State of North Carolina
Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4325

August 24, 2009

MEMORANDUM

TO: Environmental Review Commission
Joint Legislative Utility Review Committee

E-2 SUB 815
E-2, Sub 960

FROM: Edward S. Finley, Jr., Chairman ESF. Jr.
North Carolina Utilities Commission

SUBJECT: 2009 Clean Smokestacks Act Report Addendum

On June 1, 2009, the North Carolina Department of Environment and Natural Resources (DENR) and the Utilities Commission (Commission) submitted our 2009 Clean Smokestack Act (Act) joint report to the Environmental Review Commission and the Joint Legislative Utility Review Committee, as required by the Act. Such report, among other things, presented the status of Progress Energy Carolinas Inc.'s (Progress Energy's or the Company's) compliance with the Act, in all material respects, as of the issuance date of the report, i.e., June 1, 2009.

Subsequent to submission of the June 1st joint report, Progress Energy, on August 18, 2009, filed an application with the Commission captioned *Progress Energy Carolinas, Inc.'s Application for a Certificate of Public Convenience and Necessity to Construct a 950 Megawatt Combined Cycle Natural Gas Fueled Electric Generation Facility in Wayne County Near the City of Goldsboro and Motion For Waiver of Commission Rule R8-61*(Application). Such Application is attached. It is submitted on behalf of DENR and the Commission as an addendum to our 2009 Clean Smokestacks Act joint report.

Progress Energy's Application is being provided to you, at this time, to keep you up-to-date and fully informed in regard to matters of major importance concerning implementation of the Act. As clearly explained in the Application, the Company's plans as contained therein, if ultimately approved by DENR and the Commission, would have a significant impact on Progress Energy's Clean Smokestacks compliance strategy as previously defined and set forth in Company filings with DENR and the Commission

(22) Full Commiss.

and, consequently, on information and data contained in DENR and Commission reports previously submitted to the Environmental Review Commission and the Joint Legislative Utility Review Committee.

Please let us know if you should have questions or require additional information.

Thank you for your consideration.

ESFjr/drh

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

Progress Energy

August 18, 2009

FILED
AUG 18 2009
N.C. Clerk's Office
Utilities Commission

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

RE: Docket No. E-2, Sub 960

Enclosed for filing with the Commission are the original and 30 copies of Progress Energy Carolinas, Inc.'s Application for a Certificate of Public Convenience and Necessity to Construct a 950 Megawatt Combined Cycle Natural Gas Fueled Electric Generation Facility in Wayne County near the City of Goldsboro and Motion for Waiver of Commission Rule R8-61. Attachment 4 to this filing contains confidential information regarding the construction and operating costs of the proposed facility. The original and ten copies of the unredacted version of Attachment 4 are attached in a sealed envelope marked "Confidential." PEC requests that the unredacted version be treated confidentially pursuant to N.C. Gen. Stat. § 132-1.2. Public disclosure of this information would harm PEC's ability to negotiate favorable contracts for equipment and services, as well as purchased power contracts, because potential vendors would know the amounts PEC is willing to pay for such products and services.

Also enclosed is a check in the amount of $250.00.

Yours very truly,

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

LSA:mhm

STAREG569

Progress Energy Service Company, LLC
PO Box 1551
Raleigh, NC 27602

BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
RALEIGH

FILED
AUG 18 2009
Clerk's Office
N.C. Utilities Commission

DOCKET NO. E-2, SUB 960

In the Matter of Application of Progress Energy Carolinas, Inc. for a Certificate of Public Convenience and Necessity to Construct a 950 Megawatt Combined Cycle Natural Gas Fueled Electric Generation Facility in Wayne County near the City of Goldsboro and Motion For Waiver of Commission Rule R8-61	))))))))))))	**APPLICATION OF PROGRESS ENERGY CAROLINAS, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A 950 MEGAWATT COMBINED CYCLE NATURAL GAS FUELED ELECTRIC GENERATION FACILITY IN WAYNE COUNTY NEAR THE CITY OF GOLDSBORO AND MOTION FOR WAIVER OF COMMISSION RULE R8-61**

Pursuant to N.C. Gen. Stat. § 62-110.1(h) and § 62-300, and North Carolina Utilities Commission ("the Commission") Rules R1-3, R1-5, and R1-7, Carolina Power & Light Company, d/b/a Progress Energy Carolinas, Inc. ("PEC") applies to the Commission for a Certificate of Public Convenience and Necessity to construct a 950 megawatt ("MW") combined cycle natural gas fueled electric generation facility at its existing generation site in Wayne County near the City of Goldsboro and moves the Commission to waive the requirements of Commission Rule R8-61.[1] In support thereof, PEC shows the following:

1. PEC is an electric public utility organized, existing and operating under the laws of North Carolina for the purposes of generating, transmitting and

[1] The proposed natural gas fueled facility will operate primarily on natural gas but will be capable of burning no. 2 fuel oil.

distributing electricity in its service territories in North and South Carolina. Its principal offices are located at 410 S. Wilmington Street, Post Office Box 1551, Raleigh, NC 27602.

2. The attorneys to whom all communications and pleadings should be addressed are:

Len S. Anthony
General Counsel
P. O. Box 1551, PEB 17A4
Raleigh, NC 27602

Dwight W. Allen
The Allen Law Offices, PLLC
3737 Glenwood Avenue, Suite 100
Raleigh, North Carolina 27612

3. PEC incorporates by reference its September 2, 2008 Annual Resource Plan, filed with the Commission in Docket No. E-100, Sub 118.

