Air Quality
ENVIRONMENTAL QUALITY

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL A. ABRACZINSKAS
Director

May 10, 2018

Mr. Henry Botkins, Jr.
General Manager II, Buck Combined Cycle Facility
Duke Energy Carolinas LLC
1385 Dukeville Road
Salisbury, NC 28146-8613

SUBJECT: Air Quality Permit No. 03786T35
Facility ID: 8000004
Duke Energy Carolinas LLC - Buck Combined Cycle Facility
Salisbury, Rowan County, North Carolina
Fee Class: Title V
PSD Class: Major

Dear Mr. Botkins:

I In accordance with your completed Air Quality Permit Application for the 1st step of a two part major modification of your Title V permit received April 24, 2017, we are hereby forwarding herewith Air Quality Permit No. 03786T35 to Duke Energy Carolinas LLC, Combined Cycle Facility, Salisbury, Rowan County, North Carolina, authorizing the construction and operation of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503(8) have been listed for informational purposes as an attachment. Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

As the designated responsible official it is your responsibility to review, understand, and abide by all of the terms and conditions of the attached permit. It is also your responsibility to ensure that any person who operates any emission source and associated air pollution control device subject to any term or condition of the attached permit reviews, understands, and abides by the condition(s) of the attached permit that are applicable to that particular emission source.

If any parts, requirements, or limitations contained in this Air Quality Permit are unacceptable to you, you have the right to request a formal adjudicatory hearing within 30 days following receipt of this permit, identifying the specific issues to be contested. This hearing request must be in the form of a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with both the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that this permit will be stayed in its entirety upon receipt of the request for a hearing. Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.

You may request modification of your permit through informal means pursuant to NCGS 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that this Air Quality Permit will become final and binding regardless of a request for informal modification unless a request for a hearing is also made under NCGS 150B-23.

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of NCGS 143-215.108A(b) and received written approval from the Director of the Division of Air Quality to commence construction. Failure to receive an Air Quality Permit or written approval prior to commencing construction is a violation of NCGS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in NCGS 143-215.114A and 143-215.114B.

Rowan County has triggered PSD Increment Tracking for PM-10, SO2, and NO_x. This modification will result in an increase of emissions including an increase of 10.8 pounds per hour of PM_{10}, 41.0 pounds per hour of SO_2, and 30.3 pounds per hour of NO_x.

This Air Quality Permit shall be effective from May 10, 2018 until July 31, 2021, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein. The changes made to the permit are summarized in an attachment to this cover letter. Should you have any questions concerning this matter, please contact Kevin Godwin at 919-707-8480 or kevin.godwin@ncdenr.gov.

Sincerely,

William D. Willets

William D. Willets, P.E., Chief, Permitting Section
Division of Air Quality, DEQ

Enclosure

c: Mooresville Regional Office
Connie Horne (cover letter only)
Central Files

Attachment to Cover Letter to Air Permit 3786T35

Table of Changes

The following changes were made to the Duke Energy Carolinas LLC Buck Combined Cycle Facility Air Permit No. 03786T34:

Page*	Section	Description of Changes
Throughout	Throughout	• Updated permit application numbers • Updated dates
4	Table of Permitted Sources	• Included STAR® (Staged Turbulent Air Reactor) system (ID No. ES-74) and associated equipment.
5	Table of Permitted Sources	• Included screener engine (ID No. ES-82B) and crusher engine (ID No. ES-83B).
21	2.1 D.	• Included screener engine (ID No. ES-82B) and crusher engine (ID No. ES-83B).
28 and 32	2.1 F. and G.	• Included STAR® (Staged Turbulent Air Reactor) system (ID No. ES-74) and associated equipment.
35	2.2 A.1.	• Updated condition pertaining to 15A NCAC 02D .1100 based on most recently approved modeling.
40	3	• Updated General Conditions to most recent shell version (version 5.2, 04/03/2018).

List of Insignificant Activities under 02Q .0503(8)

Emission Source ID	Emission Source Description
I-2	Ash and ash handling - fugitive emissions. Includes hauling of ash in trucks, truck loading operations, ash sales operations, and ash basin fugitives.
I-4 (GACT, Subpart ZZZZ)	propane-fired emergency generator for microwave towers (11 kilowatts maximum capacity)
I-6	Gasoline, fuel oil, and kerosene pumps
I-7	Welding shops used for maintenance, vented to outside atmosphere
I-11	used-oil above-ground storage tank (1,000 gallons maximum capacity)
I-12	Two transformer oil maintenance storage tanks (23,000 gallons maximum capacity)
I-23	Satellite accumulation areas for storage of used-oil in drums
I-24	Main transformers for combustion turbines (9,917 gallons total capacity of transformer oil)
I-25	Switchgear equipment in suhstation for Units 3 and 4 (18,846 gallons total capacity of oil)
I-26	Switchgear equipment in substation for Units 5 and 6 (54,916 gallons total capacity of oil)
I-27	Switchgear equipment in 100KV and 230KV switchyards (58,042 gallons total capacity of oil)
I-29	Various equipment containing lubricating oil, e.g. miscellaneous pumps (50 gallons total capacity)
I-30	Miscellaneous oil trap tanks used for spill collection for oils in transformers and other yard drain locations
I-36	Miscellaneous gas cylinders
I-39	Propane storage tanks for supplying fuel to microwave tower generator, and misc. propane tanks
I-40	Satellite accumulation areas for storage of waste paint and solvents
I-43	Storage of new lubricating oil
I-44	Miscellaneous containers of Oil-Dri and oil contaminated materials resulting from cleanup of oil spills
I-45	Chiller systems used for cooling of control equipment
I-50	Sewage treatment plant
I-51	Sewer system vents located throughout the plant
I-52	Vents from groundwater monitoring wells for areas contaminated with diesel fuel, gasoline, etc.
I-56	Open burning for fire brigade training
I-67	Yard sump transformer (1,400 gallons maximum capacity)
I-71	Auxiliary transformers (approximately 3,402 gallons total capacity)
CC Plant Activities Currently Installed and Operating	
I-77	GT11 and GT 12 Main Lube Oil Tanks (6,160 gallons maximum capacity, each)
I-78	STG10 Main Lube Oil Tank (4,800 gallons maximum capacity)
I-79	Lube Oil Storage Shed
I-80	Cooling Tower Bleach tank (6,000 gallons maximum capacity)
I-81	Cooling Tower Treatment Chemical Nalco (2,000 gallons maximum capacity)
I-84	Clarifier Bleach tank (6,000 gallons maximum capacity)
I-85	19% Aqueous Ammonia Storage Tank (20,000 gallons maximum capacity)
I-88	Two CO2 Fire Protection System tanks (6 tons maximum capacity, each)
I-90	Oil/Water Separator System

Emission Source ID	Emission Source Description
I-91	Three GT and STG Lube Oil Vapor Extractors
I-92	Emergency Diesel Generator Fuel Tank (550 gallons maximum capacity)
I-93	Emergency Diesel Fire Pump Fuel Tank (280 gallons maximum capacity)
I-94	Two GT GSU Transformers (12,000 gallons, each, of mineral oil)
I-95	STG GSU Transformer (16,000 gallons of mineral oil)
I-96	Two GT Aux Transformers (7,750 gallons, each, of mineral oil)
I-97	Two GT LCI Transformers (1,025 gallons, each, of mineral oil)
I-98	Two GT Excitation Transformers (395 gallons, each, of mineral oil)
I-101	Combined Cycle site Sewage Package Plant
I-102	Combined Cycle site CEMS Shelter/NOx calibration gas
I-103	diesel fuel storage tank (1,000 gallons maximum capacity)
I-104	kerosene storage tank (250 gallons maximum capacity)
I-105	Cold solvent parts washer (15 gallons maximum capacity)
I-107	Lubricating Oil Dispensing System (six 65 gallon containers)
I-F-1	Wet Ash Receiving – Transfer to Shed
I-F-2	Wet Ash Receiving – Transfer to Hopper
I-F-3	Wet Ash Receiving – Unloading Pile
I-F-4	Ash Basin
I-F-5	Ash Handling
I-F-6	Haul Roads

1. Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.
2. When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 02D .1100 "Control of Toxic Air Pollutants" or 02Q .0711 "Emission Rates Requiring a Permit".
3. For additional information regarding the applicability of GACT see the DAQ page titled "The Regulatory Guide for Insignificant Activities/Permits Exempt Activities". The link to this site is as follows: http://deq.nc.gov/about/divisions/air-quality/air-quality-permits/specific-permit-conditions-regulatory-guide

State of North Carolina
Department of Environmental Quality
Division of Air Quality

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.	Effective Date	Expiration Date
03786T35	03786T34	May 10, 2018	July 31, 2021

Until such time as this permit expires or is modified or revoked, the below named Permittee is permitted to construct and operate the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and Title 15A North Carolina Administrative Codes (15A NCAC), Subchapters 02D and 02Q, and other applicable Laws.

