

**NORTH CAROLINA
DIVISION OF AIR QUALITY**
Air Permit Review for RACT and CAIR
Requirements

Permit Issue Date: XX XX, 2009

Region: Mooresville Regional Office
County: Rowan
NC Facility ID: 8000163
Inspector's Name: Bruce Ingle
Date of Last Inspection: 02/08/2008
Compliance Code: C/In Compliance With
Procedural Reqr

Facility Data			Permit Applicability (this application only)
Applicant (Facility's Name): Plant Rowan County Facility Address: Plant Rowan County 5755 NC 801 Highway Salisbury, NC 28147 SIC: 4911 / Electric Services NAICS: 221112 / Fossil Fuel Electric Power Generation Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: 2D. 1407. ..14142403, .2405 NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other:
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	Application Number: 8000163.09A (subsumed .09B Reopen for Cause/RACT) Date Received: 07/03/2008 Application Type: Modification Application Schedule: Significant Existing Permit Data Existing Permit Number: 08758/T12 Existing Permit Issue Date: 12/02/2008 Existing Permit Expiration Date: 6/30/2013
Scott Dial Combined Cycle Site Manager (704) 278-6601 5755 NC 801 Hwy. Salisbury, NC 28147	Scott Dial Compliance Officer (704) 278-6601 5755 NC 801 Hwy. Salisbury, NC 28147	Scott Dial Combined Cycle Site Manager (704) 278-6601 5755 NC 801 Hwy. Salisbury, NC 28147	
Review Engineer: Charles F. Yirka Review Engineer's Signature:		Date: XX XX, 2009	Comments / Recommendations: Issue 08758/T13 Permit Issue Date: XX XX, 2009 Permit Expiration Date: June 30, 2013

1. Purpose of Application

RACT Review

Rowan County is part of the Metrolina non-attainment area. All major facilities are required to apply RACT to existing and new emissions units. This attainment area is classified as Moderate. As such all facilities with emissions of 100 tpy of NOx or VOC are major and are subject to a review for RACT applicability. These pollutants are considered ozone precursors. Plant Rowan County (Plant Rowan) is considered a major source for NOx and a minor source for VOCs. Plant Rowan was notified via letter dated May 15, 2009 that the auxiliary boiler (ID No. ES-6) should have been evaluated pursuant to RACT requirements. This natural gas fired, 16.74 mmBtu/hr heat input capacity boiler is subject to the boiler tune-up provisions contained in 15A NCAC 2D .1407. The facility recently underwent a RACT review but this source was overlooked by the applicant and RCO.

CAIR Review

This facility is subject to the Clean Air Interstate Rule (CAIR) and as such 40 CFR 96 and 2D .2400 that became effective on January 1, 2009 and will be effective for nitrogen oxides as of January 1, 2010. The application was entered on December 23, 2008 (originally received as a applicability determination July 3, 2007).

An application fee, though not required for permit applications addressing RACT for existing sources in a non-attainment area, was required for the processing of the CAIR application. Applicable forms included source

reduction and recycling form, and signature of a responsible official. A local zoning consistency determination was not required for this existing source.

The application was deemed complete for processing on October 16 2009. DAQ will process the application as per the procedures in 15A NCAC 2Q .0501(d) "Significant Modification" one step procedure.

2. Application Chronology

Refer to "Comprehensive Application Report" for complete details.

3. Facility Description

Southern Power Company (Southern Power) operates an electric power production facility at Plant Rowan. The facility has been classified under the Standard Industrial Classification (SIC) code 4911 "Electric Services. The existing operations at the facility comprise three natural gas/No. 2 fuel oil-fired simple cycle combustion turbines, one natural gas/No. 2 fuel oil-fired combined cycle combustion turbine, three natural gas-fired combined cycle combustion turbines, one auxiliary boiler, two fuel oil storage tanks, two cooling towers, and several insignificant emission sources.