4. N.C. Gen. Stat. § 62-110.1(h) provides that an electric public utility may apply for an expedited certificate of public convenience and necessity if: the utility is subject to N.C. Gen. Stat. § 143-215.107D(e); the application involves a request to construct a generating unit that uses natural gas as its primary fuel at a specific coal-fired generating site that the utility owns or operates on July 1, 2009; the coal fired-units at the site are not operated with flue gas desulfurization devices; the utility will permanently cease operations of all of the coal-fired generating units at the site on or before the completion of the generating unit that is the subject of the certificate application; and the installation of the generating unit

that uses natural gas as the primary fuel allows the utility to meet the requirements of N.C. Gen. Stat. § 143-215.107D(e). N.C. Gen. Stat. § 62-110.1(h) further provides that subsection (e) of N.C. Gen. Stat. § 62-110.1 and § 62-82 do not apply to a certificate filed pursuant to N.C. Gen. Stat. § 62-110.1(h).

5. The Clean Smokestacks Act ("CSA"), in particular, N.C. Gen. Stat. § 143-215.107D(e), provides that beginning in calendar year 2013, PEC must reduce its annual emissions of sulfur dioxide ("SO_2") from its North Carolina coal-fueled generating units from 100,000 tons to 50,000 tons. As reflected in PEC's annual reports to the Commission and the Department of Environment and Natural Resources ("DENR") filed pursuant to N.C. Gen. Stat. § 62-133.6(i), PEC had tentatively determined that scrubbing approximately 400 MWs of its existing uncontrolled coal fueled generation (in particular unit 3 at its Sutton coal fueled plant, a 403 MW unit, located near Wilmington), was the most appropriate means of meeting this requirement.

6. PEC continuously evaluates the most robust and cost effective means of complying with all environmental requirements, including the CSA. PEC also considers the cost of complying with potential new or revised environmental laws or regulations. Such potential new or revised environmental requirements include but are not limited to a "point source" Environmental Protection Agency ("EPA") Clean Air Interstate Rule ("CAIR"), a North Carolina mercury rule, and federal greenhouse gas emissions legislation.

7. Through this process PEC evaluated ceasing operations of the three coal units (397 MWs) at its Lee Plant located on the Neuse River in Wayne County near the City of Goldsboro and replacing them with a natural gas fueled combined cycle unit as means to meet the 2013 CSA requirements and position PEC to comply with any new or revised environmental requirements. None of the Lee coal units have any form of flue gas desulfurization device. Attachment 1 to this Application (PEC's revised 2008 CSA Annual Report) demonstrates that replacing these coal units with a natural gas facility will allow PEC to achieve compliance with the CSA in 2013. As shown in Attachment 2, consistent with the findings of the North Carolina General Assembly in Senate Bill 1004 that replacing coal fueled generation with natural gas fueled generation reduces emissions of SO_2, mercury ("Hg"), oxides of nitrogen ("NOx") and carbon dioxide ("CO_2") more than installation of SO_2 controls, replacing the Lee coal fueled generation units with natural gas generation is more cost effective than installing additional air emissions controls to achieve compliance with the potential new environmental regulations described above.

8. PEC considered ceasing operations of Unit 3 at its Sutton Plant and replacing it with a natural gas fueled plant, rather than ceasing operations of the three Lee Plant coal units. However, ceasing operations of the Lee Plant coal units is the more prudent course of action because the natural gas delivery infrastructure necessary to support a natural gas fueled facility at the Lee Plant site can be

constructed and in service by January 1, 2013. This may not be the case for the Sutton Plant site.

9. Natural gas fueled generation may consist of one or more combustion turbines ("CTs") standing alone or combined with one or more heat recovery steam generators and steam turbines. When combined with a heat recovery steam generator and a steam turbine the facility is known as a combined cycle facility ("CC"). The heat recovery steam generator captures the waste exhaust heat from the combustion of natural gas in the CT to produce steam, which is then flowed through the steam turbine to produce additional electricity. Since CCs use energy (exhaust heat) that would otherwise be wasted, they are more efficient than CTs and are more cost effective for intermediate load operation.

10. Standing alone, a CT is referred to as operating in simple cycle mode. PEC could replace the 397 MWs of coal fueled generating capacity at the Lee Plant with two simple cycle CTs (each with a generating capacity of approximately 190 MW). However, this would not be the optimum resource to replace the existing coal plants because the existing coal fueled units are used as an intermediate type load following resource to meet the electricity needs of PEC's customers. Their typical annual capacity factors are in the range of 40%-50%. In contrast, simple cycle CTs are not cost effective compared to CCs at capacity factors above 10%-15%. Therefore, PEC proposes to construct a CC rather than two CTs.

11. The existing site can support either a 3x1 CC or a 2x1 CC. A 2x1 CC consists of two CTs connected to two heat recovery steam generators and a steam turbine. Its total generating capacity would be approximately 650 MWs. A 3x1 CC consists of three CTs connected to three heat recovery steam generators and a steam turbine. Its total generating capacity would be approximately 950 MW. A 2x1 CC will produce electricity at a levelized busbar cost of $161/MWH at a 40% capacity factor. A 3x1 CC will produce electricity at a levelized busbar cost of $147/MWH at a 40% capacity factor. Levelized busbar cost reflects the cost of producing electricity up to the point of the power plant busbar including the unit capital cost, fixed and variable costs, fuel costs, and cost of capital levelized over the life of the generating facility. As demonstrated by Attachment 3, a 3x1 CC has a lower busbar cost per kwh than a 2x1 and, as further explained below, given the site's characteristics, is the best natural gas fueled resource to replace the existing coal fueled units.

12. The construction of a 3x1 CC will optimize the existing plant's main condenser cooling water supply and transmission infrastructure. A 3x1 CC will also not significantly change the main condenser cooling water supply flow rate or thermal loading at the site. Transmission analyses indicate that both a 2x1 CC and a 3x1 CC will require approximately the same transmission upgrades, yet the 3x1 CC will result in an approximately 300 MW incremental increase in unit capacity without any significant additional transmission investment.