Pursuant to Title 15A NCAC Subchapter 02Q, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete air quality permit application to the permitting authority and received an Air Quality Permit, except as provided in this permit.

Permittee: **Duke Energy Carolinas LLC – Buck Combined Cycle Facility**

Facility ID: **8000004**

Facility Site Location: **1385 Dukeville Road**
City, County, State, Zip: **Salisbury, Rowan, NC 28146**

Mailing Address: **1385 Dukeville Road**
City, State, Zip: **Salisbury, Rowan, NC 28146**

Application Numbers: **8000004.17B**
Complete Application Date: **April 24, 2017**

Primary SIC Code: **4911**
Division of Air Quality Regional Office Address: **Mooresville Regional Office**
610 East Center Avenue
Mooresville, NC 28115

Permit issued this the 10th day of May, 2018.

William D. Willets, P.E., Chief, Permitting Section
By Authority of the Environmental Management Commission

Table of Contents

SECTION 1- PERMITTED EMISSION SOURCE(S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S)

The following table contains a summary of all permitted emission sources and associated air pollution control devices:

Page No(s)	Emission Source I.D. No.	Emission Source Description	Control Device I.D. No.	Control Device Description
Natural Gas-Fired Combined Cycle Electric Generating Facility				
6-15, 36-39	ES-11 ES-12 **(NSPS, KKKK; RACT)**	two nominal 170 MW (GE Model 7FA) natural gas-fired combined-cycle combustion turbines (1,984.1 million Btu per hour maximum heat input, each), each equipped with dry low-NOx combustors, a heat recovery steam generator (HRSG) with natural gas-fired duct burner (620 million Btu per hour nominal heat input, each), and a common steam turbine generator supplied by the two HRSGs	C11A C12A	selective catalytic reduction (SCR)[1]
			C11B C12B	CO oxidation catalyst[1]
16, 35-38	ES-13	multi-cell cooling tower with drift eliminators (nominally 213,000 gallons per minute recirculating water flow rate)	NA	NA
17-20, 35-38	ES-14 **(NSPS, Dc; RACT)**	natural gas-fired auxiliary boiler (36.74 million Btu per hour heat input)	NA	NA
25-28	ES-15 **(NSPS, IIII; Area source MACT, ZZZZ)**	No. 2 fuel oil-fired emergency generator (1,490 horsepower) (2007 model year)	NA	NA
21-24	ES-16 **(NSPS, IIII; Area source MACT, ZZZZ)**	No. 2 fuel oil-fired emergency firewater pump engine (237 borsepower) (2007 model year)	NA	NA
16, 35-38	ES-72	chiller cooling tower	NA	NA
25-28	ES-17EmGen **(NSPS, IIII; Area source MACT, ZZZZ)**	No. 2 fuel oil-fired emergency generator (762 horsepower) (manufactured on December 2, 2013)	NA	NA

1 Applicable to combined-cycle operation only

Page No(s)	Emission Source I.D. No.	Emission Source Description	Control Device I.D. No.	Control Device Description
Fly Ash Processing Facility				
33-39	ES-73	Feed silo with a maximum 125 tons per hour filling rate and maximum 75 tons per hour unloading rate	CD-73	Bin vent capture device with a maximum 4 to 1 air to cloth ratio
36-39	ES-74 **(RACT)**	STAR® (Staged Turbulent Air Reactor) system with a 140 million Btu per hour total maximum firing rate, processing feedstock (fly ash and other ingredient materials) into commercial products and equipped with natural gas/propane low-NOx start-up burners (60 million Btu per hour maximum total capacity) for use during start-up or when necessary to maintain the desired reactor temperature; an integral cyclone and baghouse for product recovery	CD-74A CD-74B	Dry FGD scrubber with a to be determined minimum lime-to-sulfur ratio in series with a Bagfilter with a maximum 2.18 to 1 air to cloth ratio
33-39	ES-75	FGD byproduct silo (capacity to be determined)	CD-75	Bin vent capture device with a maximum 4 to 1 air to cloth ratio
33-39	ES-76	FGD absorbent silo (capacity to be determined)	CD-76	Bin vent capture device with a maximum 4 to 1 air to cloth ratio
33-39	ES-77	External heat exchanger 1 with 70 tons per hour nominal capacity	CD-77	Bagfilter with a maximum 3 to 1 air to cloth ratio
33-39	ES-78	External heat exchanger 2 with 70 tons per hour nominal capacity	CD-78	Bagfilter with a maximum 3 to 1 air to cloth ratio
33-39	ES-79	Transfer silo with 125 tons per hour nominal filling rate and 75 tons per hour nominal unloading rate	CD-79	Bin vent capture device with a maximum 4 to 1 air to cloth ratio
33-39	ES-80	Storage dome with 75 tons per hour nominal filling rate and 275 tons per hour nominal unloading rate	CD-80	Bin vent capture device with a maximum 4 to 1 air to cloth ratio
33-39	ES-81	Loadout silo with 75 tons per hour nominal unloading rate	CD-81	Bin vent capture device with a maximum 4 to 1 air to cloth ratio
33-39	ES-81A	Loadout silo chute with 100 tons per hour nominal unloading rate	CD-81A	Bin vent capture device with a maximum 4 to 1 air to cloth ratio
33-39	ES-81B	Loadout silo chute with 100 tons per hour nominal unloading rate	CD-81B	Bin vent capture device with a maximum 4 to 1 air to cloth ratio

Page No(s)	Emission Source I.D. No.	Emission Source Description	Control Device I.D. No.	Control Device Description
33-39	ES-82A	Screener with 165 tons per hour nominal fly ash processing rate	NA	NA
21-24	ES-82B **(NSPS, IIII; Area source MACT, ZZZZ)**	Screener diesel-fired engine (91 horsepower) (2007 model year or later)	NA	NA
33-39	ES-83A	Crusher with 165 tons per hour nominal fly ash processing rate	NA	NA
21-24	ES-83B **(NSPS, IIII; Area source MACT, ZZZZ)**	Crusher diesel-fired engine (300 horsepower) (2007 model year or later)	NA	NA

SECTION 2- SPECIFIC LIMITATIONS AND CONDITIONS

2.1- Emission Source(s) Specific Limitations and Conditions

The emission source(s) and associated air pollution control device(s) listed below are subject to the following specific terms, conditions, and limitations, including the monitoring, recordkeeping, and reporting requirements specifically identified herein as applicable requirements:

A. two natural gas-fired combined-cycle combustion turbines (ID Nos. ES-11 and ES-12), each equipped dry low-NOx combustors, a heat recovery steam generator (HRSG) with a natural gas-fired duct burner, and a common steam turbine generator supplied by the two HRSGs; and associated selective catalytic reduction (SCR) (ID Nos. C11A and C12A) and associated CO/VOC oxidation catalyst (ID Nos. C11B and C12B)

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	0.125 lb/mmBtu heat input (applies only when duct burners are firing)	15A NCAC 02D .0503
visible emissions	20 percent opacity	15A NCAC 02D .0521
nitrogen oxides	15 ppm at 15% O_2 (30-day rolling average) 96 ppm at 15% O_2 when operating at less than 75 percent of peak load or operating at ambient temperature below 0 °F (30-day rolling average)	15A NCAC 02D .0524 (40 CFR Part 60, Subpart KKKK)
	Phase II Acid Rain Permit Requirements See Section 2.3.	15A NCAC 02Q .0402 (40 CFR Part 72)
	2.0 ppmvd at 15% O_2 for the first 500 hours of operation and 2.5 ppmvd at 15% O_2 after 500 hours (30-day rolling average)	15A NCAC 02D .1418 (RACT)
	Federally-Enforceable Only Cross State Air Pollution Rules See Section 2.1. A.8.	40 CFR Part 97, Subparts AAAAA and BBBBB
sulfur dioxide	0.06 lb/million Btu heat input	15A NCAC 02D .0524 (40 CFR Part 60, Subpart KKKK)
	Phase II Acid Rain Permit Requirements (see Section 2.3)	15A NCAC 02Q .0402 (40 CFR Part 72)
	Federally-Enforceable Only Cross State Air Pollution Rules See Section 2.1. A.8.	40 CFR Part 97, Subpart CCCCC
carbon monoxide nitrogen oxides particulate matter PM-10 sulfuric acid	See Section 2.1. A.4.	15A NCAC 02Q .0317 (PSD avoidance)

