achieved its performance guarantee of 97% SO<sub>2</sub> removal efficiency.

#### **9. The number of tons of oxides of nitrogen (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) emitted during the previous calendar year from the coal-fired generating units that are subject to the emissions limitations set out in G.S. 143-215.107D.**

The affected coal-fired PEC units have achieved a 59% reduction in NO<sub>x</sub> and a 56% reduction in SO<sub>2</sub> since 2002. The total calendar year 2008 emissions from the affected coal-fired Progress Energy Carolinas units are:

NO<sub>x</sub> 24,190 tons  
SO<sub>2</sub> 94,221 tons

**10. The emissions allowances described in G.S. 143-215.107D(i) that are acquired by the investor-owned public utility that result from compliance with the emissions limitations set out in G.S. 143-215.107D.**

During 2008, PEC did not acquire any allowances as a result of compliance with the emission limitations set out in N.C. General Statute 143-215.107D.

**11. Any other information requested by the Commission or the Department of Environment and Natural Resources.**

There have been no additional requests for information from the North Carolina Utilities Commission or the Department of Environment and Natural Resources since the last report.

## **Appendix A**

### **Progress Energy Carolinas, Inc's (PEC) Air Quality Improvement Plan Supplement**

**April 1, 2009**

On June 20, 2002, Governor Easley signed into law SB1078, which caps emissions of nitrogen oxides (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) from utility owned coal-fired power plants located in North Carolina. Under the law, G.S. § 143-215.107D, PEC's annual NO<sub>x</sub> emissions must not exceed 25,000 tons beginning in 2007 and annual SO<sub>2</sub> emissions must not exceed 100,000 tons beginning in 2009 and 50,000 tons beginning in 2013. These caps represent a 56% reduction in NO<sub>x</sub> emissions from 2001 levels and a 74% reduction in SO<sub>2</sub> emissions from 2001 levels for PEC.

PEC owns and operates 18 coal-fired units at seven plants in North Carolina. The locations of these plants are shown on Attachment 1. Under G.S. § 143-215.107D(f), "each investor-owned public utility...may determine how it will achieve the collective emissions limitations imposed by this section."

#### **Nitrogen Oxides Emissions Control Plan**

PEC has been evaluating and installing NO<sub>x</sub> emissions controls on its coal-fired power plants since 1995 in order to comply with Title IV of the Clean Air Act and the NO<sub>x</sub> SIP Call rule adopted by the Environmental Management Commission (EMC). Substantial NO<sub>x</sub> emissions reductions have been achieved (24,383 tons of NO<sub>x</sub> in 2007 compared with 112,000 tons in 1997), and compliance with the Clean Smokestacks Act's 25,000 ton cap was achieved in calendar year 2007. This target was achieved with a mix of combustion controls (which minimize the formation of NO<sub>x</sub>), such as low-NO<sub>x</sub> burners and over-fire air technologies, and post-combustion controls (which reduce NO<sub>x</sub> produced during the combustion of fossil fuel to molecular nitrogen), such as selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR) technologies.

Attachment 2 details PEC's North Carolina coal-fired electric generating units, their summer net generation capability, and installed NO<sub>x</sub> control technologies.

#### **Sulfur Dioxide Emissions Control Plan**

PEC has installed wet flue gas desulfurization systems (FGD or "scrubbers") to remove 97% of the SO<sub>2</sub> from the flue gas at its Asheville and Roxboro boilers and will complete installation of a wet scrubber at its Mayo boiler in April 2009.

Wet scrubbers produce unique waste and byproduct streams. Issues related to wastewater permitting and solid waste disposal are being addressed for each site. PEC is treating the scrubber wastewater stream at the Asheville Plant using an innovative constructed wetlands treatment system to ensure compliance with discharge limits. A bioreactor technology will be used for the Roxboro and Mayo Plants.

