

<b>NORTH CAROLINA DIVISION OF AIR QUALITY</b>			Region: Fayetteville Regional Office County: Richmond NC Facility ID: 7700082 Inspector's Name: Tien Nguyen Date of Last Inspection: 02/19/2009 Compliance Code: C/In Compliance - inspection
Air Permit Review - 1 <sup>st</sup> Time Title V consolidated with renewal application Permit Issue Date: <b>February ___2011</b>			Permit Applicability (this application only) SIP: 15A NCAC 2D .0400, 2D .0521, 2D .0524, 2D .1418, 2D .0501(e), 2Q .0501(c)(1), 2Q .0513, 2Q .0317 (of 2D .0530) NSPS: Subpart KKKK NESHAP: N/A PSD: N/A PSD Avoidance: NOx and CO NC Toxics: Sulfuric acid 112(r): N/A Other: N/A
<b>Facility Data</b> Applicant (Facility's Name): North Carolina Electric Membership Corporation (NCEMC) – Richmond County Generation Facility Hamlet Plant  Facility Address: NCEMC – Hamlet Plant 162 Cooperative Way Hamlet, North Carolina 28345  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			
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	Application Numbers: 7700082.09B consolidated with 7700082.08B Date Received: 08/31/2009 and 08/29/2008 Application Type: Renewal and Significant Mod. Application Schedule: Renewal and 1 <sup>st</sup> Time Title V (respectively)  Existing Permit Data Existing Permit Number: 09488R04 Existing Permit Issue Date: April 24, 2009 Existing Permit Expiration Date: January 31, 2010
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Review Engineer: Booker Pullen Regional Engineer: Jim Moser  Review Engineer's Signature: _____ Begin Date: January 15, 2010		Comments / Recommendations:  Issue: 09488T05 Permit Issue Date: <b>February XX, 2011</b> Permit Expiration Date: <b>January 31, 2016</b>	

- I. **Introduction:**  
North Carolina Electric Membership Corporation (NCEMC) – Richmond County Generation Plant is located in Hamlet, Richmond County, North Carolina. This facility is requesting a 1<sup>st</sup> Time Title V Air Permit modification in application (7700082.08B). This application was received by the Division of Air Quality (DAQ) on August 29, 2008 and was considered complete for processing on that date. An application (7700082.09B) was received on August 31, 2009 and was considered complete on that date. Application number 7700082.09B was consolidated with permit application 7700082.08B and the two applications will be processed together.
- These applications will go through the 30-day public notice and the 45-day EPA review in accordance with 15A NCAC 2Q .0501(c)(1).
- II. **History:** This was a Greenfield facility and began operation in August 2007. The following modifications have been issued by the DAQ for this facility:
- A. Permit No. 09488R00 was issued on February 7, 2005 by the Raleigh Central Office, containing the following permitted equipment.
- Five (5) Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine generator sets. A Swift-Pac unit consists of two turbines, each equipped with water injection and an oxidation catalyst system, and one generator.

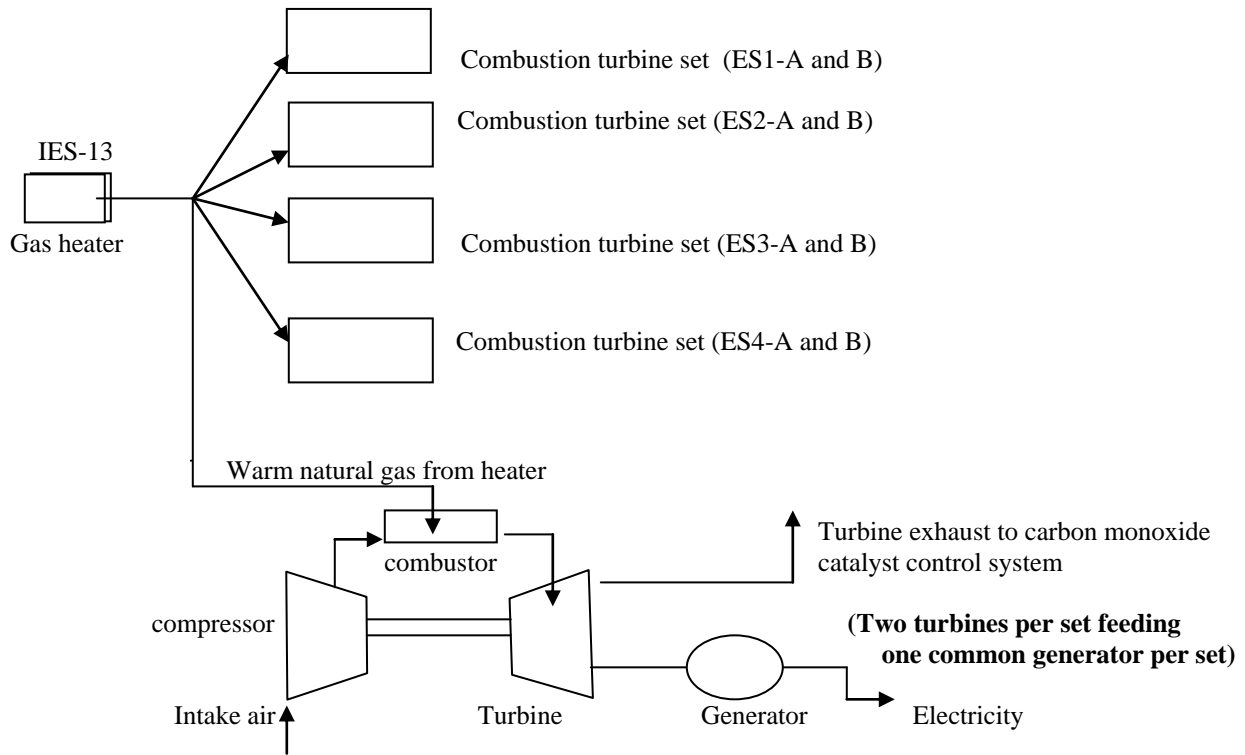
Each turbine has a nominal HHV rating of 300 million Btu per hour heat input capacity when firing natural gas, and a nominal HHV rating of 281 million Btu per hour heat input capacity when firing No. 2 fuel oil (ID Nos. ES1-A, ES1-B, ES2-A, ES2-B, ES3-A, ES3-B, ES4-A, ES4-B, ES5-A, ES5-B).

2. One (1) diesel fire water pump (150 horsepower, ID No. ES6).
3. One (1) diesel emergency generator (393 kW, 534 horsepower, ID No. ES7).
4. Two 500,000 gallon each No. 2 fuel oil storage tanks (ID nos. IES-8 and IES-9). [insignificant activity]
5. One (1) natural gas compressor (natural gas-fired, 1151 horsepower, ID No. ES-10).