Regulated Pollutant	Limits/Standards	Applicable Regulation
volatile organic compounds	Less than 44.7 ton/yr, combined	15A NCAC 02Q .0317 (NSR avoidance)
toxic air pollutants	See Section 2.2 A.1 - **State-only requirement**	15A NCAC 02D .1100
toxic air pollutants	See Section 2.2 A.2 - **State-only requirement**	15A NCAC 02Q .0711
nitrogen oxides sulfur dioxide particulate matter PM-10 VOC lead sulfuric acid CO_2e	See Section 2.1. A.7	15A NCAC 02D .0530(u)

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas in these sources **(ID Nos. ES-11 and ES-12)** that are discharged from these sources into the atmosphere shall not exceed **0.125 pounds per million Btu heat input** when the duct burners are in service.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.A.1.a., above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for emissions of particulate matter from the firing of natural gas in these sources **(ID Nos. ES-11 and ES-12)**.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources **(ID Nos. ES-11 and ES-12)** shall not be more than 20 percent opacity (except during startup, shutdowns, and malfunctions approved as such according to procedures approved under 15A NCAC 02D .0535) when averaged over a six-minute period. However, six-minute averaging 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.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.A.2.a., above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for opacity from the firing of natural gas in these sources **(ID Nos. ES-11 and ES-12)**.

3. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART KKKK)

a. The Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart KKKK, including Subpart A "General Provisions."

Emission Limitations [40 CFR 60.4320 and .4330]

b. NOx emissions (except during startup, shutdowns, and malfunction) from combustion turbines (**ID Nos. ES-11 and ES-12**) shall not exceed 15 ppm at 15 percent O_2 or shall not exceed 96 ppm at 15 percent O_2 when operating at less than 75 percent of peak load or operating at ambient temperature below 0 °F. [§60.4320]

c. SO_2 emissions (except during startup, shutdowns, and malfunction) from the combustion turbines (**ID Nos. ES-11 and ES-12**) shall not exceed 0.06 lb/million Btu heat input. [§60.4330]

Testing [15A NCAC 02Q .0508(f)]

d. The Permittee has completed initial testing required by §60.4400(a) for combined-cycle operation.[2]

e. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in 2.1.A.3.b or c above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

f. The Permittee shall operate and maintain the combustion turbines, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown and malfunction in accordance with §60.4333. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, specifically with requirements of 40 CFR 60.11(d), if the Permittee, to the extent practicable, does not maintain and operate combustion turbines including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions, at all times including periods of startup, shutdown, and malfunction.

g. The Permittee shall install, calibrate, maintain and operate a NOx continuous emissions monitoring system (CEMS) to demonstrate compliance with the applicable NOx emission limit as described in §60.4340(b). Excess emissions are based on a 30-day rolling average, and shall be determined in accordance with §60.4345 and §60.4350. As provided in 40 CFR 60.4345(e), the Permittee may satisfy the QA plan requirements by implementing the QA program specified in 40 CFR 75 Appendix B, Part 1. If the NOx CEMS does not comply with the requirements of §60.4340(b) and §60.4345, or the NOx emissions (except during startup, shutdowns, and malfunction) exceeds the applicable emission limit, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

h. The Permittee shall demonstrate compliance with the applicable SO_2 emission limit by making a demonstration that the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifies that the total sulfur content for natural gas is 20 grains of sulfur or less per 100 standard cubic feet, and has potential sulfur dioxide emissions of less than 0.060 lb SO_2/mmBtu in accordance with §60.4365(a). The Permittee shall maintain records of the fuel contracts on site at the source for a period of two years. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the Permittee does not make the above demonstration, if the demonstration indicates that the sulfur content of natural gas exceeds 20 grains of sulfur per 100 standard cubic feet, if the SO_2 emissions (excluding the emissions during startup, shutdown, and malfunction) from the combustion turbines exceeds the applicable emission limit, or if these records are not maintained.

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2 Reference numbers 2011-161ST and 2012-097ST, completed January 10, 2012.

Reporting [15A NCAC 02Q .0508(f)]

i. The Permittee shall submit a notification of the date upon which demonstration of the CEMS performance commences in accordance with §60.13(c). Notification shall be postmarked not less than 30 days prior to such date.
j. The Permittee shall submit a written report of the results of each performance test required in §60.4340(a) before the close of business on the 60th day following the completion of the performance test. [§60.4375(b)]
k. The Permittee shall submit reports of excess emissions and monitor downtime in accordance with §60.7(c) when CEMS or continuous parameter monitoring are used to demonstrate compliance. Excess emissions must be reported for all periods of operation, including startup, shutdown, and malfunctions. All reports required under §60.7(c) must he postmarked by the 30th day following the end of each 6-month period. [§60.4375(a), §60.4380(c) and §60.4395]
   Excess emissions and monitor downtime for NOx are defined as follows:
   i. For turbines using CEMS to demonstrate compliance, an excess emission is any unit operating period in which the 30-day rolling average (combined-cycle operation) NOx emission rate exceeds the applicable emission limit, as described in §60.4380(b).
   ii. For turhines using CEMS to demonstrate compliance, a period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NOx, CO_2 or O_2 concentration.
l. The Permittee shall submit a summary report of monitoring and record keeping 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.

4. 15A NCAC 02D. 0530(u): PREVENTION OF SIGNIFICANT DETERIORATION (USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS)

Pursuant to Application 8000004.14B for the hot gas path modifications scheduled to begin in October 2014 on the combustion turbines **(ID Nos. ES-11 and ES-12)**, the Permittee shall perform the following:

Monitoring/Recordkeeping/Reporting [15A NCAC 02D .0530(u)]

a. The Permittee shall maintain records of annual emissions in tons per year, on a calendar year basis related to the hot gas path modifications, for five years following resumption of regular operations after the change is made.
   i. The first calendar year for recordkeeping was 2015.
   ii. The last calendar year for recordkeeping is 2020.
b. The Permittee shall submit a report to the director within 60 days after the end of each calendar year during which these records must he generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).
c. The Permittee shall make the information documented and maintained under this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).
d. The reported actual emissions (post-construction emissions) for each of the five calendar years will he compared to the projected actual emissions (pre-construction projection) as included below:

Pollutant	Projected Actual Emissions (tons per year)	
	ID No. ES-11	ID No. ES-12
NOx	62.81	63.82
SO_2	4.44	4.61
PM	42.57	43.82
PM_{10}	51.35	52.86
$PM_{2.5}$	51.35	52.86
CO	6.69	6.89
VOC	3.94	4.06
Pb	0.004	0.004
H_2SO_4	4.12	4.24
CO_2e	884,303	910,321

5. 15A NCAC 02D .1418: NEW ELECTRIC GENERATING UNITS, LARGE BOILERS, AND LARGE I/C ENGINES

a. The following Reasonably Available Control Technology (RACT) limits shall not be exceeded for the combustion turbines **(ID Nos. ES-11 and ES-12)**:

POLLUTANT	RACT EMISSION LIMITS*	RACT CONTROL TECHNOLOGY
NOx	2.0 ppmvd at 15% O_2 for the first 500 hours of operation and 2.5 ppmvd at 15% O_2 after 500 hours (30-day rolling average)	dry-low NOx combustors selective catalytic reduction (SCR)

* RACT emission limits shall apply at all times except the following: Emissions resulting from start-up, shutdown or malfunction above those given above are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized. Periods of excess emissions due to start-up and/or shutdown or operation below 50% load shall not exceed six hours in any 24-hour block period for combined-cycle operation beginning at midnight. Start-up is defined as the period from initial firing to 50% load. Shutdown is defined as the period from 50% load to flame out.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in 2.1.A.5.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1418.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The Permittee shall monitor NOx emissions from the combustion turbines using a CEMS to demonstrate compliance with the applicable NOx RACT emission limits as described in Section 2.1.A.3.f. If the NOx CEMS does not comply with the applicable requirements of §60.4340, §60.4345 and §60.4355 or the NOx emissions (except during startup, shutdowns, and malfunction) exceeds the applicable NOx RACT emission limit, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1418.

d. For each turbine, compliance with the RACT NO_X and ammonia limits shall be demonstrated as follows for the selective catalytic reduction (SCR) system:

i. The Permittee shall install and operate an ammonia flow meter to measure and record the ammonia injection rate to the SCR system. The ammonia injection rates corresponding to a maximum ammonia slip of 10 ppmvd and necessary to comply with the RACT NO_X limit shall be established. The following minimum ammonia injection rates have been established by performance testing and

approved by the Division of Air Quality to ensure compliance with the 2.5 ppmvd NOx RACT emission limit for use during NOx CEM downtimes or CEM malfunctions as described in paragraph iii below.