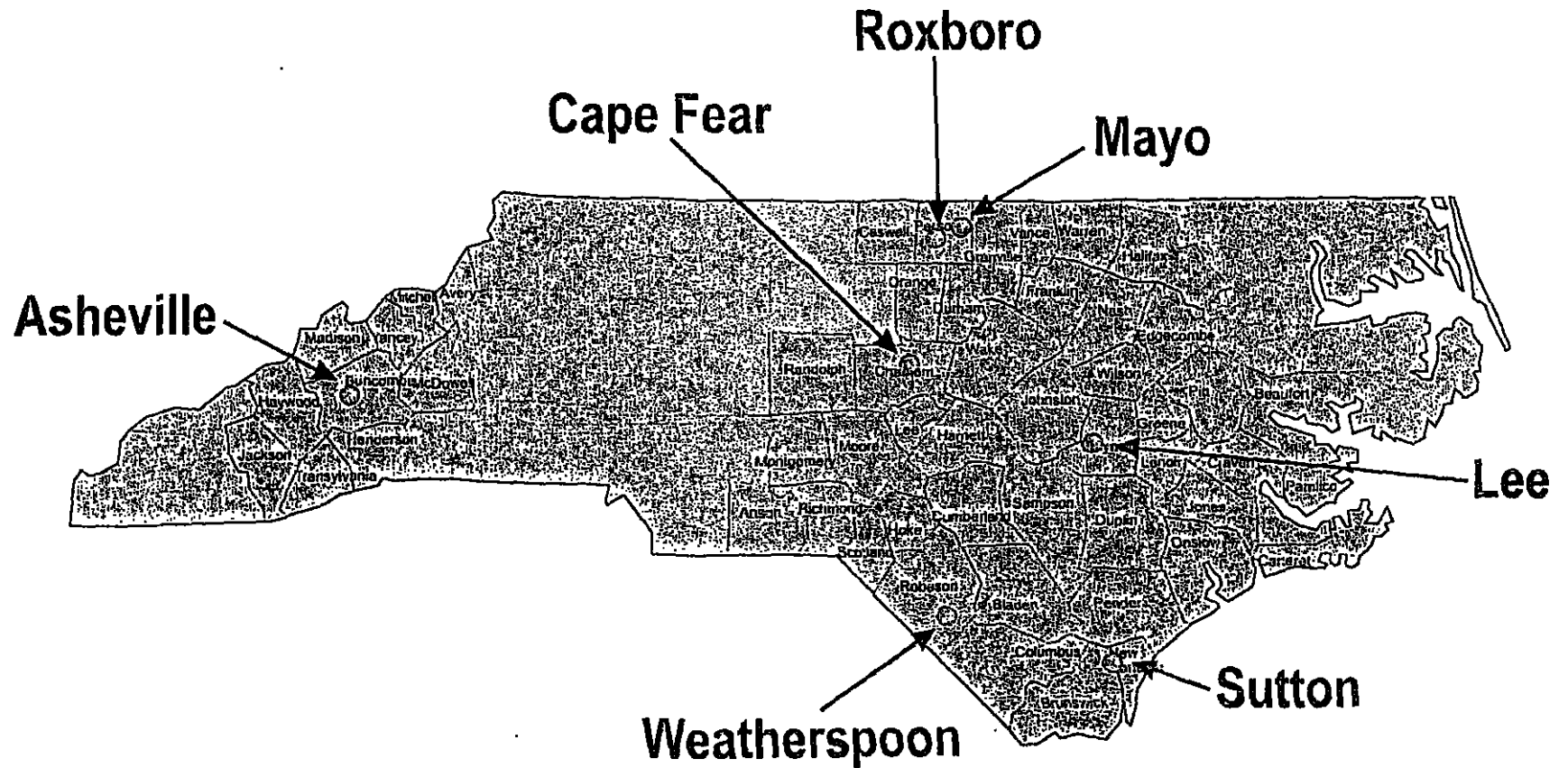
A contract has been executed with a gypsum product end-user that will construct a facility near the Roxboro Plant to use the synthetic gypsum produced by the Roxboro and Mayo Plants for the manufacture of drywall products. PEC also has entered into an agreement that enables PEC to sell synthetic gypsum produced at the Asheville Plant.

In prior reports we have indicated our commitment to continuously evaluate our plans to meet the requirements of the Clean Smokestacks Act with common-sense, cost-effective solutions. Consistent with this commitment, the current plan is based on the use of a dry scrubber at Sutton Unit 3. A dry scrubber represents a more cost-effective compliance solution for a boiler the size of Sutton 3 and also eliminates the need for a costly wastewater treatment system at that location. Given the potential for additional environmental requirements, PEC is evaluating alternative compliance options.

