

**Air Permit Review**

**Permit Issue Date:**

**Region:** Wilmington Regional Office  
**County:** New Hanover  
**NC Facility ID:** 6500036  
**Inspector's Name:** Ashby Armistead  
**Date of Last Inspection:** 07/28/2010  
**Compliance Code:** 3 / Compliance - inspection

|   |   |   |   |
|---|---|---|---|
| <b>Facility Data</b>  |   |   | <b>Permit Applicability (this application only)</b>   |
| <p><b>Applicant (Facility's Name):</b> Carolina Power and Light Company d/b/a Progress Energy Caro</p> <p><b>Facility Address:</b><br/>                 Carolina Power and Light Company d/b/a Progress Energy Caro<br/>                 801 Sutton Steam Plant Road<br/>                 Wilmington, NC 28401</p> <p><b>SIC:</b> 4911 / Electric Services<br/> <b>NAICS:</b> 221112 / Fossil Fuel Electric Power Generation</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V<br/> <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p> |   |   | <p><b>SIP:</b> 2D .2400 (CAIR), 2Q .0400 (Acid Rain)<br/> <b>NSPS:</b><br/> <b>NESHAP:</b><br/> <b>PSD:</b><br/> <b>PSD Avoidance:</b><br/> <b>NC Toxics:</b><br/> <b>112(r):</b><br/> <b>Other:</b></p>  |
| <b>Contact Data</b>   |   |   | <b>Application Data</b>   |
| <b>Facility Contact</b>   | <b>Authorized Contact</b>   | <b>Technical Contact</b>  | <p><b>Application Number:</b> 6500036.09A<br/> <b>Date Received:</b> 12/23/2008<br/> <b>Application Type:</b> Modification<br/> <b>Application Schedule:</b> TV-Significant<br/> <b>Existing Permit Data</b><br/> <b>Existing Permit Number:</b> 01318/T23<br/> <b>Existing Permit Issue Date:</b> 04/29/2008<br/> <b>Existing Permit Expiration Date:</b> 07/31/2012</p> |
| Kent Tyndall<br>Environmental Analyst<br>(910) 343-3244<br>801 Sutton Steam Plant Road<br>Wilmington, NC 28401  | J. Frederick<br>Plant Manager<br>(910) 343-3201<br>801 Sutton Steam Plant Road<br>Wilmington, NC 28401+2458 | Stephen Boone<br>Lead Environmental Specialist<br>(919) 546-4798<br>410 S. Wilmington Street<br>Raleigh, NC 27601 |   |
| <p><b>Review Engineer:</b> Ed Martin</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p> <p><b>DRAFT FOR PUBLIC NOTICE</b></p>  |   | <b>Comments / Recommendations:</b>  |   |
|   |   | <p><b>Issue</b> 01318/T24<br/> <b>Permit Issue Date:</b><br/> <b>Permit Expiration Date:</b></p>                  |   |

**I. Purpose of Application**

The purpose of this permit modification is to make the following changes:

1. Application 6500036.09A  
 Incorporate the Clean Air Interstate Rule (CAIR) requirements into the permit. This rule replaces the 2D .1416, .1417, .1418 and 40 CFR 52 Subpart II NO<sub>x</sub> rules previously in the permit.
2. Application 6500036.09B (consolidated with Application 6500036.09A)  
 To renew the Title IV Acid Rain portion of the Title V permit extending the effective dates for the calendar years 2010-2014. Progress Energy submitted an Acid Rain Permit Application, a Phase II NO<sub>x</sub> Compliance Plan, and a revised Phase II NO<sub>x</sub> Averaging Plan all dated May 5, 2009, which will become part of the Title V permit (as attachments).

In addition to the above permit changes, several other miscellaneous administrative-type changes are being made as shown below in Section II. This change is a significant permit modification being made in accordance with 15A NCAC 2Q .0501(d)(1). Public notice of the draft permit is required at this time.