Turbine	Percent Load Range	Minimum Ammonia Injection Rate (lb/hr)
Buck Turbine 11C	< 52.6	64
	52.6 – 79.6	90
	79.6 - 100	146
Buck Turbine 12C	< 53.1	62
	53.1 – 79.3	85
	79.3 - 100	144

ii. The SCR shall operate at all times that the turbine is operating except during turbine start-up and shutdown periods to the extent recommended by the manufacturer and operated in a manner so as to minimize ammonia slip.

iii. During NOX CEM downtimes or CEM malfunctions, the Permittee shall operate at the ammonia injection rates shown in paragraph i above. In the case of a missing hour in conjunction with a Calibration Error Test or a Quarterly Linearity Test, the ammonia injection rate for the hour following the test shall be adjusted to the injection rate shown in paragraph i above until a valid data status has been achieved.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1418 if the ammonia injection rate to the SCR system is not continuously measured and recorded or the ammonia injection rate is less than the above injection rates during NOx CEM downtimes or CEM malfunctions.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit reports of excess emissions and monitor downtime as described in Section 2.1.A.3.j. Excess emissions and monitor downtime for NOx for purposes of compliance with the applicable RACT limits are defined in Section 2.1.A.3.j.

f. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and record keeping 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.

6. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS
(Avoidance of 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION)

a. In order to avoid applicability of 15A NCAC 02D .0530(g), the following emission limits shall not be exceeded for the combustion turbines **(ID Nos. ES-11 and ES-12)**:

POLLUTANT	EMISSION LIMITS	CONTROL TECHNOLOGY
carbon monoxide	147.0 tons per 12-month rolling average (total both turbines) (PSD avoidance)	oxidation catalyst
nitrogen oxides	599.8 tons per 12-month rolling average (total both turbines) (PSD avoidance)	selective catalytic reduction
particulate matter	198.9 tons per 12-month rolling average (total both turbines) (PSD avoidance)	none
PM-10	160.8 tons per 12-month rolling average (total both turbines) (PSD avoidance)	sulfur content of natural gas shall not exceed 1.7 gr/100 scf
sulfuric acid	18.5 tons per 12-month rolling average (total both turbines) (PSD avoidance)	sulfur content of natural gas shall not exceed 1.7 gr/100 scf

* Emission limits shall apply at all times except the following: Emissions resulting from start-up, shutdown or malfunction above those given above are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized. Periods of excess emissions due to start-up and/or shutdown or operation below 50% load shall not exceed six hours in any 24-hour block period beginning at midnight. Start-up is defined as the period from initial firing to 50% load. Shutdown is defined as the period from 50% load to flame out.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.A.6.a., above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. For the calculations in Paragraphs d. through g., below:
   i. emissions will be considered "uncontrolled" when the catalyst 4-hour rolling average inlet temperature is less than 570 °F, and
   ii. "Operating time" includes periods of start-up, shutdown and malfunctions.

d. In order to demonstrate compliance with the CO emission limit in Paragraph a., above,, the Permittee shall continuously monitor the inlet temperature to the oxidation catalyst and calculate the monthly CO emissions from each source as follows:

CO Emissions from ES-11 or ES-12 (pound/month) =

$$(OT_{c,db})(E_{c,db}) + (OT_{c,ndb})(E_{c,ndb}) + (OT_{nc,db})(E_{nc,db}) + (OT_{nc,ndb})(E_{nc,ndb})$$

where:

$OT_{c,db}$ = Operating time (hours per month) when the duct burners are operating and the catalyst meets the requirements of Paragraph c., above.

$E_{c,db}$ = CO emission factor when the duct burners are operating and the catalyst meets the requirements of Paragraph c., above. (i.e. 14.6 pound/hour)

$OT_{c,ndb}$ = Operating time (hours per month) when the duct burners not are operating and the catalyst meets the requirements of Paragraph c., above.

$E_{c,ndb}$ = CO emission factor when the duct burners are not operating and the catalyst meets the requirements of Paragraph c., above. (i.e. 8.9 pound/hour)

$OT_{nc,db}$ = Operating time (hours per month) when the duct burners are operating and the catalyst does not meet the requirements of Paragraph c., above.

$E_{nc,db}$ = CO emission factor when the duct burners are operating and the catalyst does not meet the requirements of Paragraph c., above. (i.e. 88.96 pound/hour)

$OT_{nc,ndb}$ = Operating time (hours per month) when the duct burners are not operating and the catalyst does not meet the requirements of Paragraph c., above.

$E_{nc,ndb}$ = CO emission factor when the duct burners are not operating and the catalyst does not meet the requirements of Paragraph c., above. (i.e. 33.16 pound/hour)

Total monthly CO emissions = CO emissions from ES-11 + CO emissions from ES-12

e. The Permittee shall record and maintain records of the monthly nitrogen oxides emissions from these sources (**ID Nos. ES-11 and ES-12**) in a logbook (written or in electronic format) as determined using a CEMS meeting the NSPS Subpart KKKK requirements in Section 2.1.A.3.f.

f. In order to demonstrate compliance with the PM-10 emission limit in Paragraph a., above, the Permittee shall calculate the monthly PM-10 emissions from each source as follows:

PM10 emissions from ES-11 or ES-12 (pound/month) = $(OT_{db})(E_{db}) + (OT_{ndb})(E_{ndb})$

where:

OT_{db} = Operating time (hours per month) when the duct burners are operating.

E_{db} = PM10 emission factor when the duct burners are operating. (i.e. 16.97 pound/hour)

OT_{ndb} = Operating time (hours per month) the duct burners not are operating.

E_{ndb} = PM10 emission factor when the duct burners are not operating. (i.e. 11.53 pound/hour)

Total monthly PM-10 emissions = PM-10 emissions CT ES-11 + PM-10 emissions CT ES-12

g. The sulfur content of the natural gas shall not exceed 1.7 gr/100 scf.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the calculations in Paragraphs d. and f. are not maintained, if the records required by Section 2.1.A.3.e. are not maintained, if the catalyst inlet temperature is not monitored, and/or if the calculations or records indicate an exceedance of the limits in Paragraph a., above.

Reporting [15A NCAC 02Q .0508(f)]

h. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, 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 monthly CO emissions from each source (ID Nos. ES-11 and ES-12) and the total monthly CO emissions from both sources for the previous 17 months based on the calculations above. The emissions must be calculated for each of the 12-month periods over the previous 17 months. All instances of deviations from the requirements of this permit must be clearly identified.

7. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS (Avoidance of 15A NCAC 02D .0531: SOURCES IN NONATTAINMENT AREAS)

a. In order to avoid applicability of 15A NCAC 02D .0531, the following emission limits shall not be exceeded for the combustion turbines (ID Nos. ES-11 and ES-12):

POLLUTANT	EMISSION LIMITS*	CONTROL TECHNOLOGY
volatile organic compounds	44.7 tons per 12-month rolling average (total both turbines) (NSR avoidance)	oxidation catalyst

* Emission limits shall apply at all times except the following: Emissions resulting from start-up, shutdown or malfunction above those given above are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized. Periods of excess emissions due to start-up and/or shutdown or operation below 50% load shall not exceed six hours in any 24-hour block period beginning at midnight. Start-up is defined as the period from initial firing to 50% load. Shutdown is defined as the period from 50% load to flame out.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in 2.1.A.7.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0531.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. For the calculations in Paragraph d., below:
   i. emissions will be considered "uncontrolled" when the catalyst 4-hour rolling average inlet temperature is less than 570 °F, and
   ii. "Operating time" includes periods of start-up, shutdown and malfunctions.

d. In order to demonstrate compliance with the VOC emission limit in Paragraph a., above,, the Permittee shall continuously monitor the inlet temperature to the oxidation catalyst and calculate the monthly VOC emissions from each source as follows:

VOC emissions from ES-11 or ES-12 (pound/month) =

$$(OT_{c,db})(E_{c,db}) + (OT_{c,ndb})(E_{c,ndb}) + (OT_{nc,db})(E_{nc,db}) + (OT_{nc,ndb})(E_{nc,ndb})$$

where:

$OT_{c,db}$ = Operating time (hours per month) when the duct burners are operating and the catalyst meets the requirements of Paragraph c., above.

$E_{c,db}$ = VOC emission factor when the duct burners are operating and the catalyst meets the requirements of Paragraph c., above.. (i.e. 5.0 pound/hour)

$OT_{c,ndb}$ = Operating time (hours per month) the duct burners not are operating and the catalyst meets the requirements of Paragraph c., above.