Studies performed in late 2008 and early 2009, which consider current resource plans, current load and energy forecasts, current fuel costs, current capital and operating costs of dry scrubbers, and the performance capabilities of the existing scrubbers on the PEC system, indicate that installing SO<sub>2</sub> controls on Cape Fear Units 5 and 6 is not required for compliance in 2013. Instead, the use of lower sulfur coal at Cape Fear and other un-scrubbed units appears to be a more cost-effective strategy that also has the additional benefit of providing flexibility to address any new federal environmental requirements and to incorporate any new technological options. We will continue to evaluate our compliance options with respect to Cape Fear and our other un-scrubbed units. We believe there is adequate time to install control technology should future evaluations indicate that it is warranted in order to maintain compliance with the Clean Smokestacks limits.

Attachment 3 details PEC's North Carolina coal-fired electric generating units, their summer net generation capability, installed SO<sub>2</sub> control technologies and those planned for installation. As technologies evolve or other circumstances change, a different mix of controls may be selected. Attachment 3 also projects annual SO<sub>2</sub> emissions on a unit-by-unit basis based on the energy demand forecast and expected efficiencies of the SO<sub>2</sub> emissions controls employed. These projections are based on the planned removal technologies and PEC's current fuel and operating forecasts. This information is provided only to show how compliance may be achieved and is not intended in any way to suggest unit-specific emission limits. Actual emissions for each unit may be substantially different.

# Attachment 1: Location of PEC's Coal-Fired Power Plants in North Carolina



## Attachment 2: PEC's 2009 NO<sub>x</sub> Control Plan for North Carolina Coal-fired Units

Unit	MW Rating	Control Technology	Operation Date <sup>1</sup>
Asheville 1	191	LNB/AEFLGR/SCR	2007
Asheville 2	185	LNB/OFA/SCR	
Cape Fear 5	144	ROFA/ROTAMIX	
Cape Fear 6	172	ROFA/ROTAMIX	
Lee 1	74	WIR	
Lee 2	77	LNB	2006
Lee 3	246	LNB/ROTAMIX	2007
Mayo 1	742	LNB/OFA/SCR	
Roxboro 1	369	LNB/OFA/SCR	
Roxboro 2	662	TFS2000/SCR	
Roxboro 3	695	LNB/OFA/SCR	
Roxboro 4	698	LNB/OFA/SCR	
Sutton 1	93	SAS	
Sutton 2	104	LNB	2006
Sutton 3	403	LNB/ROFA/ROTAMIX	
Weatherspoon 1	48		
Weatherspoon 2	49		
Weatherspoon 3	75	WIR	
<b>Total</b>	<b>5,027</b>		

AEFLGR – Amine-Enhanced Flue Lean Gas Reburn  
 LNB = Low NO<sub>x</sub> Burner  
 SNCR = Selective Non-Catalytic Reduction  
 OFA = Overfire Air  
 ROFA = Rotating Opposed-fired Air  
 ROTAMIX = Injection of urea to further reduce NO<sub>x</sub>  
 WIR = Underfire Air  
 TFS2000 = Combination Low-NO<sub>x</sub> Burner/Overfire Air  
 SAS = Separated Air Staging

<sup>1</sup> This is the operation date for the control technology installed to comply with the North Carolina Improve Air Quality/Electric Utilities Act only (shown in bold).

**Attachment 3: PEC's 2008 SO<sub>2</sub> Control Plan for North Carolina Coal-Fired Units**

Unit	MW Rating	Technology	Operation Date	Projected SO <sub>2</sub> Tons, 2009 <sup>1</sup>	Projected SO <sub>2</sub> Tons, 2013
Asheville 1	191	Scrubber	2005	356	316
Asheville 2	185	Scrubber	2006	326	316
Cape Fear 5	144			5,391	6,445
Cape Fear 6	172			6,149	6,102
Lee 1	74			1,684	1,972
Lee 2	77			1,881	1,873
Lee 3	246			7,028	6,285
Mayo 1	742	Scrubber	2009	6,166	2,457
Roxboro 1	369	Scrubber	2008	556	1,134
Roxboro 2	662	Scrubber	2007	999	1,494
Roxboro 3	695	Scrubber	2008	1,076	1,901
Roxboro 4	698	Scrubber	2007	977	1,708
Sutton 1	93			2,317	2,531
Sutton 2	104			2,621	4,994
Sutton 3	403	Scrubber	2012	13,171	2,048
Weatherspoon 1	48			586	1,523
Weatherspoon 2	49			693	1,588
Weatherspoon 3	75			1,588	3,195
<b>Total</b>	<b>5,027</b>			<b>53,566</b>	<b>47,882</b>

