

**NORTH CAROLINA
DIVISION OF AIR QUALITY
Air Permit Review**

Region: Wilmington Regional Office
County: Brunswick
NC Facility ID: 1000067
Inspector's Name: Lynette Bryan
Date of Last Inspection: 01/14/2009
Compliance Code: 3 / Compliance - inspection

Permit Issue Date: xx

Facility Data			Permit Applicability (this application only)	
Applicant (Facility's Name): EPCOR USA North Carolina LLC - Southport Plant Facility Address: EPCOR USA North Carolina LLC - Southport Plant 1281 Power House Dr SE Southport, NC 28461 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: NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other: 112j Case-by-Case MACT	
Contact Data			Application Data	
Facility Contact	Authorized Contact	Technical Contact	Application Number: 1000067.09F Date Received: 09/14/2009 Application Type: 112(j) Part I Application Schedule: TV-Significant Existing Permit Data Existing Permit Number: 05884/T09 Existing Permit Issue Date: 05/27/2009 Existing Permit Expiration Date: 12/31/2011	
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Review Engineer's Signature:		Issue 05884/T10 Permit Issue Date: Permit Expiration Date:		
		Date: April 14, 2010		

1. Purpose of Application

EPCOR USA North Carolina LLC ("EPCOR") has submitted a "MACT hammer" application to comply with case-by-case provisions of Section 112j of the Clean Air Act (CAA).

Basically, on July 20, 2007, the US Appeals Court for the D.C. Circuit Court vacated the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, promulgated under 40 CFR 63, Subpart DDDDD. On February 24, 2009, the North Carolina Attorney General's office had opined that the vacatur of any MACT standard is tantamount to EPA's failure to promulgate a valid Section 112(d) standard under CAA. As a result, the requirement of site-specific Maximum Achievable Control Technology (MACT) standard under CAA §112(j), commonly referred to as the MACT "hammer" provision, has been triggered. North Carolina regulations implementing the "MACT hammer" are found at 15A NCAC 2D .1109.

On September 14, 2009, the NC DAQ received a Part 2 MACT "Hammer" application from this facility asking that the NC DAQ establish 112(j) emissions limitations. Note that the DAQ received the Part 1 of this application on July 13, 2009.

2. Regulatory Review

This application review will focus only on developing an appropriate 112j permit, meeting all applicable requirements in 15A NCAC 2D .1109, for the following affected sources:

- Six watertube design coal/natural gas/No. 2 and No. 4 fuel oil/tire derived fuel/pelletized paper fuel/flyash briquette/unadulterated wood/unadulterated biomass-fired boilers (220 million Btu/hr heat input rate each, ID Nos. ES-1-1A, ES-1-1B, ES-1-1C, ES-2-1A, ES-2-1B and ES-2-1C)

It should be stated in the beginning that the DAQ has developed a “CAA 112j – Part II MACT “Hammer” Application Guidance for North Carolina Boilers and Process Heaters” [hereafter “model rule”] for writing 112j permits for the industrial, commercial and institutional boilers, and process heaters, which is available at <http://www.daq.state.nc.us/permits/112j/>.

The owner or operator can propose to DAQ the same emissions limitations, testing, monitoring, record keeping, and reporting requirements, based on the type of fuel and heat input rate, as included in the “model rule”. It also includes an optional health-based compliance alternative (HBCA) approach to establish emission limitations for hydrogen chloride (HCl)-equivalent and manganese (Mn). Further, the rule allows the Permittee to pick either the emission limitation for particulate matter (filterable only) or total selected metals (TSM), when firing wood (both dry and green), coal, and residual fuel oil (No. 4, 5, and 6). In lieu of the “model rule”, the Permittee can instead propose different emission limitations and associated monitoring, meeting the requirements of §112j of the CAA.

2.1 Six watertube design coal/natural gas/No. 2 and No. 4 fuel oil/tire derived fuel/pelletized paper fuel/flyash briquette/unadulterated wood/unadulterated biomass-fired boilers (220 million Btu/hr heat input rate each, ID Nos. ES-1-1A, ES-1-1B, ES-1-1C, ES-2-1A, ES-2-1B and ES-2-1C)

For these boilers, the Permittee has requested that the DAQ include in the facility 112j permit, testing, monitoring, record keeping, and reporting requirements for all pollutants, in accordance with the “model rule”, without the use of HBCA. For emissions standards, it has used the vacated MACT standard (40 CFR 63 Subpart DDDDD “Industrial, Commercial, and Institutional Boilers and Process Heaters) for developing 112 permit for the facility and has picked the option of complying with PM (filterable only) instead of total selected metals (TSM) when firing coal, No. 4 fuel oil, dry wood, and green wood.