$E_{c,ndb}$ = VOC emission factor when the duct burners are not operating and the catalyst meets the requirements of Paragraph c., above. (i.e. 3.2 pound/hour)

$OT_{nc,db}$ = Operating time (hours per month) when the duct burners are operating and the catalyst does not meet the requirements of Paragraph c., above.

$E_{nc,db}$ = VOC emission factor when the duct burners are operating and the catalyst does not meet the requirements of Paragraph c., above. (i.e. 13.11 pound/hour)

$OT_{nc,ndb}$ = Operating time (hours per month) when the duct burners are not operating and the catalyst does not meet the requirements of Paragraph c., above.

$E_{nc,ndb}$ = VOC emission factor when the duct burners are not operating and the catalyst does not meet the requirements of Paragraph c., above. (i.e. 3.2 pound/hour)

If the Permittee does not continuously monitor the inlet temperature to the oxidation catalyst, and/or if the total VOC emissions exceed the limit in Paragraph a., above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0531.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, 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 monthly VOC emissions from each source **(ID Nos. ES-11 and ES-12)** and the total monthly VOC emissions from both sources for the previous 17 months based on the calculations above. The emissions must be calculated for each of the 12-month periods over the previous 17 months. All instances of deviations from the requirements of this permit must be clearly identified.

(Federally-enforceable only)

8. CROSS STATE AIR POLLUTION RULE (CSAPR) REQUIREMENTS

For the two combustion turbines **(ID Nos. ES-11 and ES-12)**, the Permittee shall comply with all applicable requirements of 40 CFR Part 97, Subpart AAAAA "TR NOx Annual Trading Program", Subpart BBBBB "TR NOx Ozone Season Trading Program", and Subpart CCCCC "TR SO_2 Group 1 Trading Program".

B. Cooling towers:

- **one multi-cell cooling tower (ID No. ES-13), and**
- **one chiller cooling tower (ID No. ES-72)**

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	For $P \leq 30$, $E = 4.10 \times P0.67$ For $P > 30$, $E = 55.0 \times P0.11 - 40$	15A NCAC 02D .0515
toxic air pollutants	See Section 2.2.A.1 - **State-only requirement**	15A NCAC 02D .1100
toxic air pollutants	See Section 2.2.A.2 - **State-only requirement**	15A NCAC 02Q .0711

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources **(ID Nos. ES-13 and ES-72)** shall not exceed an allowable emission rate as calculated by the following equation:

$$\text{For } P \leq 30,\ E = 4.10 \times P^{0.67}$$
$$\text{For } P > 30,\ E = 55.0 \times P^{0.11} - 40$$

Where:
E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in 2.1.B.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for particulate matter emissions from these sources **(ID Nos. ES-13 and ES-72)**.

C. one natural gas-fired auxiliary boiler (ID No. ES-14)

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	0.125 pound per million Btu heat input	15A NCAC 02D .0503
sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
visible emissions	20 percent opacity	15A NCAC 02D .0521
none	recordkeeping	15A NCAC 02D .0524 (40 CFR 60 Subpart Dc)
nitrogen oxides	annual tune-up requirements	15A NCAC 02D .1407(b)
particulate matter sulfur dioxide	2,000 hours per year maximum operation and natural gas sulfur content of 2.0 grains of per 100 standard cubic feet (0.006 lb/mmBtu)	15A NCAC 02Q .0317 (15A NCAC 02D .0501(c) avoidance)
toxic air pollutants	See Section 2.2.A.1 - **State-only requirement**	15A NCAC 02D .1100
toxic air pollutants	See Section 2.2.A.2 - **State-only requirement**	15A NCAC 02Q .0711

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from this source **(ID No. ES-14)** into the atmosphere shall not exceed 0.125 pounds per million Btu heat input.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in this source **(ID No. ES-14)**.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source **(ID No. ES-14)** shall not exceed 2.3 pounds per million Btu heat input each. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.C.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from natural gas for this

source **(ID No. ES-14).**

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source (ID No. ES-14) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.C.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from this source **(ID No. ES-14).**

4. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART Dc)

Monitoring/Recordkeeping [40 CFR 60.48c(g)(2)]

a. The Permittee shall record and maintain records of the amount of fuel burned in this emission source **(ID No. ES-14)** during each calendar month. Such records shall be maintained on site at the source for a period of two years following the date of such record. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

b. The Permittee shall submit a summary report of the monthly fuel consumption 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.

5. 15A NCAC 02D .1407: BOILERS AND INDIRECT-FIRED 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 15A NCAC 02D .1414.

Testing [15A NCAC 02Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.C.5.a., above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]

c. To assure compliance, the Permittee shall conduct tune-ups on the boilers at least annually 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 NOx 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 15A NCAC 02D .1414. 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 02D .1407(b).

Recordkeeping [15A NCAC 02Q .0508(f)]

d. The owner or operator shall maintain records of tune-ups performed to comply with 15A NCAC 02D .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;
   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 witbin the range establisbed 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 hoiler is being operated and maintained in a manner to minimize the emissions of nitrogen oxides.
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 02D .1407 if these records are not maintained.

Reporting [15A NCAC 02Q .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.

6. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS (Avoidance of 15A NCAC 02D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS)

a. In addition to any control or manner of operation necessary to meet emission standards in 15A NCAC 02D .0500, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards of 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in 15A NCAC 02D .0500 are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.
b. The maximum sulfur content of the natural gas burned in the Auxiliary Boiler **(ID No. ES-14)** shall not exceed 2.0 grains of sulfur per 100 standard cubic feet.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The maximum annual hours of operation for the Auxiliary Boiler **(ID No. ES-14)** shall not exceed 2,000 hours per rolling consecutive 12-month period. The Permittee shall record monthly and total annually the hours of operation for this source.

d. The Permittee shall demonstrate compliance with 15A NCAC 02D .0501(c) by making a demonstration that the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifies that the total sulfur content for natural gas is 2.0 grains of sulfur or less per 100 standard cubic feet. The Permittee shall maintain records of the fuel contracts on site at the source for a period of two years.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the operating hours exceed the limit in Paragraph c., if the Permittee does not complete the fuel quality demonstration, if the sulfur content exceeds the limit in Paragraph b., and/or if the required records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the recordkeeping activities in Paragraphs c. and d., 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.

D. one No. 2 fuel oil-fired emergency firewater pump engine (ID No. ES-16), one No. 2 fuel oil-fired screener engine (ID No. ES-82B) and one crusher No. 2 fuel oil-fired engine (ID No. ES-83B)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
visible emissions	20 percent opacity	15A NCAC 02D .0521
nitrogen oxides VOCs carbon monoxide particulates	New Source Performance Standards for stationary internal combustion engines. See Section 2.1 D.3.	15A NCAC 02D .0524 (40 CFR Part 60 Subpart IIII)
HAPs	Comply with the requirements of 40 CFR Part 60, Subpart IIII. See Section 2.1 D.3.	15A NCAC 02D .1111 (40 CFR 63 Subpart ZZZZ)

1. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these sources **(ID Nos. ES-16, ES-82B and ES-83B)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.D.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in these sources **(ID Nos. ES-16, ES-82B and ES-83B)**.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources **(ID Nos. ES-16, ES-82B and ES-83B)** shall not be more than **20 percent opacity** (except during startup, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.D.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of No. 2 fuel oil in these sources **(ID Nos. ES-16, ES-82B and ES-83B)**.

3. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60, SUBPART IIII)

Applicability [15A NCAC 2Q .0508(f), 40 CFR 60.4200(a)(2)(ii)]

a. For the fire pump engine, the screener engine, and the crusher engine **(ID Nos. ES-16, ES-82B and ES-83B)**, the Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines," including Subpart A "General Provisions."

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

b. Pursuant to 40 CFR 60 .4218, The Permittee shall comply with the General Provisions of 40 CFR 60 Subpart A as presented in Table 8 of 40 CFR 60 Subpart IIII.

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

c. The Permittee shall comply with the emission standards in Table 4 of NSPS subpart IIII for all pollutants, for the same model year and maximum engine power. [40CFR 60.4205(c)]

The following emission standards apply:

i. The Permittee shall comply with the emission standards in Table 4 of NSPS subpart IIII for all pollutants, for the same model year and maximum engine power for the fire pump engine **(ID No. ES-16)**. [40CFR 60.4205(c)].

ii. The Permittee shall comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable. [40CFR 60.4204(b)].

A. For the screener engine **(ID No. ES-82B)**, the Permittee shall not install a non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that does not meet the applicable requirements for 2012 model year non-emergency engines. [40CFR 60.4208(d)].