## II. Permit Changes

The following changes were made to the Progress Energy Sutton Electric Plant Air Permit No. 01318T23:

| Page          | Section                               | Description of Changes  |
|---------------|---------------------------------------|---|
| Cover         | --                                    | Amended permit numbers and dates.   |
| Entire permit | --                                    | Removed Part II and all reference to Part II.   |
|               |                                       | Revised citation for testing requirements from 2D .0501 to 2D .2601 due to rule change.   |
| TOC           | --                                    | Added Section 2.4 - Clean Air Interstate Rule (CAIR) Permit Requirements.   |
|               |                                       | Revised dates for Acid Rain Permit Application, Phase II NO <sub>x</sub> Compliance Plan, and Phase II NO <sub>x</sub> Averaging Plan attachments.  |
|               |                                       | Added CAIR Application as an attachment.  |
| 3             | --                                    | Removed the two paragraphs prior to Section 1.  |
| 4             | Section 1, table of permitted sources | Revised footnotes “*” and “***” for the equipment shown, which was previously in Part II.   |
| 4             | Section 2.1.A, equipment listing      | Moved State-only 15 day startup notice from old Part II, Section 2, condition 2, to specific equipment conditions for the Unit 1 low-NO <sub>x</sub> burner system, Unit 1 electrostatic precipitator rebuild, and Unit 2 electrostatic precipitator rebuild. |
| 5             | 2.1 A, regulation table               | Added 15A NCAC 2D .2404 CAIR permit requirements as an applicable regulation for sulfur dioxide and 15A NCAC 2D .2403 and .2405 CAIR permit requirements as applicable regulations for nitrogen oxides.   |
|               |                                       | Removed 40 CFR 52 Subpart II and 15A NCAC 2D .1416 as these NO <sub>x</sub> rules have been superseded by the CAIR permit requirements added in Section 2.4.  |
| 13            | 2.1 A.11 (old section)                | Removed this section as this 40 CFR 52 Subpart II rule has been superseded by the CAIR permit requirements added in Section 2.4.  |
|               | 2.1 A.12 (old section)                | Removed this section as this 15A NCAC 2D .1416 NO <sub>x</sub> rule has been superseded by the CAIR permit requirements added in Section 2.4.   |
| 15            | 2.1 B, regulation table               | Added 15A NCAC 2D .2404 CAIR permit requirements as an applicable regulation for sulfur dioxide and 15A NCAC 2D .2403 and .2405 CAIR permit requirements as applicable regulations for nitrogen oxides  |
|               |                                       | Removed 40 CFR 52 Subpart II and 15A NCAC 2D .1416/.1417 as these NO <sub>x</sub> rules have been superseded by the CAIR permit requirements added in Section 2.4.  |
| 16            | 2.1 B.3 (old section)                 | Removed this section as this 40 CFR 52 Subpart II rule has been superseded by the CAIR permit requirements added in Section 2.4.  |
|               | 2.1 B.4 (old section)                 | Removed this section as these 15A NCAC 2D .1416/.1417 NO <sub>x</sub> rules have been superseded by the CAIR permit requirements added in Section 2.4.  |
| 19            | Section 2.1.D, equipment listing      | Moved State-only 15 day startup notice from old Part II, Section 2, condition 2, to specific equipment conditions for equipment in this section.  |

| Page  | Section                          | Description of Changes   |
|-------|----------------------------------|--|
| 21    | Section 2.1.E, equipment listing | Moved State-only 15 day startup notice from old Part II, Section 2, condition 2, to specific equipment conditions for equipment in this section. |
| 22-26 | 2.3                              | Revised Acid Rain effective dates.   |
|       |                                  | Revised NOx limits and heat inputs in accordance with new averaging plan in Section 2.3 B.   |
|       |                                  | Revised dates for Acid Rain Permit Application, Phase II NOx Compliance Plan, and Phase II NOx Averaging Plan attachments in Section 2.3 D.      |
| 26-28 | 2.4                              | Added Section 2.4 - CAIR Permit Requirements.  |
| 28-36 | 3                                | Updated General Conditions to the latest revision (version 3.2.1).   |

### III. Facility Description

Progress Energy's L. V. Sutton Steam Electric Plant is an electric utility facility that generates electrical power using boilers and internal combustion turbines. The L. V. Sutton facility has three coal/No. 2 fuel oil/on-specification used No. 2 fuel oil-fired electric utility boilers (ID Nos. Unit 1 Boiler, Unit 2 Boiler, and Unit 3 Boiler), and three No. 2 fuel oil/natural gas-fired simple-cycle internal combustion turbines (ID Nos. IC1, IC2A, and IC2B).