**B. Permit No. 09488R01** was issued on January 20, 2006 by the Raleigh Central Office. The permit was issued to comply with the acid rain requirements in accordance with 15A NCAC 2Q .0400 and 40 CFR Part 72. No new equipment was added.

**C. Permit No. 09488R02 was issued to:**

1. Construct a pipe line quality natural gas-fired heater (ID No. IES-13) at this electricity generation facility that will be used to warm up the natural gas fuel that will be fired in the five sets of simple cycle combustion turbines at this facility. The heater is anticipated to operate a maximum of 1,700 hours annually, but the NCEMC is requesting that the heater be permitted for 8760 hours per year. **[Insignificant activity]**



2. Change the limits of the visibility requirements (15A NCAC 2D .0521) to indicate that visible emissions are not applicable during startup, shutdown, or malfunctions approved in accordance with 15A NCAC 2D .0535.
3. Change the combustion turbine PSD Avoidance condition from 224 tons per year to 245 tons per year for both NOx and CO per each consecutive twelve month period. The increase of turbine emissions is due to the removal of the natural gas-fired compressor (ID No. ES-10), diesel-fired emergency generator (ID No. ES-7), and the diesel-fired fire water pump (ID NO. ES-6) from the permit. Also, the applicant wishes that the permit clearly state that each pollutant (CO and NOx) has a 245 ton per year PSD Avoidance limit.
4. Change the monitoring requirements for each oxidation catalyst used to control carbon monoxide emissions from each turbine pack.
5. Remove the diesel-fired fire water pump (ID No. ES-6) from the Air Permit.
6. Remove the diesel-fired emergency generator (ID No. ES-7) from the Air Permit.

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7. Remove the natural gas-fired compressor (ID No. ES-10) from the Air Permit.
8. The applicant is requesting that the monitoring intervals listed in Condition A.6.c. for each combustion turbine be changed from a 20 minute interval to a 15 minute interval in accordance with the required compliance demonstration in Part 75. The monitoring interval will be changed to 15 minutes in the permit.
9. Replaced NSPS Subpart GG with NSPS Subpart KKKK in accordance with 40 CFR Part §60.4305(b).

**D. Application (7700082.07A), issued as Air Permit No. 09488R03:**

1. Modify the current monitoring and testing permit conditions for the oxidation catalyst.
  - Remove the control efficiency testing requirement under the PSD Avoidance condition (Specific Condition No. A.6.b.) for NO<sub>x</sub> and CO; and
  - Revise the monitoring temperature range and clarify the location of the monitoring point in Specific Condition No. A.6.c.ii. in the existing permit.
2. Revise the definition of startup and shutdown of the turbines in Specific Condition No. A.8.a. of the existing permit.
3. Revise the monitoring requirement under Specific Condition No. A.6.c.i. of the existing permit.
4. Revise the monitoring and requirements in Specific Condition No. A.7.b. of the existing permit to demonstrate compliance with 15A NCAC 2D .1418.
5. Remove the turbines from condition 15A NCAC 2D .0516 because they are now covered under NSPS KKKK listed in Specific Condition A.3. for sulfur dioxide emissions.
6. The applicant asked to remove the limits listed in Specific Condition A.2. in the existing permit under 15A NCAC 2D. 0501(e) “Compliance With National Ambient Quality Standards”.

These usage limits are listed in Specific Condition A.2 of the current air permit. They are a partial duplication of the operation limits listed in Specific Condition A.8 of the current permit. These two conditions will be combined in the revised permit and listed as Specific Condition A.7 (Toxic air pollutant emission limitations and requirements).

**E. Application (7700082.08A), issued as Air Permit No. 09488R04:**

1. Revise the language in PSD Avoidance Section, Specific Condition A.5.c. of Permit 09488R03 (NCEMC-Hamlet Plant) to match the language listed in Air permit 09492R04 (NCEMC-Anson Plant).
  - a. In order to ensure compliance with the above avoidance limit for carbon monoxide (CO), the Permittee shall maintain a gas generator exhaust temperature (3-hour block average) within the range as specified in the permit for each oxidation catalyst (ID Nos. CD-1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B, 5A, and 5B).
  - b. Each calendar month, the Permittee shall calculate the CO emissions of each turbine for the previous month and the previous 12-month period to ensure compliance.
    - i. Monthly CO emissions, in tons, shall be calculated as follows:

$$E_{CO} = \{[(A_g \times t_{catalyst}) + (B_g \times t_{nocon})] + [C_{g-startup} \times N] + [D_{g-shutdown} \times N] + [(E_{fo} \times t_{catalyst}) + (F_{fo} \times t_{nocon})] + [G_{fo-startup} \times N] + [H_{fo-shutdown} \times N]\} \times 1/2000$$

**Where:**

$E_{CO}$  = number of tons of CO emissions per month

$A_g$  = pounds of CO per hour after control when firing natural gas

$B_g$  = pounds of CO per hour assuming no carbon monoxide control when firing natural gas

$C_g$  = pounds of CO per startup event when firing natural gas

$D_g$  = pounds of CO per shutdown event when firing natural gas

$E_{fo}$  = pounds of CO per hour after control when firing No. 2 fuel oil

$F_{fo}$  = pounds of CO per hour assuming no carbon monoxide control when firing fuel oil

$G_{fo}$  = pounds of CO per startup event when firing No. 2 fuel oil

$H_{fo}$  = pounds of CO per shutdown event when firing No. 2 fuel oil

$N$  = number of times started up or shutdown in the month

$t_{\text{catalyst}}$  = hours per month when the gas generator exhaust temperature is **inside** the specified range  
 $t_{\text{nocon}}$  = hours per month when the gas generator exhaust temperature is **outside** the specified range

Until DAQ approval of performance test results and the administrative amendment of this permit to incorporate those results, the following values shall be used:

$A_g$  = 7.8 lbs  
 $B_g$  = 78.4 lbs  
 $C_g$  = 25.93 lbs  
 $D_g$  = 24.07 lbs  
 $E_{fo}$  = 2.0 lbs  
 $F_{fo}$  = 19.6 lbs  
 $G_{fo}$  = 5.34 lbs  
 $H_{fo}$  = 5.94 lbs

Consecutive 12-month rolling CO emissions, in tons, shall be calculated by summing the monthly emissions, as determined above, for the previous 12-month period for each turbine unit.