B. For crusher engine **(ID No. ES-83B)** the Permittee shall not install a non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that does not meet the applicable requirements for 2011 model year non-emergency engines. [40CFR 60.4208(e)].

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

d. The Permittee shall use diesel fuel in these engines with:
i. a maximum sulfur content of 15 ppm; and
ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.
[40 CFR 60.4207(b) and 40 CFR 80.510(b)]

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

e. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in conditions c. and d. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

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

f. The engines have the following monitoring requirements:
i. The engines shall be equipped with a non-resettable hour meter prior to startup. [40CFR 60.4209(a)]
ii. The engines, if equipped with a diesel particulate filter, must he installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[40CFR 60.4209(b)]

Compliance Requirements [15A NCAC 2Q .0508(b)]

g. The Permittee shall:
   i. operate and maintain the engines and control devices according to the manufacturer's emission related-written instructions over the entire life of the engine;
   ii. change only those emission-related settings that are permitted by the manufacturer; and
   iii. meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable.
   [40CFR 60.4206 and 60.4211(a)]

h. The Permittee shall comply with the emission standards in condition c. by purchasing a fire pump engine **(ID No. ES-16)** certified to the emission standards in condition c. The engine shall be installed and configured according to the manufacturer's specifications. [40CFR 60.4211(b)]

i. In order for the fire pump engine **(ID No. ES-16)** to be considered an emergency stationary ICE under this condition, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non- emergency situations for 50 hours per year, as described below, is prohibited.

   i. There is no time limit on the use of emergency stationary ICE in emergency situations.
   ii. The Permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraphs A. and B., below, for a maximum of 100 hours per calendar year.
      A. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine.
      B. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
   iii. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (i)(2) of this condition. The 50 hours per calendar year for non- emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the requirements in conditions f. through i. are not met.

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

j. To assure compliance, the Permittee shall perform inspections and maintenance on the engines as recommended by the manufacturer per 40 CFR 60.4206 and 40 CFR 60.4211(a). The results of inspection and maintenance 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 inspection;
   iii. the results of any maintenance performed on the engine;
   iv. any variance from manufacturer's recommendations, if any, and corrections made;
   v. the hours of operation of the fire pump engine in emergency and non-emergency service. [40 CFR 60.4214(b)]
   vi. if a PM filter is used, records of any corrective action taken after the backpressure monitor has

notified the owner or operator that the high backpressure limit of the engine is approached [40 CFR60.4214(c)]; and

vii. documentation from the manufacturer that the fire pump engine is certified to meet the emission standards in condition c.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

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

k. 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 noncompliance with the requirements of this permit shall be clearly identified.

l. If the Permittee operates an emergency stationary CI ICE that operates for the purposes specified in Paragraph i.iii., above, the Permittee shall submit an annual report according to the requirements at 40 CFR 60.4214(d). This report must be submitted to the Regional Supervisor and the EPA. [40 CFR 60.4214(d)]

4. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR PART 63, SUBPART ZZZZ)

a. For these sources **(ID Nos. ES-16, ES-82B and ES-83B)**, the Permittee shall comply with the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII as specified in Section 2.1.D.3 above. No further requirements apply under 40 CFR Part 63, Subpart ZZZZ. The Permittee shall he deemed in noncompliance with 15A NCAC 02D .1111 if the Permittee does comply with the requirements of 40 CFR Part 60, Subpart IIII as specified in Section 2.1 D.3.

E. Two No. 2 fuel oil-fired emergency generators (ID No. ES-15 and ES-17EmGen)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
sulfur dioxide	2.3 pounds per million Btu beat input	15A NCAC 02D .0516
visible emissions	20 percent opacity	15A NCAC 02D .0521
nitrogen oxides VOCs carbon monoxide particulates	Comply with the requirements of 40 CFR Part 60, Subpart IIII. See Section 2.1 E.3.	15A NCAC 02D .0524 (40 CFR Part 60 Subpart IIII)
HAPs	comply with the requirements of 40 CFR Part 60 Subpart IIII	15A NCAC 02D .1111 (40 CFR 63 Subpart ZZZZ)

1. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these sources **(ID Nos. ES-15 and ES-17EmGen)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.E.1.a., above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in these sources **(ID Nos. ES-15 and ES-17EmGen)**.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources **(ID Nos. ES-15 and ES-17EmGen)** shall not be more than **20 percent opacity** (except during startup, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.E.2.a., above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of No. 2 fuel oil in these sources **(ID Nos. ES-15 and ES-17EmGen)**.

3. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60, SUBPART IIII)

Applicability [15A NCAC 2Q .0508(f), 40 CFR 60.4200(a)(2)(i)]

a. For these sources **(ID Nos. ES-15 and ES-17EmGen)**, the Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines," including Subpart A "General Provisions."

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

b. Pursuant to 40 CFR 60 .4218, The Permittee shall comply with the General Provisions of 40 CFR 60 Subpart A as presented in Table 8 of 40 CFR 60 Subpart IIII.

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

c. The Permittee shall comply with the emission standards 40 CFR 60.4202 for all pollutants, for the same model year and maximum engine power for this engine. [40CFR 60.4205(b)]

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

d. The Permittee shall use diesel fuel in the engine that meets the requirements of 40 CFR 80.510(b) including:
   i. a maximum sulfur content of 15 ppm; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.
   [40 CFR 60.4207(b)]

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

e. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in conditions c. and d. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

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

f. The engine has the following monitoring requirements:
   i. The engines shall be equipped with a non-resettable hour meter prior to startup. [40CFR 60.4209(a)]
   ii. The engine, if equipped with a diesel particulate filter, must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [40CFR 60.4209(b)]

Compliance Requirements [15A NCAC 2Q .0508(b)]

g. The Permittee shall:
   i. operate and maintain the engines and control devices according to the manufacturer's emission related-written instructions over the entire life of the engine;
   ii. change only those emission-related settings that are permitted by the manufacturer; and
   iii. meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable.
   [40CFR 60.4206 and 60.4211(a)]

h. The Permittee shall comply with the emission standards in condition c. by purchasing an engine certified to the emission standards in condition c for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications. [40CFR 60.4211(c)]

i. In order for the engine to be considered an emergency stationary ICE under this condition, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in

non- emergency situations for 50 hours per year, as described below, is prohibited.

i. There is no time limit on the use of emergency stationary ICE in emergency situations.
ii. The Permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraphs A. and B., below, for a maximum of 100 hours per calendar year.
   A. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine.
   B. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
iii. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (i)(2) of this condition. The 50 hours per calendar year for non- emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the requirements in conditions f. through i. are not met.

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

j. To assure compliance, the Permittee shall perform inspections and maintenance on the engine as recommended by the manufacturer per 40 CFR 60.4206 and 40 CFR 60.4211(a). The results of inspection and maintenance 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 inspection;
   iii. the results of any maintenance performed on the engine;
   iv. any variance from manufacturer's recommendations, if any, and corrections made;
   v. the hours of operation of the engine in emergency and non-emergency service. [40 CFR 60.4214(b)]
   vi. if a PM filter is used, records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached [40 CFR60.4214(c)]; and
   vii. documentation from the manufacturer that the engine is certified to meet the emission standards in condition c.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

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

k. 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 noncompliance with the requirements of this permit shall be clearly identified.
l. If the Permittee operates an emergency stationary CI ICE that operates for the purposes specified in Paragraph i.iii., above, the Permittee shall submit an annual report according to the requirements at 40 CFR 60.4214(d). This report must be submitted to the Regional Supervisor and the EPA. [40 CFR 60.4214(d)]

4. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR PART 63, SUBPART ZZZZ)

a. For the emergency generators **(ID ES-15 and No. ES-17EmGen)**, the Permittee shall comply with the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII as specified in Section 2.1.E.3 above. No further requirements apply under 40 CFR Part 63, Subpart ZZZZ.

F. one STAR® (Staged Turbulent Air Reactor) equipped with natural gas/propane low-NOx start-up burners (ID No. ES-74) with a FGD scrubber and bagfilter (ID Nos. CD-74A and CD-74B)

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	For $P \leq 30$, $E = 4.10 \times P^{0.67}$ For $P > 30$, $E = 55.0 \times P^{0.11} - 40$ Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
visible emissions	20 percent opacity	15A NCAC 02D .0521
sulfur dioxide	Compliance assurance monitoring	15A NCAC 02D .0614
nitrogen oxides	0.12 pounds per million Btu heat input	15A NCAC 02D .1413
toxic air pollutants	See Section 2.2 A.1 - **State-only requirement**	15A NCAC 02D .1100
toxic air pollutants	See Section 2.2 A.2 - **State-only requirement**	15A NCAC 02Q .0711

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source **(ID No. ES-74)** shall not exceed an allowable emission rate as calculated by the following equation:

$$\text{For } P \leq 30,\ E = 4.10 \times P^{0.67}$$
$$\text{For } P > 30,\ E = 55.0 \times P^{0.11} - 40$$

Where:
E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in 2.1.F.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate matter emissions from this source **(ID No. ES-74)**

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source **(ID No. ES-74)** shall not exceed 2.3 pounds per million Btu heat input each. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.F.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. The Permittee shall comply with the monitoring, recordkeeping and reporting in Section 2.1 F.4.