13. Construction of a 950 MW natural gas fueled CC to replace the 397 MW Lee Plant coal units will result in approximately 550 MW of incremental capacity. This incremental capacity may be used for a number of purposes including the replacement and closure of some of the remaining older coal units owned by PEC in North Carolina that do not have any SO_2 controls. This incremental capacity could also be used to meet load growth and displace or defer other planned additions in PEC's resource plan. Another option would be to operate the gas fired CC generation to displace coal fired generation depending upon the relative costs of natural gas and coal, but without closing the coal fueled units. If PEC does not use the incremental capacity to close additional uncontrolled coal units, PEC's capacity margin in 2013 is estimated to be 16% and then decline thereafter. PEC's target capacity margin is 11-13%. While in this situation PEC's capacity margin may temporarily exceed PEC's target, PEC's customers will not experience any base rate impact unless and until the Commission rules upon the justness and reasonableness of the facility's costs.

14. PEC therefore applies to the Commission for a certificate of public convenience and necessity pursuant to N.C. Gen. Stat. § 62-110.1(h) to construct a 3x1 CC that uses natural gas as its primary fuel near the Lee Plant in Wayne County. If allowed to construct this natural gas fueled facility, upon its completion, PEC will permanently cease operations of the three coal fueled generating units totaling 397 MWs at its Lee Plant. As mentioned above, none of

these existing coal units have any form of flue gas desulfurization device. The replacement of these three coal fueled units totaling 397 MWs with the proposed natural gas fueled facility will allow PEC to meet its requirements under N.C. Gen. Stat. § 143-215.107D(e).

15. In addition to reducing PEC's emissions of SO_2, NOx, and Hg, ceasing operations of the three Lee coal units and replacing them with a 3x1 CC will reduce PEC's annual emission of CO_2 by approximately 1.1 million tons.

16. As required by N.C. Gen. Stat. § 62-110.1(h), included with this Application as Attachments 1 and 4 respectively are: a revised verified Calendar Year 2008 Clean Smokestacks Report, revised to reflect the replacement of the three coal units at the Lee Plant site with a natural gas fueled facility and the elimination of a scrubber on Sutton Unit 3 in 2012; and an estimate of the construction costs of the proposed natural gas fueled facility, including the anticipated construction, testing and commercial operation schedule.

17. The primary environmental permit required before construction can begin on this project is the air permit. Because the project involves the retirement of the existing coal units, the air emissions from the proposed CC facility with the appropriate emission controls (e.g., oxidation catalyst) are expected to be substantially reduced. Therefore, the new permit application is expected to qualify as a "minor" permit proceeding. As a minor permit proceeding, the final air permit would be expected to be issued by the NC Division of Air Quality in 6 to 12

months following application submittal. Other environmental permitting will be required for modification of the facility's National Pollutant Discharge Elimination System (NPDES) permit. Conditions of the revised NPDES permit may address closure requirements for the Lee Plant's ash pond. A county development permit and a state Erosion & Sedimentation Control Plan will need to be approved for site development. If wetlands are impacted, a U.S. Army Corps of Engineers Dredge & Fill permit will be required. FAA notification of the height and location of the new emission stacks will be required. The facility's Spill Prevention, Control and Countermeasure Plan ("SPCC") and Emergency Response Plan will need to be revised.

18. All transmission line enhancements above 115 kV will occur and are primarily related to the substation bus and generation interconnection.

19. Ostensibly, Commission Rule R8-61 applies to this Application for a certificate of public convenience and necessity. However, compliance with this Rule, in particular the requirement to pre-file certain information 120 days prior to the filing of the actual application, would defeat the purpose of N.C. Gen. Stat. § 62-110.1(h). Therefore, PEC moves the Commission to waive Rule R8-61. PEC has consulted with the Public Staff on this matter and they have authorized PEC to represent to the Commission that they do not object to PEC's request for waiver and agree that the information included with this Application provides all information necessary for a proper evaluation of PEC's Application.

WHEREFORE, PEC applies to the Commission for a Certificate of Public Convenience and Necessity to construct a 950 megawatt combined cycle natural gas fueled electric generation facility near its existing Lee Plant in Wayne County near the City of Goldsboro and moves the Commission to waive the requirements of Commission Rule R8-61.

Respectfully submitted this 18th day of August, 2009.

PROGRESS ENERGY CAROLINAS, INC.

Len S. Anthony, General Counsel
P. O. Box 1551, PEB 17A4
Raleigh, NC 27602
Telephone: (919) 546-6367

Attachment 1

Progress Energy

August 17, 2009

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

Dear Secretary Freeman:

In accordance with amended G.S. 62-110.1, Progress Energy Carolinas, Inc. (PEC, Company) submits the attached revised report regarding the current status of and future plans for compliance with the provisions of the North Carolina Clean Smokestacks Act.

As I have noted before, we regularly review and refine our compliance strategy, weighing a number of factors such as system load projections, new natural gas supply, natural gas-fired generation options, coal unit retirements, updated load and energy forecasts, updated fuel costs, updated capital and operating costs, and federal and state environmental legislative and regulatory developments. As a result of recent resource planning studies taking all of these drivers into account, PEC has determined that retirement of a coal-fired plant and replacement of that plant with combined-cycle natural gas-fired units represents a cost- effective resource plan for our system. Accomplishing this retirement and replacement by 2013 eliminates the need for a sulfur dioxide scrubber on Sutton Unit 3 in order to comply with the 2013 Clean Smokestacks Act limits. This revised strategy is described in the attached updated Clean Smokestacks report.

I want to thank you and your staff for your assistance and support of SB 1004, which will help facilitate our plans for natural-gas fired generation. We look forward to continuing our positive working relationship with the Department to facilitate fulfillment of the Company's obligations with this important law.