If the Permittee fails to complete the required monthly calculations, or if the CO emissions as calculated above exceed the PSD Avoidance above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

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

- c. The Permittee shall submit a summary report of monitoring and recordkeeping activities 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. The report shall contain the following:
  - i. The monthly CO emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.
  - ii. The monthly nitrogen oxide emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months
  - iii. An exception report listing dates that any 3-hour block average that the gas generator exhaust temperature is outside the specified range listed in the Air Permit and the actions taken to correct.
2. The applicant also requests a modification to the permit to account for periods of operation below 50% load, not associated with startup and shutdown events. The facility would like to have the ability to operate below the 50% load level for purposes of emission /equipment /monitor/software testing. Intentional operation below the 50% load level outside of startup and shutdown will not occur other than for these type testing purposes. The following language will be added to Specific Condition 7.a. of the permit.

“Turbine startup and shutdown or operation below 50% shall be limited to an average of 2 hours per day per turbine. Startup and shutdown is defined on a turbine by turbine basis as operation from 0 to 50% load during natural gas and fuel oil operation.”

**III. Purpose of applications:**

- A. Application 7700082.08B – to apply for a first Time Title V Permit.
- B. Application 7700082.09B – to apply for a permit renewal (this application was consolidated with the 1<sup>st</sup> Time Title V Permit application.

**IV. Facility Description:**

This facility is a simple-cycle, natural gas-fired (low sulfur No. 2 fuel oil backup) combustion turbine electricity generating facility in Richmond County. This facility uses five Pratt and Whitney FT8 Swift-Pac simple cycle gas turbine generator sets. Each of the five units consists of two turbines, each equipped with water injection and an oxidation catalyst system, and one common generator for each set of turbines.

The water injection system introduces demineralized water with the fuel into the nozzles of the gas turbine to assist in achieving required exhaust gas emission levels. The system operation is automatically controlled by the electronic gas turbine control. When operating on liquid fuel, the water is mixed with the fuel and sent through the liquid fuel nozzles. When running on gas fuel, the water is sent through the liquid fuel nozzles and the gas through the gas fuel nozzles. When running on both fuels, the water is mixed with the liquid fuel and injected through the nozzles via the liquid fuel manifold, while the gas flows through the gas fuel nozzles.

The two turbines associated with each FT-8 do not have to operate simultaneously. The double-ended configuration allows for greater efficiency during partial load usage. This plant operates as a “peaking” facility to meet peak power demands on a daily or seasonal basis.

**V. Changes to existing Permit per applications 7700082.08B and 09B.**

**Changes to existing Title V Permit No. 09488T04 per applications (7700082.08B)**

Old Page No.	New Page No.	Condition No.	Changes
Page 1	Page 1	Cover letter	Changed: Issue date of permit, address to site location address, 1 <sup>st</sup> sentence to describe the type of permit,
Page 2	Page 2	Cover letter	Changed: Date in the heading, issue date of the permit, added EPA to copy list, added Attachment A and B descriptions to bottom of page
Page 3	Page 3	Cover letter	Added insignificant activities list as attachment “B”, and revised the “changes to the permit “ table to reflect this permit modification
Body of the Permit			
Page 1	Page 1	Cover page of permit	Changed: Issue date, effective date, replaces permit No., Expiration date, permitted source layout, reformatted page
Pages 2-9	All pages	All pages	Reformatted entire permit, added regulatory requirements for a Title V permit
Pages 9-11	Pages 14-23	General Conditions	Added Title V General Conditions (version 3.2.2)

**VI. Statement of Compliance:**

The DAQ has reviewed the compliance status of this facility. On its latest inspection, performed on February 18, 2010 by Mr. Tien Nguyen of the Fayetteville Regional Office (FRO). Mr. Nguyen states that the facility appeared to be in compliance with all applicable requirements.

**VII. Summary Of Emission Sources For Which This 1<sup>st</sup> Time Title V Permit Is Being Issued**

Emission Source ID	Emission Source Description	Control Device ID No.	Control Device Description
ES-1A NSPS	One Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity when firing natural gas, and 281 million Btu per hour nominal heat input capacity when firing No. 2 fuel oil) and one generator per set of turbines	CD-1	Water injection system
		CD-1A	Oxidation catalyst system
ES-1B NSPS	One Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity when firing natural gas, and 281 million Btu per hour nominal heat input capacity when firing No. 2 fuel oil) and one generator per set of turbines	CD-1	Water injection system
		CD-1B	Oxidation catalyst system

--Table continued on the next page--

Emission Source ID	Emission Source Description	Control Device ID No.	Control Device Description
ES-2A NSPS	One Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity when firing natural gas, and 281 million Btu per hour nominal heat input capacity when firing No. 2 fuel oil) and one generator per set of turbines	CD-1 CD-2A	Water injection system Oxidation catalyst system
ES-2B NSPS	One Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity when firing natural gas, and 281 million Btu per hour nominal heat input capacity when firing No. 2 fuel oil) and one generator per set of turbines	CD-1 CD-2B	Water injection Oxidation catalyst system
ES-3A NSPS	One Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity when firing natural gas, and 281 million Btu per hour nominal heat input capacity when firing No. 2 fuel oil) and one generator per set of turbines	CD-1 CD-3A	Water injection system Oxidation catalyst system
ES-3B NSPS	One Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity when firing natural gas, and 281 million Btu per hour nominal heat input capacity when firing No. 2 fuel oil) and one generator per set of turbines	CD-1 CD-3B	Water injection system Oxidation catalyst system
ES-4A NSPS	One Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity when firing natural gas, and 281 million Btu per hour nominal heat input capacity when firing No. 2 fuel oil) and one generator per set of turbines	CD-1 CD-4A	Water injection system Oxidation catalyst system
ES-4B NSPS	One Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity when firing natural gas, and 281 million Btu per hour nominal heat input capacity when firing No. 2 fuel oil) and one generator per set of turbines	CD-1 CD-4B	Water injection system Oxidation catalyst system
ES-5A NSPS	One Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity when firing natural gas, and 281 million Btu per hour nominal heat input capacity when firing No. 2 fuel oil) and one generator per set of turbines	CD-1 CD-5A	Water injection system Oxidation catalyst system
ES-5B NSPS	One Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity when firing natural gas, and 281 million Btu per hour nominal heat input capacity when firing No. 2 fuel oil) and one generator per set of turbines	CD-1 CD-5B	Water injection system Oxidation catalyst system

### VIII. Source by Source evaluation:

A. Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine (300 million Btu per hour nominal heat input capacity each when firing natural gas, and 281 million Btu per hour nominal heat input capacity each when firing No. 2 fuel oil) and one generator

- ES-1A and 1B
- ES-2A and 2B
- ES-3A and 3B
- ES-4A and 4B
- ES-5A and 5B

1. **Description:** These sources are simple-cycle, natural gas-fired, low sulfur No. 2 fuel oil-fired combustion turbine electricity generating units. Each unit is a Pratt and Whitney FT8 Swift-Pac simple cycle gas turbine generator set consisting of two turbines, each equipped with water injection and an oxidation catalyst system, and one generator. The two turbines associated with each FT-8 do not have to operate simultaneously. The double-ended configuration allows for greater efficiency during partial load usage. This plant operates as a “peaking” facility to meet peak power demands on a daily or seasonal basis.
  