<sup>1</sup> Unit by unit emissions are illustrative only and specific emissions limits should not be inferred. Actual emissions in 2009 and 2013 may be different from unit to unit.



**Appendix B**  
**PEC's Actual Costs Through 2008 and Projected Costs Through 2013**  
**PGN Financial View Cost Net of Power Agency Reimbursement (in thousands)**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Asheville 1 FGD	\$ 100	\$ 9,652	\$ 33,574	\$ 35,769	\$ 3,930	-\$ 1,850	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 81,175
Asheville 1 SCR	\$ 0	\$ 0	\$ 688	\$ 1,423	\$ 14,608	\$ 11,942	-\$ 262	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 28,400
Asheville 2 FGD	\$ 100	\$ 7,742	\$ 28,390	\$ 24,238	\$ 11,701	-\$ 1,543	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 70,629
Asheville FGD Common	\$ 467	\$ 0	\$ 0	\$ 0	\$ 0	-\$ 479	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	-\$ 12
Mayo 1 FGD	\$ 187	\$ 0	\$ 276	\$ 644	\$ 22,794	\$ 104,886	\$ 67,703	\$ 34,734	\$ 0	\$ 0	\$ 0	\$ 0	\$ 231,223
Roxboro FGD Common	-\$ 15	\$ 5,560	\$ 10,030	\$ 51,717	\$ 72,934	\$ 36,491	-\$ 1,360	\$ 13,495	\$ 0	\$ 0	\$ 0	\$ 0	\$ 188,852
Roxboro 1 FGD	\$ 434	\$ 0	\$ 0	\$ 3,135	\$ 12,164	\$ 32,841	\$ 24,905	\$ 3,363	\$ 37	\$ 0	\$ 0	\$ 0	\$ 76,878
Roxboro 2 FGD	\$ 120	\$ 3,574	\$ 6,848	\$ 30,782	\$ 46,014	\$ 18,975	-\$ 357	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 105,955
Roxboro 3 FGD	\$ 0	\$ 0	\$ 244	\$ 10,628	\$ 36,661	\$ 49,985	\$ 9,006	\$ 289	\$ 0	\$ 0	\$ 0	\$ 0	\$ 106,813
Roxboro 4 FGD	\$ 0	\$ 0	\$ 0	\$ 9,075	\$ 28,550	\$ 57,610	\$ 1,876	\$ 96	\$ 0	\$ 0	\$ 0	\$ 0	\$ 97,206
Lee 3 Rotamix	\$ 0	\$ 0	\$ 0	\$ 198	\$ 6,424	\$ 600	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 7,222
Sutton 3 FGD	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 922	\$ 7,858	\$ 141,694	\$ 118,466	\$ 46,557	\$ 693	\$ 316,190
Lee 2 LNB	\$ 0	\$ 0	\$ 133	\$ 273	\$ 1,886	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 2,292
Sutton 2 LNB	\$ 0	\$ 0	\$ 0	\$ 236	\$ 1,900	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 2,136
<b>Total without Waste Water</b>	<b>\$ 1,393</b>	<b>\$ 26,527</b>	<b>\$ 80,184</b>	<b>\$ 168,118</b>	<b>\$ 259,566</b>	<b>\$ 309,456</b>	<b>\$ 102,433</b>	<b>\$ 59,834</b>	<b>\$ 141,731</b>	<b>\$ 118,466</b>	<b>\$ 46,557</b>	<b>\$ 693</b>	<b>\$ 1,314,958</b>
Asheville WWT	\$ 0	\$ 0	\$ 0	\$ 12,365	\$ 1,289	-\$ 306	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 13,348
Mayo WWT	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 4,042	\$ 6,604	\$ 11,892	\$ 0	\$ 0	\$ 0	\$ 0	\$ 22,538
Roxboro WWT	\$ 0	\$ 0	\$ 0	\$ 791	\$ 11,965	\$ 16,932	\$ 5,127	\$ 10,481	\$ 6,141	\$ 0	\$ 0	\$ 0	\$ 51,437
<b>Total Waste Water Treatment</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 13,156</b>	<b>\$ 13,253</b>	<b>\$ 20,668</b>	<b>\$ 11,732</b>	<b>\$ 22,373</b>	<b>\$ 6,141</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 87,322</b>
<b>Total NC Smokestacks</b>	<b>\$ 1,393</b>	<b>\$ 26,527</b>	<b>\$ 80,184</b>	<b>\$ 181,274</b>	<b>\$ 272,819</b>	<b>\$ 330,124</b>	<b>\$ 114,164</b>	<b>\$ 82,207</b>	<b>\$ 147,872</b>	<b>\$ 118,466</b>	<b>\$ 46,557</b>	<b>\$ 693</b>	<b>\$ 1,402,280</b>