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

Sincerely,

Caroline Choi

Caroline Choi
Director, Energy Policy and Strategy

c: North Carolina Utilities Commission
Keith Overcash, DAQ

Progress Energy Service Company, LLC
P.O. Box 1551
Raleigh, NC 27602

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 - Revision; that she has read said revised Report and knows the contents thereof; are true and correct to the best of her knowledge and beliefs.

Paula Sims

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

Subscribed and sworn to me
this 17 day of August, 2009.

Carol P Penny

Notary Public

246373

Revised 2008 CSA Report

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

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 (NOx) and sulfur dioxide (SO_2) 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 (NOx) and sulfur dioxide (SO_2) 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.

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 July 31, 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 occurred 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.

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 PEC, excluding the portion for which the Power Agency is responsible. The estimated total capital costs, including escalation, are currently projected to be $1.068 billion. This represents a decrease of $334 million from the April 2009 cost estimate of $1.402 billion.

We regularly review and refine our compliance strategy, weighing a number of factors such as system load projections, new natural gas supply, natural gas-fired generation options, coal unit retirements, updated load and energy forecasts, updated fuel costs, updated capital and operating costs, and federal and state environmental legislative and regulatory developments. As a result of recent resource planning studies taking all of these drivers into account, PEC has determined that retirement of a coal-fired plant and replacement of that plant with a combined-cycle natural gas-fired unit represents a cost-effective resource plan for our system. Accomplishing this retirement and replacement by 2013 eliminates the need for a sulfur dioxide scrubber on Sutton Unit 3 in order to comply with the 2013 Clean Smokestacks Act limits.

With this plan, additional controls are not needed at Sutton 3 to meet the 2013 Clean Smokestacks Act limits, therefore that unit is no longer shown in Appendix B and the compliance costs have been reduced accordingly.

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_2 and NOx 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

The SO_2 scrubber at Mayo has been completed and began operation in early April, 2009. The bioreactor was placed into service in June, 2009. The remaining construction activities at Mayo for 2009 involve resolution of project punch-list items.

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.

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.**

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

Roxboro Plant

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. Agency approval was obtained on May 15, 2009.

A request for Authorization to Construct for an additional settling pond for the waste water treatment system was submitted on March 11, 2009. Agency approval was obtained on June 15, 2009.

Erosion and Sedimentation Control Plan

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 for the quench water pump was obtained on May 27, 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_3 control. Agency approval was obtained on May 27, 2009.

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 third 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.

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_2 removal efficiency.

Testing of the scrubber at Mayo is planned for later this year.

9. The number of tons of oxides of nitrogen (NOx) and sulfur dioxide (SO_2) 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 NOx and a 56% reduction in SO_2 since 2002. The total calendar year 2008 emissions from the affected coal-fired Progress Energy Carolinas units are:

NOx 24,190 tons
SO_2 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

July 31, 2009

On June 20, 2002, Governor Easley signed into law SB1078, which caps emissions of nitrogen oxides (NOx) and sulfur dioxide (SO_2) from utility owned coal-fired power plants located in North Carolina. Under the law, G.S. § 143-215.107D, PEC's annual NOx emissions must not exceed 25,000 tons beginning in 2007 and annual SO_2 emissions must not exceed 100,000 tons beginning in 2009 and 50,000 tons beginning in 2013. These caps represent a 56% reduction in NOx emissions from 2001 levels and a 74% reduction in SO_2 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 NOx emissions controls on its coal-fired power plants since 1995 in order to comply with Title IV of the Clean Air Act and the NOx SIP Call rule adopted by the Environmental Management Commission (EMC). Substantial NOx emissions reductions have been achieved (24,383 tons of NOx 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 NOx), such as low-NOx burners and over-fire air technologies, and post-combustion controls (which reduce NOx 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 NOx control technologies.

Sulfur Dioxide Emissions Control Plan

PEC has installed wet flue gas desulfurization systems (FGD or "scrubbers") to remove 97% of the SO_2 from the flue gas at its Asheville, Mayo and Roxboro boilers.

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.