2. **Applicable Regulatory Requirements:**  
 These units are not subject to MACT, Subpart YYYY, because the emission of hazardous air pollutants from the facility is less than the major source thresholds. This MACT does not apply to area sources of HAPs. These units are subject to NSPS, Subpart KKKK “Standards of Performance For Stationary Combustion Turbines” (replaced NSPS Subpart GG).

The following provides a summary of limits and/or standards for the emission source(s) described above.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Visible emissions	20 percent opacity	15A NCAC 2D .0521
Sulfur dioxide	Any fuel: Not to exceed total sulfur content of 0.05 wt % (500 ppmw) -or- Any fuel: Not to exceed total sulfur content of 0.06 lbs/mmBtu heat input -or- Exit gases: Not to discharge sulfur dioxide emissions in excess of 0.90 pound per megawatt-hour gross output	15A NCAC 2D .0524 NSPS, Subpart KKKK
	Allowances under tables 2, 3, or 4 or 40 CFR Part 73	15A NCAC 2Q .0400 Acid Rain
Toxic air pollutants	Operational limits	15A NCAC 2D .1100
Nitrogen oxides	No. 2 fuel oil: 74 ppm at 15 percent O <sub>2</sub> (4-hour rolling average)	15A NCAC 2D .0524 NSPS, Subpart KKKK
	Natural gas: 25 ppm at 15 percent O <sub>2</sub> (4-hour rolling average)	
	0.15 lbs per million Btu heat input (natural gas) 0.18 lbs per million Btu heat input (No. 2 fuel oil)  For low mass units, during ozone season, NO <sub>x</sub> emissions from each turbine shall be less than 50 tons	15A NCAC 2D .1418 New Electric Generating Units
	Less than 245 tons per consecutive 12 months	15A NCAC 2Q .0317 of (2D .0530) PSD Avoidance
Carbon monoxide	Less than 245 tons per consecutive 12 months	15A NCAC 2Q .0317 of (2D .0530) PSD Avoidance

**a. 15A NCAC 2D .0501(e) “Emission Control Standards”**

The emissions from the turbine stacks were modeled to estimate the maximum concentrations for all criteria pollutants. Some pollutant impacts were in excess of the significant impact levels [SILs] and a cumulative impact analysis was performed to show that impacts were below the state and national ambient air quality standards (AAQS).

The Permittee shall, on a daily basis, measure and record the operational turbine hours while burning No. 2 fuel oil plus the number of startup and shutdown hours.

**b. 15A NCAC 2D .0521 "Control Of Visible Emissions"**

As required by 15A NCAC 2D .0521 "Control of Visible Emissions," visible emissions from the combustion turbines (ID Nos. ES1-A, ES1-B, ES2-A, ES2-B, ES3-A, ES3-B, ES4-A, ES4-B, ES5-A, and ES5-B) manufactured after July 1, 1971, shall not be more than 20 percent opacity each when averaged over a six-minute period. However, six-minute periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Natural gas and No. 2 fuel oil are clean burning fuels, and as such, the opacity should always be in compliance with the 20 percent limitation.

**c. 15A NCAC 2D .0524 "New Source Performance Standards" [NSPS, Subpart KKKK]**

This standard is applicable to stationary gas turbine units that have a heat input of greater than 10 mmBtu per hour, based on the lower heating value [LHV] of the fuel burned, that are manufactured after February 18, 2005. The combustion turbines at this facility are each greater than this threshold limit. NSPS, Subpart KKKK "Standards of Performance For Stationary Combustion Turbines" replaced existing NSPS Subpart GG on July 6, 2006 for turbines that are built after February 18, 2005 and that have a peak heat input load greater than 10 million Btu per hour.

For the combustion turbines (ID Nos. ES1-A, ES1-B, ES2-A, ES2-B, ES3-A, ES3-B, ES4-A, ES4-B, ES5-A, ES5-B, ES6-A, ES6-B), the Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards" (NSPS) as promulgated in 40 CFR 60, Subpart KKKK, including Subpart A "General Provisions."

- i. NSPS Emissions Limitations - As required by 40 CFR 60.4320 and 60.4330, the following permit limits shall not be exceeded:

Affected Facility	Pollutant	Emission Limit
Combustion turbines (ID Nos. ES1-A, ES1-B, ES2-A, ES2-B, ES3-A, ES3-B, ES4-A, ES4-B, ES5-A, ES5-B)	Sulfur Dioxide: Any fuel: Not to exceed total sulfur content of 0.05 wt % (500 ppmw) -or- Any fuel: Not to exceed total sulfur content of 0.06 lbs/mmBtu heat input -or- Exit gases: Not to discharge sulfur dioxide emissions in excess of 0.90 pound per megawatt-hour gross output	0.060 lb/mmBtu
	Nitrogen oxides	No. 2 fuel oil 74 ppm at 15 percent O <sub>2</sub> (4-hour rolling average) Natural gas 25 ppm at 15 percent O <sub>2</sub> (4-hour rolling average)

- ii. NSPS Performance Testing for NOx – The combustion turbines (ID Nos. ES1-A, ES1-B, ES2-A, ES2-B, ES3-A, ES3-B, ES4-A, ES4-B, ES5-A, and ES5-B), shall be tested as follows:

The initial performance test has been completed at this facility (2007). If additional emissions testing is required, the testing shall be performed utilizing EPA Reference Methods contained in 40 CFR Part 60 Appendix A or in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ of the Title V Permit. If the results of this test are above the limit given in the table above, the Permittee shall be deemed in noncompliance with 40 CFR Part 60, Subpart.