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source **(ID No. ES-74)** shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To assure compliance, once every month, the Permittee shall observe the STAR® reactor stack for any visible emissions above normal. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 F.3.a above.

   If the above-normal emissions are not corrected per i. above or if the demonstration in ii. above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.

d. 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 visible observation;
   iii. the results of each observation and/or test noting any corrective actions taken to reduce visible emissions; and
   iv. the results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and by 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.

4. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

a. **Background**.
   i. Emission Unit.
      A. Description: STAR® reactor **(ID No. ES-74)**

   ii. Applicable Regulation and Emission Limit.
      A. Regulation: 15A NCAC 02D .0516, sulfur dioxide emissions from combustion sources
      B. Emission limit: 2.3 pounds SO_2 per million Btu heat input

   iii. SO_2 Control Technology
      A. Description: FGD scrubber **(ID No. CD-74A)**
      B. Design control efficiency: 95 percent
      C. Operating variable: lime to sulfur ratio
      D. Expected emission rate as controlled: 0.3 pounds SO_2 per million Btu heat input

Testing [15A NCAC 02Q .0508(f)]

b. No later than three months of the STAR® reactor being placed into operation, the Permittee shall conduct at least three initial performance tests including (1) when this source is processing fly ash with a low sulfur content, (2) when this source is processing fly ash with a medium sulfur content and (3) when this source is processing fly ash with a high sulfur content, to determine a mimimum lime to sulfur ratio for the FGD scrubber **(ID No. CD-74A)** for each fly ash sulfur content range that demonstrates compliance with the expected emissions limit in 2.1.F.4.a.iii.D above.

c. For each test, the Permittee shall operate the STAR® reactor within 10 percent of its maximum heat input capacity and follow the requirements in General Condition JJ.

Monitoring [15A NCAC 02Q .0508(f)]

d. The key elements of the monitoring approach for SO_2 emissions, including parameters to he monitored, parameter ranges, and performance criteria are presented in the following table and become effective six months of the date the STAR® reactor is placed in to operation.

Measure	Description
I. Indicator	The three-hour rolling average FGD scrubber lime to sulfur ratio
II. Indicator Range	The minimum FGD scrubber lime to sulfur ratio will be established during an initial performance test for three normal operating scenarios: • STAR® reactor processing fly ash with a low sulfur content, • STAR® reactor processing fly ash with a medium sulfur content, and • STAR® reactor processing fly ash with a high sulfur content.
III. Monitoring Frequency	The lime to sulfur ratio will be recorded every fifteen minutes during normal operation of the STAR® reactor per 40 CFR Part 64.3 (b) (4) (ii).
IV. Excursion	Any three-hour rolling average lime to sulfur ratios measured during normal operation (periods other than startup and shutdown) of the STAR® reactor that fall below the mininum established value for the sulfur content range of the fly ash being processed will be considered an excursion.

Measure	Description
V. Corrective Action	The following actions will be taken when an excursion occurs. e. The monitoring system will be evaluated to determine if it is functioning properly and corrective action will be implemented as necessary to restore the system such that it accurately collects and records the lime to sulfur ratio. f. When the monitoring system is determined to be functioning properly, individual process and control device operating parameters will be reviewed to determine the cause of the excursion and as necessary, corrective measures will be taken to reduce the potential reoccurrence of similar excursions.

Reporting [15A NCAC 02Q .0508(f)]

e. No later than six months of the STAR® reactor being placed into operation, the Permittee shall submit an updated Compliance Assurance Monitoring Plan that includes the minimum lime to sulfur ratio for the FGD scrubber **(ID No. CD-74A)** for each of the three sulfur content ranges of fly ash being processed and performance criteria for the continuous parameter monitoring system.[3]

f. The Permittee shall submit a summary report of all monitoring activities postmarked on or before January 30 of eacb 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.

5. 15A NCAC 02D .1413: SOURCES NOT OTHERWISE LISTED

a. Nitrogen oxide emissions from this source **(ID No. ES-74)** shall be limited in accordance with the following reasonably available control technology (RACT).

POLLUTANT	RACT CONTROL TECHNOLOGY	RACT EMISSION LIMITS*
NO_x	Air staging and water injection.	0.12 pounds per million Btu heat input

Testing [15A NCAC 02Q .0508(f)]

b. The Permittee shall conduct an initial performance test within six months of this source **(ID No. ES-74)** being placed into operation to demonstrate compliance with the NO_x emission limit in 2.1.F.5.a above.

c. The Permittee shall conduct periodic performance testing of this source **(ID No. ES-74)** at least once every five years to demonstrate compliance with the NO_x emission limit in 2.1.F.5.a above.

d. For each test, the Permittee shall operate the STAR® reactor within 10 percent of its maximum heat input capacity and follow the requirements in General Condition JJ. If the results of the testing are above the limit given in 2.1.F.5.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1413.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

e. No additional monitoring, recordkeeping or reporting is required.

3. The updated Compliance Assurance Plan is required within six months of the STAR® reactor being placed into operation regardless of the approval status of the performance testing results.

G one feed silo (ID No. 73) with bin vent (ID No. CD-73); one FGD byproduct silo (ID No. ES-75) with one bin vent (ID No. CD-75); one FGD absorbent silo (ID No. ES-76) with bin vent (ID No. CD-76); two external heat exchangers (ID Nos. ES-77 and ES-78) with bagfilters (ID Nos. CD-77 and CD-78); one transfer silo (ID No. ES-79) with bin vent (ID No. CD-79), one storage dome (ID No. ES-80) with bin vent (ID No. CD-80); one loadout silo (ID No. ES-81) with bin vent (ID No. CD-81), two loadout silo chutes (ID Nos. ES-81A and ES-81B) with bin vents (ID Nos. CD-81A and CD-81B), one screener (ID No. ES-82A), and one crusher (ID No. 83A)

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	For For $P \leq 30$, $E = 4.10 \times P^{0.67}$ For $P > 30$, $E = 55.0 \times P^{0.11} - 40$ Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
visible emissions	20 percent opacity	15A NCAC 02D .0521
toxic air pollutants	See Section 2.2 A.1 - **State-only requirement**	15A NCAC 02D .1100
toxic air pollutants	See Section 2.2 A.2 - **State-only requirement**	15A NCAC 02Q .0711

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources **(ID Nos. ES-73, ES-75 to ES-81, ES-81A, ES-81B, ES-82A and ES-83A)** shall not exceed an allowable emission rate as calculated by the following equation:

For $P \leq 30$, $E = 4.10 \times P^{0.67}$
For $P > 30$, $E = 55.0 \times P^{0.11} - 40$

Where:
E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in 2.1.G.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from these sources **(ID Nos. ES-73, ES-75, ES-76, ES-79, ES-80, ES-81, ES-81A and ES-81B)** shall each be controlled by a bin vent **(ID Nos. CD-73, CD-75, CD-76, CD-79, CD-80, CD-81, CD-81A and CD-81B)** and particulate matter emissions from these sources **(ID Nos. ES-77 and ES-78)** shall each be controlled by a bagfilter **(ID Nos. CD-77 and CD-78)** as described above. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer, if any. As a minimum, the inspection and maintenance program shall include:

i. monthly external inspection of the ductwork, bin vents and bagfilters noting the structural integrity;
ii. monthly reading of the pressure gauges on the bagfilters **(ID Nos. CD-77 and CD-78)**; and
iii. annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters **(ID Nos. CD-77 and CD-78)**; noting the structural integrity and the condition of the filters.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0512 if the ductwork, bin vents, and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance for the ductwork, bin vents, and bagfilters shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall contain the following:
   i. the date and time of each recorded action;
   ii. the results of each inspection; and
   iii. the results of maintenance performed on any control device.
e. No monitoring/recordkeeping/reporting is required for particulate matter emissions from these sources **(ID Nos. ES-82A and ES-83A)**.
f. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained

Reporting [15A NCAC 02Q .0508(f)]

g. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
h. 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.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources **(ID Nos. ES-73, ES-75 to ES-81, ES-81A, ES-81B, ES-82A and ES-83A)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging 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.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To assure compliance, once every six-months the Permittee shall observe the emission points of these sources **(ID Nos. ES-73, ES-75 to ES-81, ES-81A, ES-81B, ES-82A and ES-83A)** for any visible emissions above normal. The six-month observation must be made once for each six-month period of the calendar year period to ensure compliance with this requirement. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 G.2.a above.