NC DAQ does not believe that the vacated MACT standard can be used as a basis to develop a case-by-case MACT standard for the referred boilers as it does not meet the requirements in 2D .1109. Thus, DAQ will use the above rule to develop the 112j permit for this facility.

Emission Standards

The following emission standards shall apply to each affected boiler:

Coal/tire derived fuel/pelletized paper fuel/flyash briquette firing:

- (A) Particulate Matter (filterable only): 0.08 lbs/million Btu
- (B) Mercury: 0.000003 lb/million Btu
- (C) Hydrogen Chloride: 0.05 lb/million Btu
- (D) Carbon Monoxide: 133 ppmvd, corrected to 7% O₂

No. 4 fuel oil firing:

- (A) Particulate Matter (filterable only): 0.45 lbs/million Btu
- (B) Mercury: 0.00002 lb/million Btu
- (C) Carbon Monoxide: 28 ppmvd, corrected to 7% O₂

Dry wood firing:

- (A) Particulate Matter (filterable only): 0.39 lb/million Btu
- (B) Mercury: 0.000005 lb/million Btu
- (C) Hydrogen Chloride: 0.02 lb/million Btu
- (D) Carbon Monoxide: 508 ppmvd, corrected to 7% O₂

Green wood firing:

- (A) Particulate Matter (filterable only): 0.18 lb/million Btu
- (B) Mercury: 0.000005 lb/million Btu
- (C) Hydrogen Chloride: 0.02 lb/million Btu
- (D) Carbon Monoxide: 508 ppmvd, corrected to 7% O₂

No. 2 fuel oil firing:

best combustion practices

Natural gas firing:

best combustion practices

The initial compliance date for the emission standards, operating requirements, and associated monitoring, recordkeeping, and reporting requirements is xx [THREE YEARS FROM THE PERMIT ISSUANCE DATE]. These terms need not be included in the annual compliance certification until after the initial compliance date. These standards shall apply all times, except for periods of startup, shutdown, and malfunction. The Permittee shall follow the procedures in 15A NCAC 2D. 0535 for any excess emissions that occur during the periods of startup, shutdown, or malfunction.

Operating Requirements

- If the facility utilizes a fabric filter to comply with the PM and mercury (Hg) emissions, the Permittee shall comply with the following:
 - (A) Install and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period; or,
 - (B) Maintain opacity of exhaust from the control device at less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent.
- If the facility utilizes a sorbent injection system (such as furnace sorbent injection system (FSI)) such as FSI to comply with the HCl emissions standards listed above, the Permittee shall maintain the minimum sorbent injection rate at or above the operating levels, adjusted for variability, established during the performance test that demonstrated compliance with the applicable emissions standards.
- If the facility utilizes fuel analysis to comply with the Hg and HCl emissions standards listed above, the Permittee shall maintain the fuel type or fuel mixture such that the Hg and HCl emissions rates calculated according to the fuel analysis procedures below are less than the applicable emission standards.

Testing

- No initial or subsequent annual testing is required to demonstrate compliance with the emissions standards associated with burning of No. 2 fuel oil and natural gas in the affected boilers.
- No initial or subsequent annual testing is required if a facility can demonstrate compliance with applicable emissions standards using fuel analysis procedures.

- The Permittee shall conduct an initial compliance test while firing coal or tire derived fuel or pelletized paper fuel, or flyash briquette, for emissions of PM (filterable only), Hg, HCl, and CO.

The Permittee shall conduct an initial compliance test while firing green wood only for emissions of PM (filterable only), Hg, HCl, and CO.

The Permittee shall conduct an initial compliance test while firing No. 4 fuel oil for emissions of PM (filterable only), Hg, and CO.

The initial compliance test for these fuels shall be conducted within 180 days of the initial compliance date. The initial compliance test is not required if the NC DAQ – SSCB approves any previously conducted performance test as an equivalent compliance demonstration. Testing shall be conducted in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3 of the air permit.

The Permittee shall establish operating parameters, as applicable, during the initial compliance test in accordance with the following Table.

Operating Parameters Established by Performance Testing

Control Device	Pollutant(s)	Requirements for Performance Test
Sorbent Injection System (such as FSI)	HCl	1. Collect sorbent injection rate data every 15 minutes during the entire period of the performance test; and, 2. Determine the average sorbent injection rate for each individual test run in the 3-run performance test by computing the average of all the 15-minute readings taken during each test run.

If the Permittee chooses to demonstrate compliance with the emissions standards listed above using the fuel analyses, then the Permittee shall use the procedure as detailed in the draft permit.