- iii. NSPS Performance Testing for SO<sub>2</sub> – The combustion turbines (ID Nos. ES1-A, ES1-B, ES2-A, ES2-B, ES3-A, ES3-B, ES4-A, ES4-B, ES5-A, and ES5-B), shall be tested as follows:  
The initial performance test has been completed at this facility (2007). The Permittee elected to monitor the total sulfur content of the fuel combusted in the turbine, by demonstrating that the fuel sulfur emissions do not exceed 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/ MMBtu) heat input for units located in continental areas. [40 CFR §60.4365]
- iv. NSPS Monitoring/Recordkeeping
  - (A) The Permittee shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in §60.4365. The sulfur content of the fuel shall be determined using total sulfur methods described in §60.4415. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see §60.17), which measure the major sulfur compounds, may be used.
  - (B) In accordance with §60.4365, the Permittee may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/ MMBtu) heat input for units located in continental areas. The Permittee shall use one of the following sources of information to make the required demonstration:
    - (1) The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use in continental areas is 0.05 weight percent (500 ppmw) or less. The total sulfur content for natural gas use in continental areas is 20 grains of sulfur or less per 100 standard cubic feet and has potential sulfur emissions of less than less than 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for continental areas.
    - (2) Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for continental areas. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of Appendix D to Part 75 of this chapter is required.
- v. The frequency of determining the sulfur content of the fuel shall be follows:
  - (A) For *fuel oil*, use one of the total sulfur sampling options and the associated sampling frequency described in sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of appendix D to Part 75 of this chapter ( *i.e.* , flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank).
  - (B) *Gaseous fuel*. If the Permittee elects not to demonstrate sulfur content using options in §60.4365, and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel shall be determined and recorded once per unit operating day.
  - (C) *Custom schedules*. Notwithstanding the requirements of §60 .4370(b), operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in paragraphs §60 .4370(c)(1) and (c)(2), custom schedules shall be substantiated with data and shall be approved by the Division of Air Quality before they can be used to comply with the standard in §60 .4330.

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

- vii. The Permittee shall submit reports of excess emissions and monitor downtime in accordance with §60.7(c).

The Permittee shall report excess emissions for all periods of operation, including start-up, shutdown, and malfunction. These reports shall be postmarked by the 30th day following the end of each 6-month period.

- (A) If the Permittee chooses the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime shall be defined as follows [§60.4385):

- (1) For samples of gaseous fuel, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.
- (2) If the option to sample each delivery of fuel oil has been selected, the Permittee shall immediately switch to one of the other oil sampling options (i.e., daily sampling, flow proportional sampling, or sampling from the unit's storage tank) if the sulfur content of a delivery exceeds 0.05 weight percent. The Permittee shall continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and the Permittee shall evaluate excess emissions according to this Section. When all of the fuel from the delivery has been burned, the Permittee may resume using the as-delivered sampling option.
- (3) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained, The period of monitor downtime ends on the date and hour of the next valid sample.

**d. 15A NCAC 2Q .0317 "Avoidance Conditions" [avoidance of 15A NCAC 2D .0530] - CO**

- i. To comply with this permit and to avoid applicability of 15A NCAC 2D .0530 "Prevention of Significant Deterioration," as requested by the Permittee, **carbon monoxide** emissions from the combustion turbines (ID Nos. ES1-A, ES1-B, ES2-A, ES2-B, ES3-A, ES3-B, ES4-A, ES4-B, ES5-A, and ES5-B) shall be **less than 245 tons** per consecutive 12-month period.

ii. Performance Testing

The initial performance testing has been completed. If additional performance testing is required, the testing shall be performed in accordance with General Condition JJ of the Title V permit. If the results of this test are above the limit given in Section VIII. A. 2. d. i. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

iii. Monitoring/Recordkeeping

(A) Turbine startup and shutdown or operation below 50% load shall be limited to an average of 2 hours per day per turbine. On a turbine-by-turbine basis, startup and shutdown is defined as operation from 0 to 50 percent electrical output during natural gas firing and/or fuel oil firing. The Permittee shall record the number of startup and shutdown hours for each turbine on a daily basis.

(B) Carbon monoxide emissions shall be controlled by an oxidation catalyst. The oxidation catalyst shall be monitored by periodic sampling (coupon sampling) as recommended by the manufacturer and by gas temperature at the gas generator exhaust. The gas temperature at the exhaust exit of the gas generator shall be monitored and maintained between **840 to 1800** degrees Fahrenheit except during start-up and shutdowns. Measured temperature at the gas generator shall be correlated to measured temperature at the catalyst outlet during testing performed under NSPS Subpart KKKK testing. Any values falling outside the above operating parameters shall be recorded and dated, along with actions taken to bring them back within normal operating ranges.

(C) In order to ensure compliance with the above avoidance limit for carbon monoxide (CO), the Permittee shall maintain a gas generator exhaust temperature (3-hour block average) within the range of 840 to 1800 degrees Fahrenheit for each oxidation catalyst (ID Nos. CD-1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B, 5A, and 5B).

(1) Each calendar month, the Permittee shall calculate the CO emissions of each turbine or the previous month and the previous 12-month period to ensure compliance with Condition 5. a. above.

(a) Monthly CO emissions, in tons, shall be calculated as follows:

$$E_{CO} = \{[(A_g \times t_{catalyst}) + (B_g \times t_{nocon})] + [C_{g-startup} \times N] + [D_{g-shutdown} \times N] + [(E_{fo} \times t_{catalyst}) + (F_{fo} \times t_{nocon})] + [G_{fo-startup} \times N] + [H_{fo-shutdown} \times N]\} \times 1/2000$$

Where:

$E_{CO}$  = number of tons of CO emissions per month

$A_g$  = pounds of CO per hour after control when firing natural gas

$B_g$  = pounds of CO per hour assuming no carbon monoxide control when firing natural gas

$C_g$  = pounds of CO per startup event when firing natural gas

$D_g$  = pounds of CO per shutdown event when firing natural gas

$E_{fo}$  = pounds of CO per hour after control when firing No. 2 fuel oil

$F_{fo}$  = pounds of CO per hour assuming no carbon monoxide control when firing fuel oil

$G_{fo}$  = pounds of CO per startup event when firing No. 2 fuel oil

$H_{fo}$  = pounds of CO per shutdown event when firing No. 2 fuel oil

$t_{catalyst}$  = hours per month when the gas generator exhaust temperature is **inside** the range specified in VIII.A.2.d.iii.(B).

$t_{nocon}$  = hours per month when gas generator exhaust temperature is **outside** the range specified in VIII.A.2.d.iii.(B).