Total Estimated AFUDC

\$ 6,158 \$ 4,312 \$ 3,478 \$ 17,145 \$ 11,763 \$ 0 \$ 42,857

Notes:

1. Historic year costs are actual, current year costs are projected, and future year costs are escalated
2. Costs reflect the Power Agency contribution

## Appendix C PEC's Clean Smokestacks Act Compliance Plan

Plant Project	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Asheville 1 FGD											
Asheville 1 SCR											
Asheville 2 FGD											
Mayo 1 FGD											
Roxboro 1 FGD											
Roxboro 2 FGD											
Roxboro 3 FGD											
Roxboro 4 FGD											
Lee 3 Rotamix											
Sutton 3 FGD											
Lee 2 LNB											
Sutton 2 LNB											

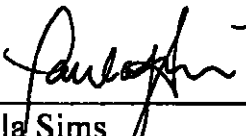
	SO2 Controls Design and Construction
	SO2 Controls In-service
	NOx Controls Design and Construction
	NOx Controls In-service

**VERIFICATION**


STATE OF NORTH CAROLINA        )  
  )  
COUNTY OF WAKE                    )

NOW, BEFORE ME, the undersigned, personally came and appeared, Paula Sims, who first duly sworn by me, did depose and say:

That she is Paula Sims, Senior Vice President-Power Operations of Carolina Power & Light Company, d/b/a Progress Energy Carolinas, Inc.; she has the authority to verify the foregoing Progress Energy Carolinas, Inc. North Carolina Clean Smokestacks Act Calendar Year 2008 Progress Report; that she has read said Report and knows the contents thereof; are true and correct to the best of her knowledge and beliefs.

  
\_\_\_\_\_  
Paula Sims  
Senior Vice President-Power Operations  
Progress Energy Carolinas, Inc.

Subscribed and sworn to me  
this 30<sup>th</sup> day of March, 2009.

  
\_\_\_\_\_  
Notary Public

Commission expires July 5, 2012



**NORTH CAROLINA  
PUBLIC STAFF  
UTILITIES COMMISSION**

May 12, 2009

**FILED**  
MAY 12 2009  
Clerk's Office  
N.C. Utilities Commission

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 718  
Duke Energy Carolinas, LLC – Compliance Plan Annual Update

Dear Ms. Vance:

On March 27, 2009, Duke Energy Carolinas, LLC (Duke or Company), filed its Compliance Plan Annual Update for 2009, describing the Company's activities and plans to achieve the emissions limitations set out in the Clean Smokestacks Act (the Act). As noted in the 2009 Update, pursuant to the December 20, 2007, Order in Docket No. E-7, Sub 829, no additional environmental compliance costs were amortized in 2008. Since Duke's obligation under the Act with respect to accelerated amortization was completed as of December 31, 2007, the Commission by letter dated July 10, 2008, advised the Public Staff that it did not need "to conduct further regularly scheduled investigations or make further regularly scheduled reports to the Commission relating specifically and exclusively to Duke's compliance with the Act." Rather, the Commission stated, "such investigations should be undertaken and . . . such reports should be provided on a case-by-case basis as circumstances and/or events may require."