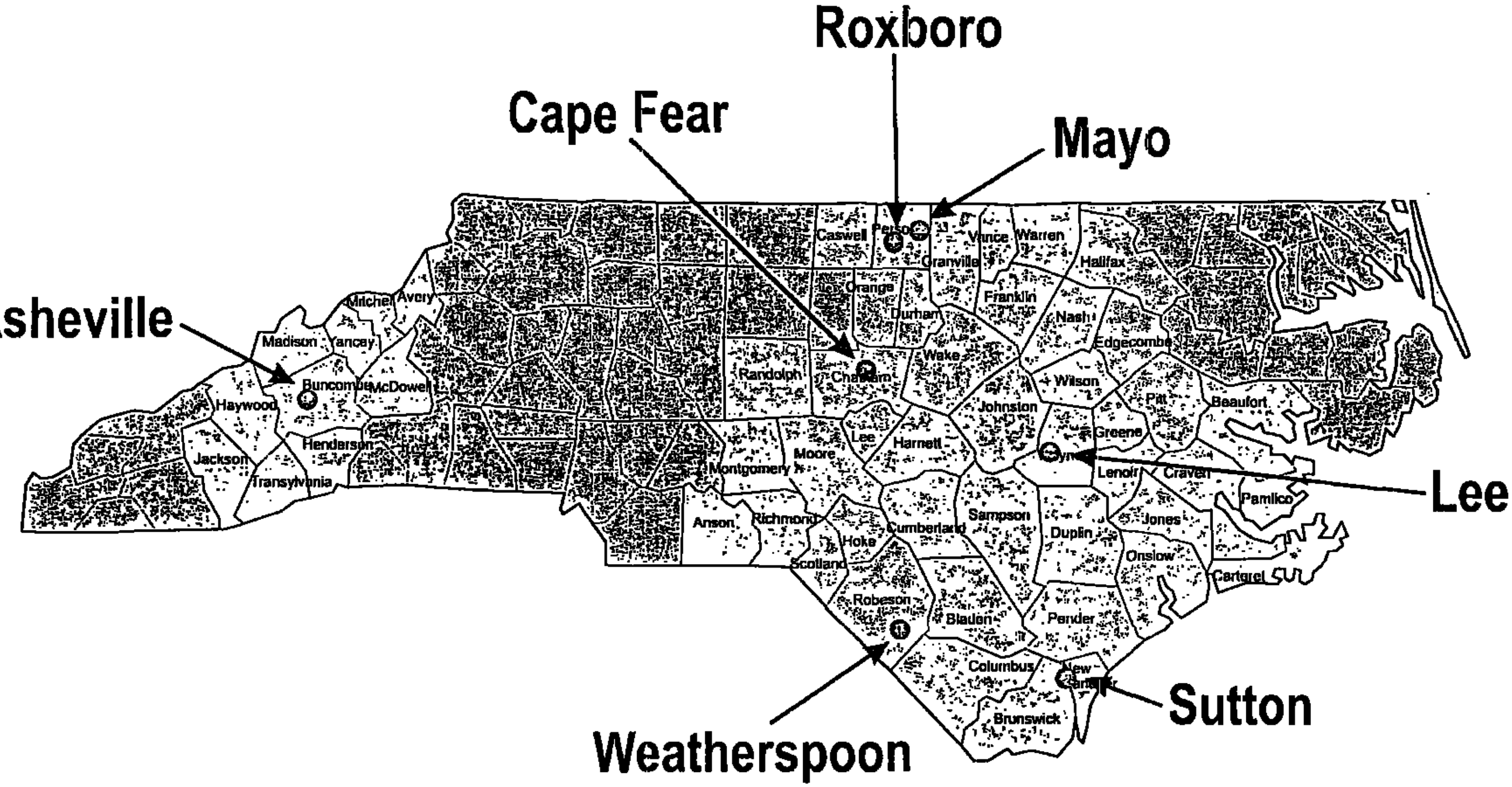
A contract has been executed with a gypsum product end-user that will construct a facility near the Roxboro Plant to use the synthetic gypsum produced by the Roxboro and Mayo Plants for the manufacture of drywall products. PEC also has entered into an agreement that enables PEC to sell synthetic gypsum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

We regularly review and refine our compliance strategy, weighing a number of factors such as system load projections, new natural gas supply, natural gas-fired generation options, coal unit retirements, updated load and energy forecasts, updated fuel costs, updated capital and operating costs, and federal and state environmental legislative and regulatory developments. As a result of recent resource planning studies taking all of these drivers into account, PEC has determined that retirement of a coal-fired plant and replacement of that plant with a combined-cycle natural gas-fired unit represents a cost-effective resource plan for our system. Accomplishing this retirement and replacement by 2013 eliminates the need for a sulfur dioxide scrubber on Sutton Unit 3 in order to comply with the 2013 Clean Smokestacks Act limits.

With this plan, additional controls are not needed at Sutton 3 to meet the 2013 Clean Smokestacks Act limits, therefore that unit is no longer shown in Appendix B and the compliance costs have been reduced accordingly.

Attachment 3 details PEC's North Carolina coal-fired electric generating units, their summer net generation capability, installed SO_2 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_2 emissions on a unit-by-unit basis based on the energy demand forecast and expected efficiencies of the SO_2 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 NOx Control Plan for North Carolina Coal-fired Units

Unit	MW Rating	Control Technology	Operation Date[1]
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	
Total	5,027		

AEFLGR – Amine-Enhanced Flue Lean Gas Reburn
LNB = Low NOx Burner
SNCR = Selective Non-Catalytic Reduction
OFA = Overfire Air
ROFA = Rotating Opposed-fired Air
ROTAMIX = Injection of urea to further reduce NOx
WIR = Underfire Air
TFS2000 = Combination Low-NOx Burner/Overfire Air
SAS = Separated Air Staging

[1] 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 2009 SO_2 Control Plan for North Carolina Coal-Fired Units

Unit	MW Rating	Technology	Operation Date	Projected SO_2 Tons, 2009[1]	Projected SO_2 Tons, 2013
Asheville 1	191	Scrubber	2005	1,003	316
Asheville 2	185	Scrubber	2006	770	286
Cape Fear 5	144			4,829	5,910
Cape Fear 6	172			6,705	6,186
Lee 1	74	Retirement	2013	2,086	0
Lee 2	77	Retirement	2013	2,325	0
Lee 3	246	Retirement	2013	8,369	0
Mayo 1	742	Scrubber	2009	5,232	1,969
Roxboro 1	369	Scrubber	2008	1,341	884
Roxboro 2	662	Scrubber	2007	2,687	1,203
Roxboro 3	695	Scrubber	2008	2,716	1,333
Roxboro 4	698	Scrubber	2007	3,120	1,351
Sutton 1	93			2,428	3,417
Sutton 2	104			2,428	3,992
Sutton 3	403			12,251	13,920
Weatherspoon 1	48			851	1,177
Weatherspoon 2	49			851	1,310
Weatherspoon 3	75			1,947	2,441
Total	5,027			61,938	45,695

[1] 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 Actual Costs Through 2008 and Projected Costs Through 2013

PGN Financial View Cost Net of Power Agency Reimbursement (in thousands)