$N$  = number of times started up or shutdown in the month

The following values shall be used:

$A_g$  = 7.8 lbs

$B_g$  = 78.4 lbs

$C_g$  = 25.93 lbs

$D_g$  = 24.07 lbs

$E_{fo}$  = 2.0 lbs

$F_{fo}$  = 19.6 lbs

$G_{fo}$  = 5.34 lbs

$H_{fo}$  = 5.94 lbs

(D) Consecutive 12-month rolling CO emissions, in tons, shall be calculated by summing the monthly emissions, as determined above, for the previous 12-month period for the turbine units.

If the Permittee fails to complete the required monthly calculations, or if the CO emissions as calculated above exceed the limit of 245 tons per year, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

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

- iv. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities 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. The report shall contain the following:
  - (A) The monthly CO emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months;
  - (B) The monthly quantities of natural gas and No. 2 fuel oil consumed for the previous 17 months;
  - (C) Any exceedance including the date and any 3-hour block time period, that the average catalyst temperature is not maintained.

**e. 15A NCAC 2Q .0317 “Avoidance Conditions” [avoidance of 15A NCAC 2D .0530] -NOx**

- i. The Permittee shall perform initial, periodic, and other quality assurance/quality control NOx emission testing as per Part 75. The Permittee shall conform to all details of the emissions testing and reporting requirements in Section 3 - General Condition JJ.

If the results of any tests for NOx are above the limits given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

- ii. The Permittee shall monitor NOx emissions from combustion turbines (ID Nos. ES1-A, ES1-B, ES2-A, ES2-B, ES3-A, ES3-B, ES4-A, ES4-B, ES5-A, and ES5-B) as per Appendix E to Part 75. In addition, nitrogen oxide emissions from turbine startup and shutdown, shall be calculated using the manufacturer's data assuming a loading/unloading rate of 5 MW per minute. Each startup and shutdown shall be recorded daily for each turbine. Total daily nitrogen oxide emissions shall equal startups plus shutdowns plus daily running load.
- iii. If the option to use a NOx CEMS is chosen, the Permittee shall monitor NOx emissions from combustion turbines (ID Nos. ES1-A, ES1-B, ES2-A, ES2-B, ES3-A, ES3-B, ES4-A, ES4-B, ES5-A, ES5-B) as per §§60.4335(b) and 60.4345.

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

- iv. The Permittee shall submit a summary report of monitoring and recordkeeping activities 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. The report shall contain the following:
  - (A) The monthly NOx emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.

**f. 15A NCAC 2D .1418 “New Electric Generating Units”**

This rule is applicable to any fossil fuel fired combustion turbine permitted after October 31, 2000, serving a generator with a nameplate capacity of 25 megawatts electrical, and selling any amount of electricity. The generators proposed in this application have a capacity of 56.7 megawatts.

- i. Pursuant to 15A NCAC 2D .1418, emissions of nitrogen oxides from any fossil fuel-fired combustion turbines permitted after October 31, 2000, serving a generator with a nameplate capacity greater than 25 megawatts electrical and selling any amount of electricity shall not exceed 0.15 pounds per million Btu for gaseous and solid fuels and 0.18 pounds per million Btu for liquid fuels if it is not covered under Rule 15A NCAC 2D .0530 (prevention of significant deterioration) or 15A NCAC 2D .0531 (nonattainment area major new source review).

Monitoring - Under 40 CFR 75.12(e), gas-fired or oil-fired peaking units may use procedures specified in Appendix E of the part for estimating hourly NOx emission rates in lieu of CEMs.

**g. 15A NCAC 2D .1100 “Control of Toxics Air Pollutants”**

The applicant modeled sulfuric acid mist that results from the use of the oxidation catalyst. The modeling results showed that the 1-hour maximum concentrations were approximately 67 percent of the acceptable ambient level [AAL] and that the 24-hour maximum concentrations were approximately 96 percent of the AAL.

Pursuant to 15A NCAC 2D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the following permit limit shall not be exceeded:

EMISSION SOURCE(S)	TOXIC AIR POLLUTANT(S)
Ten oxidation catalyts	H <sub>2</sub> SO <sub>4</sub> (sulfuric acid)

- a. To ensure compliance with this Regulation, operation of the combustion turbines shall be limited while burning No. 2 fuel oil as follows:

As required by 15A NCAC 2D .1100 “Control of Toxic Air Pollutants,” operation of the combustion turbines shall be limited while burning No. 2 fuel oil as follows:

Fuel Oil Sulfur Content	Maximum Turbine-Hours/Day (total 10 turbines)
0.050 % or less	120
0.045 or less	140
0.040 or less	160
0.030 or less	230
0.025 or less	unlimited

**Monitoring/Recordkeeping**

- b. The Permittee shall on a daily basis measure and record the operational turbine hours while burning No. 2 fuel oil and the fuel oil sulfur content (percent) corresponding to these turbine hours.

**Reporting Requirements**

- c. The Permittee shall submit a summary report of monitoring and recordkeeping activities 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 condition must be clearly identified.

**h. 15A NCAC 2D .1111 “ Maximum Achievable Control Technology”**

Using AP-42 emission factors for the burning of both natural gas and distillate fuel oil for the combustion turbines and distillate fuel oil for the emergency generator and water pump, the maximum hazardous air pollutant [HAP] emissions equated to approximately 5.24 tons per year for all HAPs and approximately 3.7 tons per year for a single HAP. This defines the site as a minor source for HAPs and therefore not subject to MACT Part 63, Subpart YYYY [Stationary Combustion Turbines].

**i. 15A NCAC 2D .0614 “Compliance Assurance Monitoring”**

CAM does not apply for criteria pollutants SO<sub>2</sub> and NO<sub>x</sub> in accordance with 2D .0614(b)(1)(A). This regulation exempts sources that are regulated by emission limitations or standards that are proposed by the Administrator of the Environmental Protection Agency after November 15, 1990 pursuant to section 111 or 112 of the Federal Clean Air Act. NSPS, Subpart KKKK was revised on July 6, 2006 and regulates SO<sub>2</sub> and NO<sub>x</sub> emissions from combustion turbines.

This regulation also exempts sources that have an emissions cap that is approved under the rules of Subchapters 2D and 2Q of the North Carolina regulations that is incorporated in a Title V permit. This facility has a PSD Avoidance condition for both NO<sub>x</sub> and CO. Therefore, a CAM plan is not required for SO<sub>2</sub>, NO<sub>x</sub>, or CO.

- j. **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 75 "Continuous Emissions Monitoring")  
 This regulation establishes requirements for the installation, certification, operation, and maintenance of continuous emissions or opacity monitoring systems.