Based on a review of the 2009 Update, as well as the understanding that Duke's unamortized environmental compliance costs will be subject to review in the general rate case it is expected to file on or about June 2, 2009, the Public Staff believes that no

<b>Executive Director</b> 733-2435	<b>Communications</b> 733-2810	<b>Economic Research</b> 733-2902	<b>Legal</b> 733-6110	<b>Transportation</b> 733-7766
<b>Accounting</b> 733-4279	<b>Consumer Services</b> 733-9277	<b>Electric</b> 733-2267	<b>Natural Gas</b> 733-4326	<b>Water</b> 733-5610

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An Equal Opportunity / Affirmation Action Employer

investigation exclusively relating to the Company's compliance with the Act is required at this time.

Sincerely,

A handwritten signature in black ink that reads "Antoinette R. Wike". The signature is written in a cursive style with a distinct dot over the 'i' in "Wike".

Antoinette R. Wike  
Chief Counsel

cc: Parties of Record



**NORTH CAROLINA  
PUBLIC STAFF  
UTILITIES COMMISSION**

May 12, 2009

**FILED**  
**MAY 12 2009**  
Clerk's Office  
N.C. Utilities Commission

Ms. Renné C. Vance, Chief Clerk  
North Carolina Utilities Commission  
4325 Mail Service Center  
Raleigh, North Carolina 26799-4325

Re: Docket No. E-2, Sub 815  
Progress Energy Carolinas, Inc.

Dear Ms. Vance:

Enclosed herewith for filing in the above-referenced docket are twenty-one (21) copies of the Report of the Public Staff on Costs Incurred and Amortized by Progress Energy Carolinas, Inc. ("PEC"), in Compliance with Session Law 2002-4 ("the Clean Smokestacks Act" or "the Act"). This report presents the results of the Public Staff's review of environmental compliance costs incurred and amortized by PEC pursuant to the Act through the end of calendar year 2008.

Pursuant to the Commission's Order of September 5, 2008, in Docket No. E-2, Sub 900, PEC is not required to amortize any environmental compliance costs above the \$584.1 million amortized as of June 30, 2008. Accordingly, the Public Staff requests the Commission to confirm that its audit and reporting responsibilities with respect to costs incurred and amortized by PEC in compliance with the Clean Smokestacks Act have been fulfilled with the filing of this report.

Sincerely,

A handwritten signature in black ink that reads "Antoinette R. Wike".

Antoinette R. Wike  
Chief Counsel

Enclosure

cc: Len S. Anthony

**Executive Director**  
733-2436

**Communications**  
733-2810

**Economic Research**  
733-2902

**Legal**  
733-6110

**Transportation**  
733-7766

**Accounting**  
733-4279

**Consumer Services**  
733-9277

**Electric**  
733-2267

**Natural Gas**  
733-4326

**Water**  
733-5610

**REPORT OF THE PUBLIC STAFF ON COSTS  
INCURRED AND AMORTIZED BY PROGRESS ENERGY CAROLINAS, INC.  
IN COMPLIANCE WITH SESSION LAW 2002-4**

**Docket No. E-2, Sub 815**

**May 12, 2009**

Section 14 of Session Law 2002-4 ("the Clean Smokestacks Act" or "the Act") requires the Department of Environment and Natural Resources ("DENR") and the Utilities Commission ("Commission") to report, by June 1 of each year, on the implementation of the Act to the Environmental Review Commission and the Joint Legislative Utility Review Committee. The May 30, 2003, report of DENR and the Commission states that the Public Staff will audit the books and records of the investor owned utilities on an ongoing basis in regard to the costs incurred and amortized in compliance with the Act. The Public Staff has undertaken such a review, focusing on the verification of costs related to complying with the Act, the amortization of those costs, and the operating results of emission reduction equipment installed by Progress Energy Carolinas, Inc. ("PEC"). This report presents the Public Staff's findings for the twelve months ended December 31, 2008.

**I. Compliance Plan Summary**

PEC's original plan to install Selective Catalytic Reduction ("SCR") technology to remove NO<sub>x</sub> and flue-gas desulfurization technology ("scrubbers") to remove SO<sub>2</sub> remains practically the same with minor changes being made to the compliance schedule and plan.