- The Permittee shall conduct subsequent performance tests on an annual basis to comply with the emissions standards listed above, when firing coal or tire derived fuel or pelletized paper fuel or flyash briquette, No. 4 fuel oil, and green wood, coal, tire derived fuel, pelletized paper fuel, flyash briquette, No. 4 fuel oil, dry wood, and green wood, unless it meets the requirements listed below. Annual performance tests, if required, shall be completed between 10 and 12 months after the previous performance test.
 - The Permittee may conduct performance tests less often for a given pollutant if the performance tests for at least 3 consecutive years show compliance with the emission limit. In this case, the Permittee need not conduct a performance test for that pollutant for the next 2 years, but shall conduct a performance test during the third year and no more than 36 months after the previous performance test.
 - If the affected boiler or process heater continues to meet the emission limit, the Permittee may conduct performance tests every third year, but each such performance test shall be conducted no more than 36 months after the previous performance test.
 - If a performance test shows noncompliance with an emission limit, the Permittee shall conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.
 - If the Permittee uses fuel analysis to demonstrate compliance with the emissions standards, the Permittee shall conduct a fuel analysis for each type of fuel burned no later than 5 years after the previous fuel analysis.

Monitoring

- For complying with the emission standards associated with coal/tire derived fuel/pelletized paper fuel/flyash briquette, No. 4 fuel oil, dry wood, and green wood burning, the Permittee shall install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide.
- If the option to comply with the opacity-operating requirement is selected, the Permittee shall install, operate, certify and maintain each continuous opacity monitoring system (COMS).
- If the option to comply with the fabric filter bag leak detection system operating requirement is selected, the Permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system.
- If an affected source unit is controlled with a fabric filter and the facility demonstrates continuous compliance using a bag leak detection system, the system shall meet all requirements detailed in the draft permit.
- For each operating requirement that requires the use of equipment to monitor sorbent injection rate (*e.g.*, weigh belt, weigh hopper, or hopper flow measurement device), the Permittee shall meet all requirements detailed in the draft permit.

Record keeping Requirements

- The Permittee shall maintain a copy of each notification and report required by this standard, including all documentation supporting any Notification of Compliance Status.
- The Permittee shall maintain records of performance tests, fuel analyses, or other compliance demonstrations, CMS performance evaluations, and opacity observations.
- For each required CEMS and COMS, the Permittee shall maintain the records as included in the draft permit.
- The Permittee shall maintain records of all monitoring data and calculated averages for applicable operating limits such as opacity and chlorine content used to demonstrate compliance with the standard.
- The other record keeping requirements are as per the draft permit.

Reporting Requirements

- For each required performance test or fuel analyses, the Permittee shall comply with the notification and reporting requirements in General Condition JJ of its Title V air quality permit. The Permittee shall report the results of each performance test or fuel analyses within 60 days after such event. These reports should also verify that the operating requirements for the affected boiler have not changed or provide documentation of revised operating requirements.
- The Permittee shall submit a Notification of Compliance Status that meets the requirements of §63.9(h)(2)(ii) before the close of business on the 60th day following the completion of the final required performance test and/or other initial compliance demonstration. The Notification of Compliance Status report shall contain the all applicable information, as included in the draft permit.
- In addition, the Permittee shall submit a summary report by 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. The report shall include all information as included in the draft permit.

3. Stipulation Review

The following changes were made to the EPCOR USA North Carolina LLC - Southport Plant, Air Quality Permit No. 05884T09:

Old Page No. [Air Quality Permit No. 05884T09]	New Page No. [Air Quality Permit No. 05884T10]	Condition No.	Changes
3	3	Section 1	Include the label “case-by-case MACT” for ES-1-1A, ES-1-1B, ES-1-1C, ES-2-1A, ES-2-1B and ES-2-1C.
5	6	Section 2.1 A. Table	Revise the Table to include 112j emission standards and the applicable requirement for HAP emissions for boilers ES-1-1A, ES-1-1B, ES-1-1C, ES-2-1A, ES-2-1B and ES-2-1C.
13 and 14	-	Section 2.1 A.6. and 7.	Remove these repealed requirements.
14	14	Section 2.1 A.8.	Move this requirement as Section 2.1 A.6.
-	16 through 25	Section 2.1 A.7.	Include this new requirement for 112j permit for boilers ES-1-1A, ES-1-1B, ES-1-1C, ES-2-1A, ES-2-1B and ES-2-1C.
27 through 36	36 through 45	Section 3	Update the General Conditions.

4. Public Notice / EPA and Affected States Review

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.

5. Recommendations

This permit engineer recommends issuance of the revised permit upon completion of the public comment and EPA review periods.