The following sources are affected units under 40 CFR Part 72.6 and are therefore subject to the Phase II acid rain requirements:

Emission Source ID No.	Emission Source Description
ES1-A ES1-B ES2-A ES2-B ES3-A ES3-B ES4-A ES4-B ES5-A ES5-B	Five (5) Pratt & Whitney FT8 Swift-Pac simple-cycle gas turbine generator sets. A Swift-Pac unit consists of two turbines, each equipped with water injection and an oxidation catalyst system, and one generator. Each turbine has a nominal HHV rating of 300 million Btu per hour heat input capacity when firing natural gas, and a nominal HHV rating of 281 million Btu per hour heat input capacity when firing No. 2 fuel oil

**k. Carbon Monoxide Monitoring for the Catalyst**

The current permit indicates that the carbon monoxide emissions from the combustion turbine sets shall be controlled by one oxidation catalyst system per set (six total).

The applicant states that monitoring pressure drop across the catalyst will not yield valuable data regarding catalyst fouling or remaining catalyst life. Catalyst poisoning would not exhibit a significant change in pressure drop across the catalyst. Pluggage of the catalyst is typically only an issue for facilities utilizing solid fuel where particulate loading is significant. Additionally, the exhaust gas stream would not be of a composition that would indicate a risk of poisoning. As a practical alternative to measuring pressure drop across the catalyst, NCEMC proposes to sample the catalyst material by removing coupons (buttons) provided by the catalyst manufacturer (for the purpose of sampling) to determine remaining catalyst life. Sampling of the catalyst material periodically is a procedure recommended by the manufacturer to monitor catalyst health and is a practice performed by similar combustion turbine facilities to demonstrate compliance.

Vendor information ENSR has provided during previous application submittals on behalf of NCEMC, has indicated that the oxidation reaction between oxygen and carbon monoxide, which is enhanced by the catalyst, occurs at 500 degrees Fahrenheit and above to form carbon dioxide. Engelhard's specified maximum temperature of 1100 degrees Fahrenheit is a mechanical limit above which deterioration in performance could be expected. NCEMC proposes to monitor gas temperature at the exhaust exit of the gas turbine generator. Pratt & Whitney, the turbine manufacturer, has calculated the temperature range at the gas turbine exit that corresponds to the 500 - 1100 degree Fahrenheit temperature range at the catalyst bed to be 900 – 1500 degrees Fahrenheit at the exit of the gas turbine.

**Note:**

NCEMC requests that the gas temperature be monitored at the gas expansion turbine exhaust, prior to the power turbine. It is important to note that the gas temperature will cool as it travels from the power turbine exit to the inlet of the catalyst bed. Because of this expected cooling, Pratt & Whitney created a correlation curve plotting the catalyst inlet temperature versus the gas turbine exhaust temperature. The gas turbine exhaust temperature that **correlates** to the catalyst vendor's recommended catalyst bed temperature (600 °F - 1150 °F) operating range is 840 °F to 1800 °F. **The operating temperature range is (840 °F -1800 °F).**

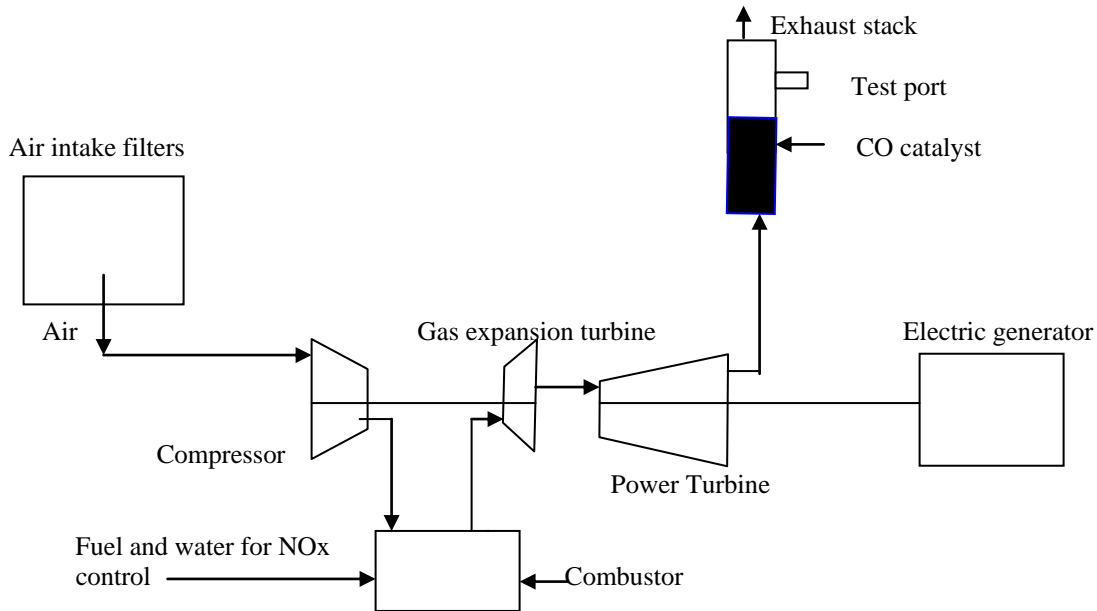


Diagram of One combustion Turbine (2 for each generator) Pratt & Whitney FT8 SwiftPac

**i. NAAQs Modeling:**

NAAQs was submitted with application 0400050.06B (revision R03). Ms. Jamie Sellman, of the Division of Air Quality Analysis Branch reviewed the dispersion modeling submitted by this facility. The modeling analysis was performed for PM<sub>10</sub>, TSP, SO<sub>2</sub>, CO, and NO<sub>x</sub> emitted from the NCEMC. The modeling analysis adequately demonstrates compliance with the National Ambient Air Quality Standards (NAAQS) on a source- by-source basis.

The AERMOD model was run for the natural gas heater (ID No. IES-11), 12 combustion turbines for natural gas and fuel oil operations, and offsite sources. The facility modeled four operating load scenarios, with the turbines operating at 100%, 75%, 50%, and “low load”. Direction-specific building dimensions, determined using EPA’s BPIP-PRIME program, were input to the AERMOD Model for building wake effect determination. Five years of meteorological data (1987-1991) from Charlotte (surface) and Greensboro (upper air) were processed by AERMET and used in the analysis. Sufficient receptors were placed around the property, and were spaced 50 meters apart along the property boundary. The AERMAP preprocessor assigned terrain heights and hill height scales to each receptor based on US Geological Survey digital elevation model (DEM) data.