The Roxboro and Mayo scrubber construction projects continue with substantial work being done at both facilities. The scrubbers for Roxboro Units 2 and 4 were completed and brought on line in 2007. The scrubbers for Units 1 and 3 became operational in December and May 2008, respectively. The scrubber installed at Mayo became operational in April 2009.

In previous filings PEC indicated that it was considering the installation of Furnace Sorbent Injection on Cape Fear Units 5 and 6. However, PEC stated in its most recent filing that studies performed in late 2008 and early 2009, which consider the most recent resource plans, current forecasts, and current economic factors, indicate that installing SO<sub>2</sub> controls on Cape Fear Units 5 and 6 is no longer necessary for compliance. PEC stated that, instead, the use of lower sulfur coal at Cape Fear and other unscrubbed units appears to be the most flexible and cost-effective option.

II. Environmental Compliance Costs

PEC is required by the Act to submit a report to the Commission and to DENR on or before April 1 of each year containing the actual environmental compliance costs incurred during the previous calendar year. As defined by G.S. 62-133.6(a)2, "environmental compliance costs" include only capital costs.

In its calendar year 2008 Progress Report ("2008 Report"), PEC reported that its actual environmental compliance costs in calendar year 2008 were \$114,164,133. The cumulative environmental compliance costs incurred by PEC through 2008 are \$1,004,700,011, as follows:

Year 2002	\$ 1,391,731 <sup>1</sup>
Year 2003	26,604,199
Year 2004	78,321,742
Year 2005	181,273,566
Year 2006	272,819,398
Year 2007	330,124,942
Year 2008	<u>114,164,433</u>
Total	\$1,004,700,011 <sup>2</sup>

PEC's expenditures to date involve emission reduction technologies at its Asheville, Mayo, Roxboro, Sutton, and Lee facilities. Environmental compliance costs were incurred for project studies and investigations, engineering, contracting, construction, and equipment acquisition.

As part of its review, the Public Staff requested information from PEC on the project costs, invoices documenting costs, and the purpose of the costs. PEC provided project cost sheets delineating actual project costs by year into the following categories: (1) company labor costs; (2) materials costs; (3) outside services costs; (4) burdens; and (5) other costs. These costs are as follows:

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<sup>1</sup> Per Appendix B, costs for 2002, 2003, and 2004 are slightly different from the costs reported for those years in previous reports. For 2004, a majority of the difference relates to a Company adjustment to include Asheville wastewater treatment ("WWT") costs in the FGD line items for Asheville. In 2005, PEC began reporting WWT project costs separately.

<sup>2</sup> PEC's estimated and reported environmental compliance costs exclude certain costs attributable to the portions of its Mayo and Roxboro facilities that are owned by the NC Eastern Municipal Power Agency ("NCEMPA"). According to PEC's FERC Form No. 1 for 2005, PEC entered into an agreement with NCEMPA in 2005 to limit its aggregate cost associated with PEC's environmental compliance costs to approximately \$38,000,000. In a November 2, 2006, filing with the Commission in this docket, PEC stated that its estimated compliance costs had further increased and that the \$37.9 million cap was \$29.1 million less than NCEMPA's full ownership share of the total Clean Smokestacks costs. The Commission's September 5, 2008, Order in Docket No. E-2, Sub 900, provides that the amount by which NCEMPA's ownership share of the total Clean Smokestacks costs exceed the \$37.9 million cap will be treated in the same manner as PEC's Clean Smokestacks costs in excess of \$584.1 million, as ultimately determined by the Commission.



Company Labor	\$ 3,605,223
Material	50,540,410
Outside Services	51,962,478
Labor Loads/Overheads	3,006,704
Other	<u>5,049,618</u>
Total	\$114,164,433 <sup>3</sup>

The project cost sheet was supported by detailed spreadsheets for a particular category. The Public Staff selected invoices from the detailed spreadsheets and requested PEC to provide specific information on the selected costs. The Public Staff has had discussions with PEC personnel regarding the cost items charged to projects. PEC has provided documentation to support the selected costs.