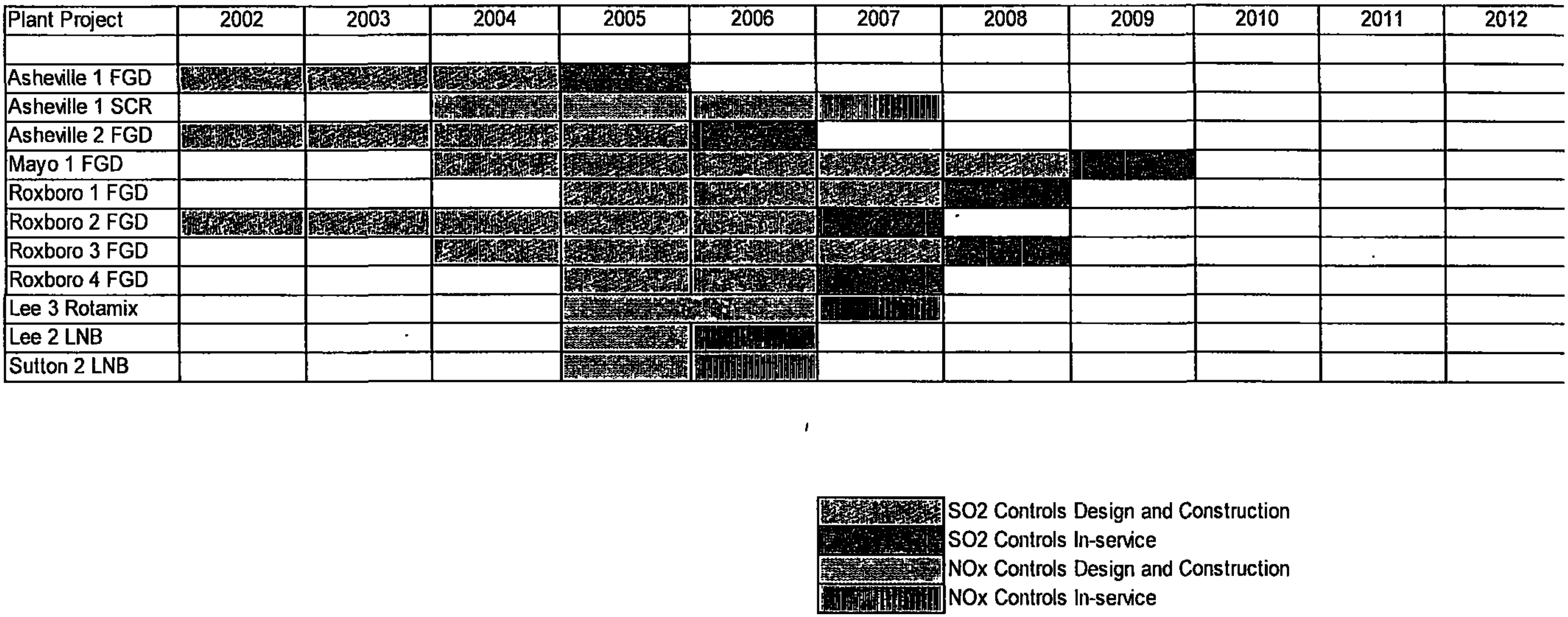
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Asheville 1 FGD	$ 100	$ 9,652	$ 33,574	$ 35,769	$ 3,930	-$ 1,850	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	**$ 81,175**
Asheville 1 SCR	$ 0	$ 0	$ 688	$ 1,423	$ 14,608	$ 11,942	-$ 262	$ 0	$ 0	$ 0	$ 0	$ 0	**$ 28,400**
Asheville 2 FGD	$ 100	$ 7,742	$ 28,390	$ 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	$ 24,684	$ 2,596	$ 0	$ 0	$ 0	**$ 223,769**
Roxboro FGD Common	-$ 15	$ 5,560	$ 10,030	$ 51,717	$ 72,934	$ 36,491	-$ 1,360	$ 2,524	$ 0	$ 4,000	$ 0	$ 0	**$ 181,881**
Roxboro 1 FGD	$ 434	$ 0	$ 0	$ 3,135	$ 12,164	$ 32,841	$ 24,905	$ 1,387	$ 0	$ 0	$ 0	$ 0	**$ 74,866**
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	$ 293	$ 0	$ 0	$ 0	$ 0	**$ 106,817**
Roxboro 4 FGD	$ 0	$ 0	$ 0	$ 9,074	$ 28,550	$ 57,610	$ 1,876	$ 125	$ 0	$ 0	$ 0	$ 0	**$ 97,235**
Lee 3 Rotamix	$ 0	$ 0	$ 0	$ 198	$ 6,424	$ 600	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	**$ 7,222**
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**
Total without Waste Water	**$ 1,393**	**$ 26,527**	**$ 80,184**	**$ 168,118**	**$ 259,566**	**$ 309,456**	**$ 101,510**	**$ 29,014**	**$ 2,596**	**$ 4,000**	**$ 0**	**$ 0**	**$ 982,364**
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	$ 9,814	$ 719	$ 0	$ 0	$ 0	**$ 21,179**
Roxboro WWT	$ 0	$ 0	$ 0	$ 791	$ 11,965	$ 16,932	$ 5,127	$ 8,532	$ 5,317	$ 2,800	$ 0	$ 0	**$ 51,464**
Total Waste Water Treatment	**$ 0**	**$ 0**	**$ 0**	**$ 13,156**	**$ 13,253**	**$ 20,668**	**$ 11,732**	**$ 18,346**	**$ 6,036**	**$ 2,800**	**$ 0**	**$ 0**	**$ 85,991**
Total NC Smokestacks	**$ 1,393**	**$ 26,527**	**$ 80,184**	**$ 181,273**	**$ 272,819**	**$ 330,124**	**$ 113,242**	**$ 47,360**	**$ 8,632**	**$ 6,800**	**$ 0**	**$ 0**	**$ 1,068,355**

	2008	2009	2010	2011	2012	2013	Total
Total Estimated AFUDC	$ 6,148	$ 2,780	$ 118	$ 0	$ 0	$ 0	$ 9,047

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



Attachment 2

The economic analysis of the Wayne County 3x1 CC project compares the cost of building a new 3x1 combined cycle unit to the cost of continuing to operate the Lee 1, 2, and 3 coal units, including the cost of potential environmental modifications that could be required due to proposed emission regulations.