Annual PM<sub>10</sub>, annual SO<sub>2</sub>, and 1-hour and 8-hour CO were below the corresponding SILs and required no further modeling. A full NAAQS analysis was required for annual NO<sub>x</sub>, 24-hour PM<sub>10</sub>, 3-hour and 24 hour SO<sub>2</sub>, and TSP and found the results to be 32%, 38%, 11%, and 12%, and 66% respectively after adding background concentrations.

The air dispersion modeling analysis was conducted with emission rates and flue gas exhaust characteristics (flow rate and temperature) that are expected to represent the worst-case parameters among the range of possible values for the Pratt & Whitney Swift-Pac™ chosen for the Anson Plant. Since turbine emission rates and flue gas characteristics for a given turbine load vary as a function of ambient temperature, data was derived for a range of ambient temperatures and load scenarios.

In order to conservatively calculate ground-level concentrations, a composite “worse-case” set of emission parameters was used in the modeling. For each simple-cycle operating load, the highest pollutant-specific emission rate coupled with the lowest exhaust temperature and lowest exhaust flow rate was selected.

Table 1 Worst–Case Combustion Turbine Stack Data for Dispersion Modeling – Natural Gas Heater (NCEMC’s Plant)

Parameter	Value
Stack Height	17.5 feet
Stack Diameter	1.42 feet
Exit Temperature	900 degrees Fahrenheit
Exit Velocity	19.78 feet/second
NO <sub>x</sub>	0.22 pounds/hour
CO	0.22 pounds per hour
SO <sub>2</sub>	0.0012 pounds per hour
TSP/PM <sub>10</sub>	0.016 pounds per hour

Table 2 Worst –Case Combustion Turbine Stack Data for Dispersion Modeling – Natural gas firing (NCEMC’s Plant)

Parameter	Value			
Load %	100	75	50	40
Stack Height	60.0 feet	60.0 feet	60.0 feet	60.0 feet
Stack Diameter	8.21 feet	8.21 feet	8.21 feet	8.21 feet
Exit Temperature	706.0 °F	629.0 °F	572.0 °F	603.0 °F
Exit Velocity	145.2 feet/sec	125.5 feet/sec	105.9 feet/sec	99.7 feet/sec
NO <sub>x</sub>	31.4 lbs/hr	24.3 lbs/hr	18.0 lbs/hr	15.7 lbs/hr
CO	6.1 lbs/hr	8.0 lbs/hr	7.8 lbs/hr	5.8 lbs/hr
SO <sub>2</sub>	1.74 lbs/hr	1.35 lbs/hr	0.99 lbs/hr	0.87 lbs/hr
TSP/PM <sub>10</sub>	5.88 lbs/hr	5.88 lbs/hr	5.88 lbs/hr	5.88 lbs/hr

Table 3 Worst–Case Combustion Turbine Stack Data for Dispersion Modeling – Fuel oil firing (NCEMC’s Plant)

Parameter	Value			
Load %	100	75	50	40
Stack Height	60.0 feet	60.0 feet	60.0 feet	60.0 feet
Stack Diameter	8.21 feet	8.21 feet	8.21 feet	8.21 feet
Exit Temperature	673.0 °F	620.0 °F	565.0 °F	599.0 °F
Exit Velocity	142.0 feet/sec	123.2 feet/sec	103.4 feet/sec	83.1 feet/sec
NO <sub>x</sub>	51.0 lbs/hr	39.6 lbs/hr	29.2 lbs/hr	18.7 lbs/hr
CO	1.5 lbs/hr	1.6 lbs/hr	1.9 lbs/hr	1.3 lbs/hr
SO <sub>2</sub>	14.6 lbs/hr	11.4 lbs/hr	8.4 lbs/hr	5.4 lbs/hr
TSP/PM <sub>10</sub>	18.0 lbs/hr	18.0 lbs/hr	18.0 lbs/hr	18.0 lbs/hr

**The modeling analysis adequately demonstrates compliance with the National Ambient Air Quality Standards (NAAQS) on a source- by-source basis.**

- IX.** A Professional Engineers Seal **is not** required for this permit modification.
- X.** A consistency determination **is not required** for this modification. A request for a consistency was provided when the sources were previously permitted under the State 300 permitting process.
- XI.** An application fee of \$867.00 is required and was received by the DAQ Central Office on August 29, 2008.
- XII.** The appropriate numbers of copies of the application were received by the DAQ.
- XIII.** The application was signed by an authorized official as defined by 15A NCAC 2Q .0304(j).
- XIV.** This facility **is not subject** to 15A NCAC 2Q .0508(g) "Prevention of Accidental Releases" because it does not store chemicals that are subject to this regulation in quantities great enough to cross the threshold limits.
- XV.** **Air toxics:** An air toxics review is not triggered with this modification.

**XVI. Public Notice**

A thirty-day public notice **is required** for this one-step Significant Modification and Renewal.

**Public notice:** The 30 day public notice period was from \_\_\_\_ through \_\_\_\_\_, 2009. \_\_\_\_public comments were received for this permit application.

**EPA 45-Day review Period:** The DAQ sent copies of the appropriate information to the USEPA prior to the public notice.

The 30 day public notice period was from \_\_\_\_2010 through \_\_\_\_\_, 2010. \_\_\_\_were \_\_\_\_adverse comments.

The EPA 45-day review period was from \_\_\_\_2010 through \_\_\_\_\_, 2010. The USEPA \_\_\_\_ have any comments on this modification.

**XVII. NonAttainment:**

Richmond County **has not been** designated nonattainment for the eight-hour ozone standard.

**XVIII. Prevention of Significant Deterioration (PSD)**

This facility is not major for PSD, and the proposed modification in this application does not trigger a PSD review. Also, the PSD minor source baseline date has not been triggered for any criteria pollutant in Richmond County.

**XIX. MACT:**

40 CFR Part 63, Subpart YYYY (combustion turbines) does not apply to the turbines at this facility because the facility is not major for hazardous air pollutants.

**XX. Recommendations**

This modification, issued as a 1<sup>st</sup> Time Title V" to the North Carolina Electric Membership Corporation, Hamlet Plant located in Hamlet, Richmond County, North Carolina, has been reviewed by the DAQ to determine compliance with all procedures and requirements. The DAQ has determined that this facility is complying or will achieve compliance as specified in the permit with all applicable requirements.

A copy of the draft permit was submitted to the NCEMC on \_\_\_\_\_, 2009

The Fayetteville Regional Office did not comment on the initial application, however, they did comment on the engineering review and draft permit. The Fayetteville Regional Office concurs with the issuance of this permit.

**Issue permit No. 09488T05.**