4. Statement of Compliance

Based on the last inspection report (inspection date 2/8/08, engineer Bruce Ingle), Plant Rowan "appeared to be in compliance with the applicable air quality regulations".

5. Permit Modifications/Changes

The permit required the following the addition of the NOX RACT rule for boiler tune-ups:

A. One firetube design natural gas fired auxiliary boiler (ID No. ES-6)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.53 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity	15A NCAC 2D .0521
None	Recordkeeping	15A NCAC 2D .0524 (40 CFR 60 Subpart Dc)
Nitrogen oxides	Annual Boiler Tune-ups Required	15A NCAC 2D .1407

1. 15A NCAC 2D .1407 BOILERS AND INDIRECT PROCESS HEATERS

- a. Facilities with boilers with maximum heat input rate of less than or equal to 50 million Btu per hour shall comply with the annual tune-up requirements of 2D .1414. The Permittee shall maintain records of all tune-ups performed for each source according to 2D .1404 [15A NCAC 2D .1407]

Testing [15A NCAC 2D. 2601]

- b. If emission testing is required, the testing shall be performed in accordance with 15A NCAC 2D. 2601 and General Condition JJ.

Monitoring [15A NCAC 2D .1414(b), 2Q .0508(f)]

- c. When a tune-up to a boiler or indirect-fired process heater is required for compliance with this Section, the owner or operator shall at least annually (on or by December 31st of each calendar year) and according to the manufacturer's recommendations:
- i. inspect each burner and clean or replace any component of the burner as required;
 - ii. inspect the flame pattern and make any adjustments to the burner, or burners, necessary to optimize the flame pattern to minimize total emissions of NO_x and carbon monoxide;
 - iii. inspect the combustion control system to ensure proper operation and correct calibration of components that control the air to fuel ratio and adjust components to meet the manufacturer's established operating parameters; and
 - iv. inspect any other component of the boilers and make adjustments or repairs as necessary to improve combustion efficiency. The Permittee shall perform the tune-up according to a unit specific protocol approved by the Director. The Director (or designee) shall approve the protocol if it meets the requirements of this Rule. The protocol shall be submitted to the Regional Office for approval.

If tune-ups and inspections are not conducted as per c.i. through iv. above, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .1407 [15A NCAC 2Q .0508(f)].

Recordkeeping [15A NCAC .1414(d), 2Q .0508(f)]

- d. The owner or operator shall maintain records of tune-ups performed to comply with Rule .1404. The following information shall be included for each source:
- i. identification of the source;
 - ii. the date and time the tune-up started and ended;
 - iii. the person responsible for performing the tune-up; and
 - iv. for boilers the checklist for inspection of the burner, flame pattern, combustion control system, and all other components of the boiler identified in the protocol, noting any repairs or replacements made;
 - v. any stack gas analyses performed after the completion of all adjustments to show that the operating parameters of the boiler, have been optimized with respect to fuel consumption and output; at a minimum these parameters shall be within the range established by the equipment manufacturer to ensure that the emission limitation for nitrogen oxides has not been exceeded; and
 - vi. any other information requested by the Director (or designee) to show that the boiler is being operated and maintained in a manner to minimize the emissions of nitrogen oxides.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1407 if these records are not maintained [15A NCAC 2Q .0508(f)].
- e. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each annual tune-up and inspection along with any corrective actions taken; and
 - iii. the results of any corrective actions performed.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1407 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- f. The Permittee shall submit a summary report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

B. Clean Air Interstate Rules (CAIR) Permit Requirements

Until EPA approves our 2D .2400 CAIR rules into the SIP (DAQ Planning Section has indicated approval is in “sign off”), the old SIP-approved NOx SIP Call rules must stay in the permits as Federal-Only. This permit currently has both a State-Only and Federal-Only version of the 2D .1400 NOx SIP Call rules. Therefore, the State-Only conditions 2D .1400 NOx SIP Call rules and conditions were removed and CAIR was inserted. (The State-Only rule being removed was superseded by 2D .2400 as outlined in 2D .1402(a)). The version of the NOx SIP Call rule remaining in the permit appears to be the correct Federal-Only version. Once our 2D .2400 rules are approved by EPA, any 2D .1400 NOx SIP Call rule in the permit can be removed (as long as it is superseded by 2D. 2400). The permit condition (7-23-09 E. Martin version of the State-Only CAIR rule) follows:

2.4 - Clean Air Interstate Rules (CAIR) Permit Requirements

ORIS code: 7826

The following sources are affected CAIR units:

PERMITTED SOURCE	CAIR ID No.
ID No. Unit 1	Unit 1
ID No. Unit 2	Unit 2
ID No. Unit 3	Unit 3
ID No. Unit 4	Unit 4
ID No. Unit 5	Unit 5

STATE-ONLY REQUIREMENT:

A. 15A NCAC 2D .2403: NITROGEN OXIDE EMISSIONS

1. The total nitrogen oxide (NOx) emissions from the affected CAIR units listed above at the Plant Rowan, Salisbury, Rowan County, North Carolina facility shall not exceed, except as provided in 15A NCAC 2D .2408:
 - a. 25 tons annually for 2009-2014; and
 - b. 22 tons annually for 2015 and later
 [15A NCAC 2D .2403]
2. The affected CAIR NOx sources shall comply with the requirements of 15A NCAC 2D .2408 using the trading program and banking set out in 40 CFR Part 96. [15A NCAC 2D .2407]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2403 shall be subject to the provisions of 40 CFR 96.106(f). [15A NCAC 2D .2403(e)]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2403, and 15A NCAC 2D .2407(a)]

4. The emissions of nitrogen oxides of a CAIR NOx source shall not exceed the number of allowances that it has in its compliance account established and administered under Rule .2408 of this Section.
5. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HH shall be used to determine compliance by each CAIR NOx source with its emissions limitation according to 40 CFR 96.106(c) including 96.106(c)(5) and (6).
6. The provisions of 40 CFR 96.106(d) shall be used for excess emissions.

STATE-ONLY REQUIREMENT:

B. 15A NCAC 2D .2405: NITROGEN OXIDE EMISSIONS DURING OZONE SEASON

1. Ozone season NOx emissions from the affected CAIR units listed above at the Plant Rowan County, Salisbury, Rowan County, North Carolina facility shall not exceed, except as provided in 15A NCAC 2D .2408:
 - a. 25 tons during the ozone season for 2009-2014; and
 - b. 20 tons during the ozone season for 2015 and later
 The ozone season shall be defined as the period of time extending from May 1st to September 30th of each calendar year. [15A NCAC 2D .2405(a)(1) and (b)]

2. The affected CAIR NO_x Ozone Season sources shall comply with the requirements of 15A NCAC 2D .2408 using the trading program and banking set out in 40 CFR Part 96.
[15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2405 shall be subject to the provisions of 40 CFR 96.306(f).
[15A NCAC 2D .2405(g)]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2405(d) and (e), and 15A NCAC 2D .2407(a)]

4. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.306(b) and (e), and 40 CFR 96 Subpart HHHH for each CAIR Ozone Season NO_x unit.
5. The nitrogen oxide ozone season emissions of a CAIR NO_x Ozone Season source shall not exceed the number of allowances that it has in its compliance account established and administered under 15A NCAC 2D .2408. For purposes of making deductions for excess emissions for the ozone season in 2008 under the NO_x SIP Call (15A NCAC 2D .1400), the Administrator shall deduct allowances allocated under this Rule (15A NCAC 2D .2405) for the ozone season in 2009.
6. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NO_x Ozone Season source with its emissions limitation according to 40 CFR 96.306(c) including 96.306(c)(5) and (6).
7. The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

STATE-ONLY REQUIREMENT:

C. 15A NCAC 2D .2404: SULFUR DIOXIDE EMISSIONS

1. The annual allocation of sulfur dioxide allowances shall be determined by EPA. The allocations for CAIR SO₂ units are listed in the table below (these allocations are from 40 CFR 73.10):

SOURCE	ALLOCATION FOR 2000-2009	ALLOCATION FOR 2010 AND LATER
ID No. Unit 1	None	None
ID No. Unit 2	None	None
ID No. Unit 3	None	None
ID No. Unit 4	None	None
ID No. Unit 5	None	None

2. The affected CAIR SO₂ sources shall comply with the requirements of 15A NCAC 2D .2408 using the trading program and banking set out in 40 CFR Part 96.
[15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2404 shall be subject to the provisions of 40 CFR 96.206(f).
[15A NCAC 2D .2404(f)]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2404 and .2407(a)(2)]

3. The emissions of sulfur dioxides of a source described in Section 2.5.C.1 above shall not exceed the number of allowances that it has in its compliance account established and administered under Rule 15A NCAC 2D .2408.
4. The owner or operator of a unit covered under 15A NCAC 2D .2404 shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.206(b) and (e) and in 40 CFR Part 96, Subpart HHH for each CAIR SO₂ unit.
5. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHH shall be used to determine compliance by each CAIR SO₂ source with its emissions limitation according to 40 CFR 96.206(c) including 96.206(c)(5) and (6).
6. The provisions of 40 CFR 96.206(d) shall be used for excess emissions

D. CAIR Permit Application (attached)

The permit application submitted for this facility, as approved by the Department of Environment and Natural Resources, Division of Air Quality, is part of this permit. The owner and operator of these CAIR NO_x and SO₂ sources must comply with the standard requirements and special provisions set forth in the following attached application:

6. NSPS, NESHAPS, Attainment Status, NSR, 112(r), and CAM

NSPS

The existing combustion turbines (ID Nos. Unit 4 and Unit 5) are subject to NSPS Subpart GG requirements. This the aforementioned permit changes do not change the NSPS applicability. However a recent DAQ procedural memo dated July 2, 2009 – Legal Authority for Requiring Quarterly Excess Emission Reporting for CEM Affected Facilities under NSPS Subpart A, indicated Plant Rowan CEMS reports must be changed to quarterly from semiannual. This engineer reviewed the language. The current permit reporting language appears to ALREADY address the quarterly reporting frequency as presently written. Even so additional language was inserted in this permit. The list accompanying the memo indicated Subpart GG for NOx and O2 CEMS required a review. Additionally, this engineer found that the NSPS KKKK affected units, the new combustion turbines (ID Nos. 6A and 6B), do NOT currently require quarterly reporting. However based on the procedural memo the language has been changed to require quarterly reports. The Administrator's authority to require more frequent reporting is required by the memo and may be found within 40CFR 60.7(c).

NESHAPS

The affected emissions units (combustion turbines (ID Nos. Unit 4 and Unit 5) are not subject to the requirements of NESHAP Subpart YYYYY. A review of the EPA memo Vacatur of Startup, Shutdown and Malfunction (SSM) Exemption (40CFR 63.6(f)(1) and 63.6(h)(1) (see; Table 2-Page 9 –Section 112(d) Source Category Rules That Will Not Be Affected When the Mandate Issues in Sierra Club v. EPA, 551 F.3d 1019 (D.C. Cir. 2008)) indicates this Part 63 Subpart YYYYY will NOT be affected.

Attainment Status and NSR

See discussion in Section 1, *RACT Review*. Future modifications to Plant Rowan must address the status of the facility and classification of the county at the time of the modifications.

112(r)

This facility is not subject to Section 112(r) of the Clean Air Act requirements.

CAM

Not applicable to this modification.

7. Facility Emissions Review

The following is a facility-wide emissions summary for this facility. Actual emissions are for the year 2007, as reported by the company to DAQ through submittal of annual emission inventory. The estimate on facility-wide potential emissions is not available.