### IV. Summary of Changes to Emission Sources and Control Devices

NA

### V. Regulatory Evaluation

#### 1. CAIR

North Carolina's CAIR rules were approved into the SIP by EPA on November 17, 2009 and published in the Federal Register on November 30, 2009. This rule replaces the 2D .1416, .1417 and .1418 NOx SIP Call rules previously in the permit.

The applicable CAIR rules, as specified in the CAIR Permit Application attached to the permit, includes the emission and monitoring requirements shown below for the following affected CAIR sources:

| PERMITTED SOURCE | CAIR ID No. |
|------------------|-------------|
| Unit 1 Boiler    | CS002       |
| Unit 2 Boiler    |             |
| Unit 3 Boiler    | 3           |
| Turbine 2A IC    | 2A          |
| Turbine 2B IC    | 2B          |

15A NCAC 2D .2400 "Clean Air Interstate Rule" (STATE-ONLY REQUIREMENT)

This rule implements the federal Clean Air Interstate Rule under 40 CFR Part 96. The following 2D .2400 sections apply:

15A NCAC 2D .2403 “Nitrogen Oxide Emissions”

This section specifies the total annual NO<sub>x</sub> allocations and includes the compliance, emissions measurements recording and reporting, excess emissions and liability requirements.

15A NCAC 2D .2405 “Nitrogen Oxide Emissions During Ozone Season”

This section specifies the NO<sub>x</sub> allocations during the ozone season and includes the compliance, emissions measurements recording and reporting, excess emissions and liability requirements.

15A NCAC 2D .2404 “Sulfur Dioxide Emissions”

This section specifies the annual SO<sub>2</sub> allocations and includes the compliance, emissions measurements recording and reporting, excess emissions and liability requirements.

2. Acid Rain

15A NCAC 2Q .0400 "Acid Rain Procedures" (40 CFR Part 72 "Permits Regulation")

North Carolina air quality regulation 15A NCAC 2Q .0400 implements Phase II of the federal acid rain program pursuant to Title IV of the CAA as provided in 40 CFR Part 72. Issuance or denial of acid rain permits shall follow the procedures under 40 CFR Part 70 (Title V) and Part 72. If the provisions or requirements of Part 72 conflict or are not included in Part 70, the Part 72 provisions and requirements shall apply and take precedence.

15A NCAC 2Q .0400 “Acid Rain Procedures” (40 CFR Part 73 “Sulfur Dioxide Allowance System”)

Establishes the procedures for allocation, tracking, holding and transfer of sulfur dioxide emission allowances, including the allowances allocated to each applicable Phase II unit account to be held in each calendar year as specified in 40 CFR 73.10.

15A NCAC 2Q .0400 “Acid Rain Procedures” (40 CFR Part 76 “Acid Rain Nitrogen Oxides Emission Reduction Program”)

Each coal-fired utility unit that is subject to an Acid Rain emissions limit for SO<sub>2</sub> under Phase I or Phase II of the CAA must meet the NO<sub>x</sub> emission limitations under 40 CFR Part 76. Progress Energy has revised their Phase II NO<sub>x</sub> Averaging Plan to comply with the NO<sub>x</sub> emissions limits. NO<sub>x</sub> emissions averaging is a NO<sub>x</sub> compliance option under 40 CFR 76.11 which allows any affected units subject to a NO<sub>x</sub> emissions limit under 40 CFR 76.5, 76.6 or 76.7, under the control of the same owner and operator, and with the same designated representative, to average their NO<sub>x</sub> emissions under an approved averaging plan. It has been verified that the averaging plan proposed meets the criteria that the Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan is less than or equal to the Btu-weighted annual average emission rate for same units operated in compliance with 40 CFR 76.5, 76.6 or 76.7, as shown in the application.

**VI. Public Notice**

Pursuant to 15A NCAC 2Q .0521, a notice of the draft Title V Operating Permit will be published on the DAQ website, to provide for a 30-day comment period with an opportunity for a public hearing. Copies of the draft (proposed) permit, review and public notice will be sent to EPA for their 45-day review, to persons on the Title V mailing list, and to the Permittee for review.

**VII. Other Requirements**

PE Seal

NA. No control devices are being added.

Zoning

There is no expansion of the facility, therefore Zoning consistency is not required.

Fee Classification

The facility fee classification before and after this modification will remain as “Title V”.

**VIII. Recommendations**

later after public notice