

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date: **XX XX, 2010**

Region: Mooresville Regional Office
County: Rowan
NC Facility ID: 8000163
Inspector's Name: Melinda Wolanin
Date of Last Inspection: 03/26/2009
Compliance Code: 3 / Compliance - inspection

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: N/A NSPS: N/A NESHAP: N/A PSD: N/A PSD Avoidance: N/A NC Toxics: N/A 112(r): N/A Other: 15A NCAC 2D .1109 <i>[112(j) – Part 2 MACT Hammer for Boilers & Process Heaters]</i>
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	Application Number: 8000163.09C Date Received: 09/09/2009 Application Type: 112(j) Part II Application Schedule: TV-Significant Existing Permit Data Existing Permit Number: 08758/T13 Existing Permit Issue Date: 12/16/2009 Existing Permit Expiration Date: 06/30/2013
Scott Dial Combined Cycle Site Manager (704) 278-6601 5755 North Carolina 801 Highway Salisbury, NC 28147	Scott Dial Combined Cycle Site Manager (704) 278-6601 5755 North Carolina 801 Highway Salisbury, NC 28147	Scott Dial Combined Cycle Site Manager (704) 278-6601 5755 North Carolina 801 Highway Salisbury, NC 28147	
Review Engineer: Jeff Twisdale Review Engineer's Signature: _____ Date: _____		Comments / Recommendations:	
		Issue 08758/T14 Permit Issue Date: XX XX, 2010 Permit Expiration Date: 06/30/2013	

I. Purpose of Application

Plant Rowan County is a supplier of electricity for Southern Power Company and is located in Salisbury, Rowan County, North Carolina. Application No. 8000163.09C, received September 9, 2009, is a Part 2 MACT "Hammer" application for one natural gas-fired auxiliary boiler rated at 16.74 million British thermal units per hour (MMBtu/hr), and for one natural gas-fired process heater rated at 4.0 MMBtu/hr.

II. Permit Modifications/Changes

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

Old Page No. [Air Permit No. 08758T13]	New Page No. [Air Permit No. 08758T14]	Condition No.	Changes
NA	NA	Cover letter	Changed dates, permit and app number, etc. Inserted note indicating this is a significant modification of the Title V permit; Removed notification statement re: assess nonattainment added fee. Removed copy for G. Woods

Old Page No. [Air Permit No. 08758T13]	New Page No. [Air Permit No. 08758T14]	Condition No.	Changes
NA	NA	Insignificant List and Table of Changes	Removed heater (ID No. I-7) from insignificant activity list and updated the Table of Changes
NA	NA	Permit Cover	Changed dates, permit and app number, etc.
Page 4	Page 3	SECTION 1 Source Table	Added 112(j) identifier to the auxiliary boiler (ID No. ES-6)
Page 4	Page 4	SECTION 1 Source Table	Added process heater (ID No. ES-8) and 112(j) identifier
Page 23	Page 24	Section 2.1 D.	Revised Table for 112(j) affected boiler (ID No. ES-6) by adding 2D .1109
NA	Pages 27	Section 2.1 D.6.	Added new condition for 2D .1109 requiring best combustion practices for 112(j)
NA	Pages 43 - 45	Section 2.1 G.1 - 4	Added new Table and specific conditions for the process heater (ID No. ES-8)
Page 45-53	Page 50-58	Section 3 General Conditions	Inserted New General Conditions (v 3.1) with revised BB. citation and addition of NN. title and citations

III. Regulatory Review

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

1. **15A NCAC 2D .1109 – CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters** – On July 30, 2007, the D.C. Circuit Court vacated the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, which had been promulgated under 40 CFR 63, Subpart DDDDD. The North Carolina Attorney General’s office has determined that the NESHAP vacatur equates to the failure of the U.S. EPA to promulgate a valid standard as required under Section 112(d) of the Clean Air Act (CAA). As a result, the site-specific Maximum Achievable Control Technology (MACT) standards required under CAA §112(j), commonly referred to as the MACT “hammer” provisions, have been triggered. North Carolina regulations implementing the MACT hammer are found at 15A NCAC 2D .1109.

On September 9, 2009, the NC DAQ received a Part 2 MACT “Hammer” application from this facility asking that the NC DAQ establish 112(j) emissions limitations in accordance with NC DAQ’s recommendations.

No control technologies for the control of CO, metals, Hg, or HCl were identified for natural gas fired boilers in the state of North Carolina, nor were any such technologies identified in a North Carolina query using U.S. EPA’s AirControlNet software (v4.1). The NC DAQ has determined that MACT is the use of best work practice standards for natural gas combustion sources of this size (i.e., 16.74 MMBtu/hr), consistent with the provisions in CAA § 112(d)(2)(D).

Best work practice standards in for the auxiliary boiler, including an annual inspection and maintenance requirement, have already been delineated in the applicable Reasonably Available Control Technology (RACT) standard pursuant to 15A NCAC 2D .1407(b) and provided in Section 2.1.D.5. of the existing permit. To streamline permit condition, NC DAQ has simply referenced thee RACT requirements. Demonstration of compliance with the RACT standard will be sufficient to demonstrate compliance with the 112(j) standard. Following the initial compliance date of the 112(j) standard (i.e., 3 years following permit issuance), failure to comply with the RACT requirements will also constitute a failure to comply with the 112(j) standard.