Pollutant	Actual Emissions
	Tons/Yr
PM	23.2
PM10	23.2
PM2.5	21.8
CO	73.1
NOx	96.7
SO ₂	3.3
VOC	6.7
Single HAP	2.8

(HCl)	
Total HAP	4.2

8. Stipulation Review

The following table lists the changes associated with this permit action:

Attachment – Changes to the Permit

The following table lists the changes associated with this permit action:

Old Page No. [Air Permit No. 08758T12]	New Page No. [Air Permit No. 08758T13]	Condition No.	Changes
NA	NA	Cover letter	Change dates, permit and app number, etc. Insert note indicating this is a significant modification of the title V permit; Removed reference to “construction” from “construction and operation”; Removed description of foggers and coolers (the previous minor modification) under rev. T12 as the final date has passed (March 7, 2009). Add Notification statement re: assess nonattainment added fee. Copy G. Woods
NA	NA	Permit Cover	Change dates, permit and app number, etc. Remove reference to “construction”
Page 4	Page 4	SECTION 1 Source Table	Add RACT identifier to ES-6 aux boiler
Page 5	Page 5	2.1 A. TABLE	Remove state only 1417 due to rule repeal Leave in federal only 1417 as the rule has not been approved by EPA as part of SIP
Page 13	Page 13	2.1B	Remove state only 1417 due to rule repeal Leave in federal only 1417 as the rule has not been approved by EPA as part of SIP
Page 23	Page 23	2.1 D	Revise Table for RACT affected boiler ES-6 by adding 2D .1407
Page 24	Pages 24-25	2.1 D.5.	Add new condition for 2D .1407 requiring boiler tune-ups for RACT
Page 43	Pages 45-47	2.4	Insert new CAIR Permit Requirements
Page 44-53	Page 48-58	Section 3 General Conditions	Insert New General Conditions (v 2.22.1)

9. Public Notice / EPA and Affected States Review

The modification is considered significant and must be noticed in a newspaper of general circulation. Additionally the revised permit will be “proposed” to EPA for their review. The revised permit is also required to be available to affected States and those on the title V mailing list in accordance with 2Q .0515 provisions. After the public notice and EPA concurrent review period of 45 days is complete the permit will be issued.

10. Conclusions, Comments, and Recommendations

- A professional engineer's seal was not required for this modification, as it does not involve installation of any air pollution control device or a modification to any existing control device.

- A zoning consistency determination is not required.
- The facility will be subject to the NAA annual added fee in conformance with current DAQ policy.
- A copy of the draft permit and review were sent to the MRO on June 16, 2009.
- The draft permit was sent to the company and the regional office for comments on June 16, 2009. Mr. Scott McMillan, Sr. Environmental Engineer of Southern Company, emailed the comments on June 26, 2009. The company comments and the DAQ responses are as follows:

Comment: The draft cover letter references the replacement of Inlet Air Foggers with Evaporative Coolers in Units 4 and 5 that was addressed in permit revision 08758T12.

Response: Concur

Comment: The draft permit review should replace Robert Schaffeld with Scott Dial as the Authorized Contact.

Response: Concur

Comment: The table in #8 of the draft permit review and in the Attachment prior to the draft permit references the old permit as 08758T11 and the new permit as 08758T12. This should be updated to T12 and T13 respectively.

Response: Concur

Comment: Per your request, we have completed the appropriate permit application forms and originals are being sent to you.

Response: Concur and received.

- The application was combined with the CAIR application and also there were procedural memoranda regarding NSPS reporting and MACT SSM requirements that were addressed therefore a second draft permit was sent to the regional office and the company for comments. Mr. Scott McMillan, Sr. Environmental Engineer of Southern Company, emailed the comments. No additional comments were received from the MRO. The company comments and the DAQ response are as follows

Comment: The applicant provided modified CAIR language for insertion in the permit.

Response: Concur the changes were not substantive. See commens from Mr. Mike Gordon.

Finally, this engineer recommends issuing the revised permit.