The 3x1 combined cycle unit proposed for Wayne County is approximately 950 MW. The total capacity of the existing coal units at Lee is approximately 400 MW. The approximate 550 MW difference in capacity may result in a change in the resource plan, or as stated in the Application, it may be used to replace other existing uncontrolled coal units or displace coal-fired generation on the PEC system. For simplicity, the additional generation has been assumed to meet future load growth and replace planned unit additions in the resource plan in this analysis.

The 550 MW of additional capacity provided by a 3X1 combined cycle unit in 2013 would delay CTs required to meet load in2015 and 2016 to 2017 and 2018. Since the additional 550 MW capacity in 2013 is combined cycle, this capacity would also essentially replace and eliminate the need for the 2017 combined cycle unit. However, some additional capacity is needed in 2018, so a CT was added to the resource plan. The changes made to the resource plan are summarized in the table below.

	Base Plan	Plan with Wayne County CC
2013		Retire Lee 1-3 coal Wayne County 3x1 CC Duct-Fired
2014		
2015	CT 190 Frame (Oil)	
2016	CT 190 Frame (Oil)	
2017	CC 2x1 Duct-Fired	CT 190 Frame (Oil)
2018		2 CT 190 Frame (Oil)

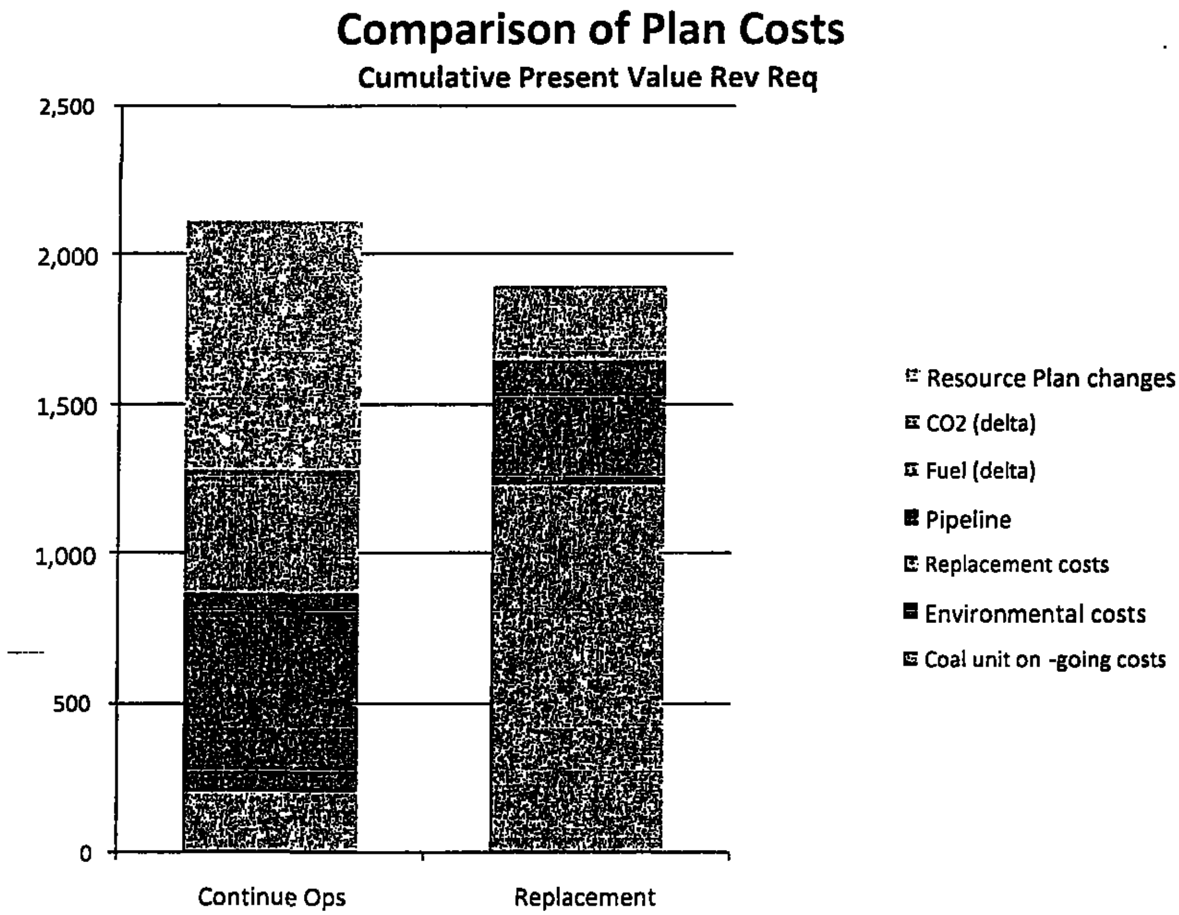
If the Lee coal units are not retired, they could be required to comply with new emission regulations as early as 2015. These new regulations could require SO_2 and NOx controls on all three units. Continued operation of the Lee coal units will also require a new monofill for coal combustion products (CCP) at Lee. Retiring the coal units and replacing them with the 3x1 combined cycle will eliminate the need for these controls, saving over $500 million in environmental compliance-related capital expenditures, as shown in the table below.

Project	In-Service	Total Capital ($M)
Lee 1&2 DFGD	1/1/2014	152.9
Lee 1&2 SNCR	1/1/2015	14.0
Lee 3 DFGD	1/1/2014	212.9
Lee 3 SCR	1/1/2014	116.3
Lee CCP (initial)	6/1/2013	20.3
Total		516.4

Replacement of these coal units with combined cycle capacity will also reduce CO_2 emissions. This will be advantageous if some form of CO_2 regulation, imposed either by federal legislation or regulation by the U.S. Environmental Protection Agency, is enacted.