B. One natural gas-fired process heater (ID No. ES-8)

1. **15A NCAC 2D .0503 – Particulates from Fuel Burning Indirect Heat Exchangers** – This regulation limits particulate matter (PM) emissions from the firing of fuel in indirect heat exchangers (in lb/MMBtu) based on the facility-wide heat input. For this facility the total heat input is 20.74 MMBth/hr (16.74 from the auxiliary boiler and 4.0 from the process heater), PM emissions from the combustion sources are limited to not greater than 0.50 lb/MMBtu. Using AP-42 emission factors, PM emissions from natural gas are estimated to be less than 0.60 lb/MMBtu, as follows:

$$\frac{\left(7.6 \frac{\text{lbPM}_{total}}{\text{mmscf}}\right)}{1,020 \frac{\text{MMBtu}}{\text{mmscf}}} = 0.007 \frac{\text{lbPM}_{total}}{\text{MMBtu}}$$

Because worst-case PM emission rates are estimated to be less than the allowable PM emission rate, no monitoring, recordkeeping, or reporting shall be required to demonstrate compliance with this limitation.

2. **15A NCAC 2D .0516– Sulfur Dioxide Emissions From Combustion Sources** – This regulation limits sulfur dioxide (SO₂) emissions to no greater than 2.3 lb/MMBtu of heat input for combustion sources. Using AP-42 emission factors, SO₂ emissions from natural gas are estimated to be less than 2.3 lb/MMBtu, as follows:

$$\frac{\left(0.6 \frac{\text{lbSO}_2}{\text{mmscf}}\right)}{1,020 \frac{\text{MMBtu}}{\text{mmscf}}} = 0.0006 \frac{\text{lbSO}_2}{\text{MMBtu}}$$

Because worst-case SO₂ emission rates are estimated to be less than the allowable SO₂ emission rate, no monitoring, recordkeeping, or reporting shall be required to demonstrate compliance with this limitation.

3. **15A NCAC 2D .0521 – Control of Visible Emissions** – Visible emission (VE) standards provided in this regulation are applicable to potential VE emissions from any stack, vent, or outlet. This regulation limits visible emissions to no more than 20 percent opacity when averaged over a 6-minute period, except that 6-minute periods averaging more than 87 percent opacity may occur not more than once in any hour not more than four times in any 24-hour period. Because natural gas firing is associated with inherently low visible emissions, no monitoring, recordkeeping, or reporting shall be required to demonstrate compliance with this limitation.
4. **15A NCAC 2D .1109 – CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters** – On July 30, 2007, the D.C. Circuit Court vacated the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, which had been promulgated under 40 CFR 63, Subpart DDDDD. The North Carolina Attorney General’s office has determined that the NESHAP vacatur equates to the failure of the U.S. EPA to promulgate a valid standard as required under Section 112(d) of the Clean Air Act (CAA). As a result, the site-specific Maximum Achievable Control Technology (MACT) standards required under CAA §112(j), commonly referred to as the MACT “hammer” provisions, have been triggered. North Carolina regulations implementing the MACT hammer are found at 15A NCAC 2D .1109.

On September 9, 2009, the NC DAQ received a Part 2 MACT “Hammer” application from this facility asking that the NC DAQ establish 112(j) emissions limitations in accordance with NC DAQ’s recommendations.

No control technologies for the control of CO, metals, Hg, or HCl were identified for natural gas-fired process heaters in the state of North Carolina, nor were any such technologies identified in a North Carolina query using U.S. EPA's AirControlNet software (v4.1). The NC DAQ has determined that MACT is the use of best work practice standards for natural gas combustion sources of this size (e.g., 4.0 MMBtu/hr), consistent with the provisions in CAA § 112(d)(2)(D). Best work practice standards in this case shall include the annual inspection and maintenance of the process heater as follows:

To assure compliance, the Permittee shall perform an annual process heater inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

- i. Inspect the burner, and clean or replace any components of the burner as necessary;*
- ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,*
- iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.*

The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected process heater is not inspected and maintained as required above.

In addition, the Permittee will be required to record the results of the annual inspection in a logbook (written or electronic format), which shall be retained on-site and made available to an authorized representative upon request.

IV. Draft Permit Review Summary

Ms. Melinda Wolanin of the Mooresville Regional Office was provided a draft permit and draft permit review document on February 25, 2010.

Mr. Scott Dial and Mr. Brian Toth, both of Southern Power Company, were provided a draft permit for review on February 25, 2010.

Ms. Katy Forney and Ms. Gracy DeNois (U.S. EPA, Region IV) were provided a draft permit for review on March 4, 2010.

V. Recommendations

This permit modification application for the Plant Rowan County facility located in Salisbury, Rowan County, North Carolina has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

Recommend issuance of Permit No. 08758T14