PEC has estimated its environmental compliance costs at \$1,402,280,000, as set forth on Appendix B in its 2008 Report. This represents an increase of \$589,280,000 or approximately 72% over PEC's original estimate of \$813,000,000, as set forth in G.S. 62-133.6(b).

According to PEC personnel, several factors continue to contribute to the increase in the estimate, including significant increases in the price of skilled labor and materials, increases in equipment costs due to the limited number of suppliers available, and adjustments of future costs based on actual costs of projects already completed or substantially completed.

PEC has previously cited its decision to change the scrubber technology on its units from a dry scrubber to a wet scrubber. This decision has further increased the costs because of the need for wastewater treatment.

The Public Staff understands that unit specific criteria, system-wide emission targets, technology performance, and costs are all factors involved in the decision-making process. The Public Staff will continue to monitor this development.

### III. Amortization of Costs

In Section 9 of the Act [G.S. 62-133.6(b)], the investor owned utilities are allowed to accelerate the cost recovery of their estimated environmental compliance costs over a seven-year period, beginning January 1, 2003, and ending December 31, 2009. The statute requires that a minimum of 70% of the environmental compliance costs be amortized by December 31, 2007, the end of the rate freeze period. In PEC's case, this amount is \$569,100,000. The annual levelized amount is \$116,142,857. The maximum amount that can be amortized in any given year is 150% of the annual levelized environmental compliance costs or \$174,214,285.

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<sup>3</sup> AFUDC related to PEC's 2008 environmental compliance costs is \$6,158,495.

Using the protocols established by the Act and subsequent Commission orders, PEC reported that its environmental compliance costs amortization for 2008 is \$15,000,000. The Public Staff has reviewed PEC's quarterly amortization filings, as well as the journal entries recorded, and concluded that the reported amounts appear to be accurate. The cumulative amortization to date is \$584,100,000.

IV. Contracts

No contracts were reviewed for this audit period.

V. Site Inspections

No site inspections were conducted.

VI. Commission Proceedings

Subsection (d) of G.S. 62.133.6 requires the Commission to hold a hearing to review the environmental compliance costs set out in subsection (b) and to determine the annual cost recovery the utility should be required to amortize during calendar years 2008 and 2009. This subsection further requires the Commission to consult with the Secretary of DENR as to whether the utility's actual and proposed modifications and permitting and construction schedule are adequate to achieve the emissions limitations set out in the Act.

Subsection (f) of G.S. 62-133.6 provides that in any general rate case initiated to adjust rates effective on and after January 1, 2008, the utility shall be allowed to recover its actual environmental compliance costs in accordance with provisions of Chapter 62 concerning rate of public utilities.

In an Order issued December 20, 2007, in Docket No. E-2, Sub 900, the Commission found that PEC's actual and proposed modifications and permitting and construction schedules are adequate to achieve the emissions limitations set out in the Act and that the most current and accurate estimate of PEC's environmental compliance costs is the \$1.355 billion estimate contained in PEC's Calendar Year 2006 Report. The Commission required PEC to amortize \$569.1 million of environmental compliance costs by December 1, 2007, and an additional \$243.9 million of such costs during calendar years 2008 and 2009, with the discretion to amortize up to \$174 million in either year. The Order stated that the appropriate ratemaking treatment of PEC's environmental compliance costs could not be fairly determined at that time and that the Commission would initiate a review of the matter in 2009 to consider all reasonable alternatives and proposals related to PEC's recovery of those costs.

**REVISED**

On July 10, 2008, PEC filed a petition in Docket No. E-2, Sub 900, requesting the Commission to terminate the Company's obligation to amortize any environmental compliance costs above \$569.1 million and to allow the Company to place in rate base all capital costs associated with the Act in excess of \$569.1 million, properly allocated among PEC's retail and wholesale jurisdictions. By Order issued September 5, 2008, the Commission modified its December 20, 2007, Order to require PEC to amortize a total of \$584.1 million of environmental compliance costs (\$569.1 million plus \$15 million already amortized for the six months ended June 30, 2008) by June 30, 2008. The Commission also allowed the Company to include in rate base all reasonable and prudently incurred environmental compliance costs as projects are closed to plant in service, with those costs being allocated among all jurisdictions and customer classes.