Retiring the coal units will also avoid on-going capital and O&M expenditures for the units. These costs are estimated to sum to over $80 million (nominal dollars) in capital and $500 million (nominal dollars) in O&M through the study period. Of course, these cost savings are offset by on-going O&M and capital expenditures for the new combined cycle unit.

The economic analysis of the Wayne County 3x1 combined cycle unit was performed in terms of cumulative present value of revenue requirements (CPVRR). The stacked bar chart below shows the cost of replacing the Lee Plant with the 3x1 combined cycle unit is less costly than continuing the operation of Lee coal units assuming future environmental regulations including CO_2. The total savings associated with replacing is more than $213 million (CPVRR, 2009 dollars). The components of cost for each of the alternatives are represented by the different segments of the bars.

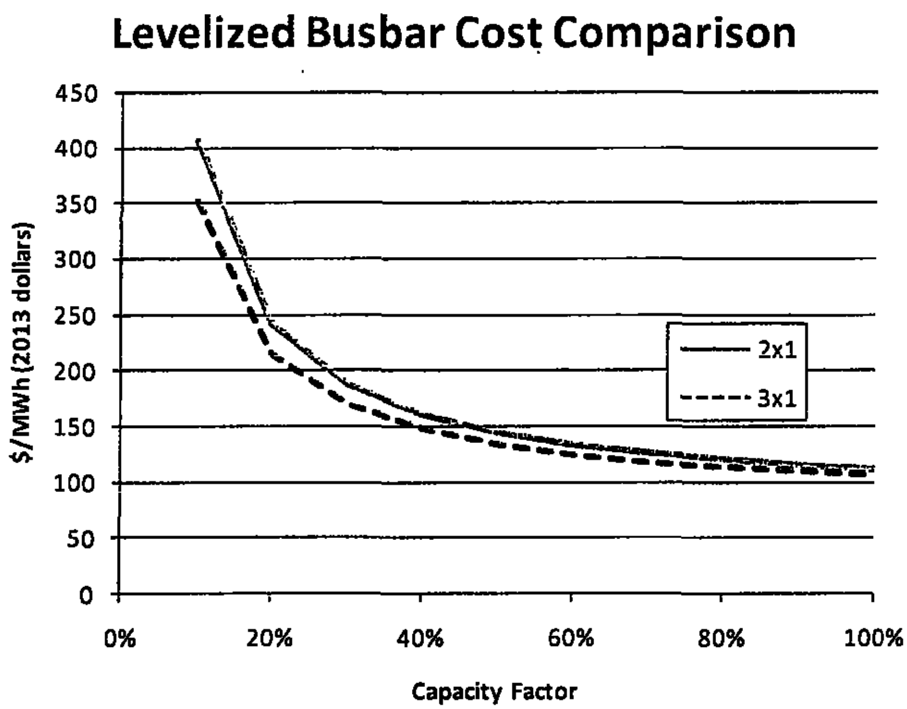


For the Continued Operations case, the cost components are the on-going O&M and capital costs to operate and maintain the Lee coal units (the bottom blue segment); the cost of adding emission controls to the units (including O&M and consumables costs), represented by the red segment; the cost of CO_2 emissions, represented by the orange segment; and, the costs associated with the difference in the resource plans. The CO_2 emission difference considered here is the difference in CO_2 emissions between the case with replacing Lee compared to the case with Lee continuing operations. The changes in the resource plan (as discussed above) are typically viewed as savings associated with the Replacing case; however, to make the bar chart easier to read, they are represented here as costs to the Continued Operations case.

For the Replacing case, the components are the on-going O&M and capital costs of the coal units until they are retired at the end of 2012; the O&M and capital costs of the new 3x1 combined cycle unit, represented by the green segment; the gas pipeline reservation costs, represented by the purple segment; and, the change in total system fuel and purchased power costs from the Continued Operations case, represented by the aqua segment.

Attachment 3

Levelized Cost Comparison of 2x1 CC v. 3x1 CC



Attachment 4
Redacted

(Unredacted provided in sealed envelope)

A. Wayne County CC Project Cost Estimate

Wayne County 3x1 Combined Cycle
Preliminary Cost Estimate (Nominal $$ in Thousands)

<u>GENERATION FACILITIES</u>	
Plant Equipment & Spares	[redacted]
Engineering, Procurement & Construction	[redacted]
Project Management & Owner's costs	[redacted]
Allowance for Funds Used During Construction	[redacted]
TOTAL GENERATION FACILITIES COST	[redacted]
PROPERTY ACQUISITION	[redacted]
<u>TRANSMISSION FACILITIES</u>	
Transmission Facilities	[redacted]
Allowance for Funds Used During Construction	[redacted]
TOTAL TRANSMISSION FACILITIES	[redacted]
TOTAL PROJECT COSTS	[redacted]

B. Wayne County CC Project Schedule

Start of Construction	September 1, 2010
Start of Testing	September 1, 2012
Commercial Operation	January 1, 2013

C. Wayne County CC Estimated Operational Costs

Estimated Operational Costs (Nominal $$ in Millions)						
Accounting Operational Cost	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
LTSA O&M	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Outage BOP & STG O&M	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Base O&M	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total O&M expense	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LTSA Cap	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LTSA Outage Cap	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Capital	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Inventory increase	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
BOP Capital Spares	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Inventory Increase	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

D. Wayne County CC Projected Operating Data

Unfired Full Load Heat Rate (Btu/kWh) [redacted]
Fuel Cost ($/MMBtu) [redacted] (2013$)
Energy Cost ($/MWh) [redacted] (2013$)
Gas Pipeline Reservation (M$/Yr) [redacted] (Fixed)
Capacity Factor (%) [redacted]
Book Life (Years) [redacted]

Assumptions relative to current costs and forecasts vary and are subject to change.