   If the above-normal emissions are not corrected per i. above or if the demonstration in ii. above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.
d. 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 observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
iii. the results of any corrective actions performed.

The Permittee shall he deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the observations 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

2.2- Multiple Emission Source(s) Specific Limitations and Conditions (Including specific requirements, testing, monitoring, recordkeeping, and reporting requirements)

A. Facility-wide affected sources

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Toxic air pollutants	Modeled emission rates State-enforceable only	15A NCAC 02D .1100
Toxic air pollutants	Facility wide emissions limits for toxic air pollutant emission rates State-enforceable only	15A NCAC 02Q .0711

State-only Requirement

1. 15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

a. As of February 5, 2018, the Permittee has demonstrated compliance with the following permit limits in accordance with the completed application (8000004.17B) received April 24, 2017. The Permittee has evaluated all toxic air pollutants (TAPs) covered in 15A NCAC 02D .1104 for all sources at the facility, excluding the sources exempt from evaluation under 15A NCAC 02Q .0702.

Emission Source	Toxic Air Pollutant	Emission Limit(s)
Turbines (ID Nos. ES-11 and ES-12) (emission limit per turbine)	Acrolein	0.0127 lb/hr
	Arsenic	4.48 lb/yr
	Benzene	220 lb/yr
	Benzo(a)pyrene	6.39E-03 lb/yr
	Beryllium	0.27 lb/yr
	Cadmium	24.6 lb/yr
	Chromium VI (Soluble Chromate)	3.43E-03 lb/day
	Formaldehyde	0.446 lb/hr
	Non-specific Chromium VI Compounds, as Chromium VI Equivalent	1.25 lb/yr
	Manganese	0.0233 lb/day
	Mercury	9.86E-03 lb/day
	Nickel Metal	0.129 lb/day
	Sulfuric Acid Mist	1.70 lb/hr
Cooling Tower (ID No. ES-13)	Chlorine	2.25E-04 lb/hr
		0.054 lb/day
Boiler (ID No. ES-14)	Arsenic	0.0196 lb/yr
	Benzene	0.206 lb/yr
	Benzo(a)pyrene	0.000118 lb/yr
	Beryllium	0.00118 lb/yr
	Cadmium	0.108 lb/yr
	Chromium VI (Soluble Chromate)	1.5E-05 lb/day
	Formaldehyde	0.00368 lb/hr
	Non-specific Chromium VI Compounds, as Chromium VI Equivalent	0.00549 lb/yr
	Manganese	0.000447 lb/day
	Mercury	3.05E-04 lb/day
	Nickel Metal	0.00247 lb/day

Emission Source	Toxic Air Pollutant	Emission Limit(s)
Emergency Engine (ID No. ES-15)	Arsenic	4.76E-05 lb/yr
	Benzene	9.21E-03 lb/yr
	Beryllium	3.57E-05 lb/yr
	Cadmium	3.57E-05 lb/yr
	Chrome VI (Soluble Chromate)	3.13E-05 lb/day
	Formaldehyde	8.25E-04 lb/hr
	Mercury	3.13E-05 lb/day
	Nickel Metal	3.13E-05 lb/day
Fire Water Pump (ID No. ES-16)	Arsenic	7.57E-06 lb/yr
	Benzene	1.77E-03 lb/yr
	Beryllium	5.68E-06 lb/yr
	Cadmium	5.68E-06 lb/yr
	Chromium VI (Soluble Chromate)	4.98E-06 lb/day
	Formaldehyde	1.96E-03 lb/hr
	Mercury	4.98E-06 lb/day
	Nickel Metal	4.98E-06 lb/day
Emergency Engine (ID No. ES-17)	Arsenic	2.44E-05 lb/yr
	Benzene	4.72E-03 lb/yr
	Beryllium	1.83E-05 lb/yr
	Cadmium	1.83E-05 lb/yr
	Chromium VI (Soluble Chromate)	1.60E-05 lb/day
	Formaldehyde	4.21E-04 lb/hr
	Mercury	1.60E-05 lb/day
	Nickel Metal	1.60E-05 lb/day
Chiller Cooling Tower (ID No. ES-72)	Chlorine	2.5E-04 lb/hr
		0.006 lb/day
Feed Silo Filling and Unloading (ID No. ES-73A/73B) (Total)	Arsenic	4.62E-03 lb/yr
	Beryllium	9.56E-04 lb/yr
	Cadmium	8.24E-04 lb/yr
	Chromium VI (Soluble Chromate)	3.70E-06 lb/day
	Mercury	1.78E-07 lb/day
	Nickel Metal	3.36E-05 lb/day
STAR® Reactor (ID No. ES-74)	Arsenic	5.16 lb/yr
	Benzene	1.08 lb/yr
	Beryllium	1.05 lb/yr
	Cadmium	1.47 lb/yr
	Chromium VI (Soluble Chromate)	1.85E-03 lb/day
	Formaldehyde	4.41E-03 lb/hr
	Mercury	4.56E-04 lb/day
	Nickel Metal	0.0198 lb/day
	Sulfuric Acid Mist	0.1 lb/hr
External Heat Exchangers (ID Nos. ES-77 and ES-78) (emission limit per heat exchanger)	Arsenic	5.56 lb/yr
	Beryllium	1.16 lb/yr
	Cadmium	0.99 lb/yr
	Chromium VI (Soluble Chromate)	2.04E-03 lb/day
	Mercury	9.77E-05 lb/day
	Nickel Metal	0.0185 lb/day
Transfer Silo Filling and Unloading (ID No. ES-79A/B) (Total)	Arsenic	4.62E-03 lb/yr
	Beryllium	9.56E-04 lb/yr
	Cadmium	8.24E-04 lb/yr
	Chromium VI (Soluble Chromate)	3.70E-06 lb/day
	Mercury	1.78E-07 lb/day

Emission Source	Toxic Air Pollutant	Emission Limit(s)
	Nickel Metal	3.36E-05 lb/day
Storage Dome Filling and Unloading (ID No. ES-80A/B) (Total)	Arsenic	4.62E-03 lb/yr
	Beryllium	9.56E-04 lb/yr
	Cadmium	8.24E-04 lb/yr
	Chromium VI (Soluble Chromate)	6.48E-06 lb/day
	Mercury	3.12E-07 lb/day
	Nickel Metal	5.89E-05 lb/day
Loadout Silo (ID No. ES-81)	Arsenic	2.31E-03 lb/yr
	Beryllium	4.78E-04 lb/yr
	Cadmium	4.12E-04 lb/yr
	Chromium VI (Soluble Chromate)	1.39E-06 lb/day
	Mercury	6.67E-08 lb/day
	Nickel Metal	1.26E-05 lb/day
Loadout Silo Chutes (ID No. ES-81A/B) (Emissions limit per chute)	Arsenic	1.15E-03 lb/yr
	Beryllium	2.40E-04 lb/yr
	Cadmium	2.06E-04 lb/yr
	Chromium VI (Soluble Chromate)	1.85E-06 lb/day
	Mercury	8.88E-08 lb/day
	Nickel Metal	1.68E-05 lb/day
Screener Engine (ID No. ES-82B)	Arsenic	0.002 lb/yr
	Benzene	0.457 lb/yr
	Beryllium	1.50E-03 lb/yr
	Cadmium	1.50E-03 lb/yr
	Chromium VI (Soluble Chromate)	1.52E-05 lb/day
	Formaldehyde	7.52E-04 lb/hr
	Mercury	1.52E-05 lb/day
	Nickel Metal	1.52E-05 lb/day
Crusher Engine (ID No. ES-83B)	Arsenic	1.00E-04 lb/yr
	Benzene	0.029 lb/yr
	Beryllium	1.00E-04 lb/yr
	Cadmium	1.00E-04 lb/yr
	Chromium VI (Soluble Chromate)	6.30E-06 lb/day
	Formaldehyde	2.48E-03 lb/hr
	Mercury	6.30E-05 lb/day
	Nickel Metal	6.30E-05 lb/day
Wet Asb Receiving – Transfer to Shed (F-1)	Arsenic	1.72E-03 lb/yr
	Beryllium	3.56E-04 lb/yr
	Cadmium	3.08E-04 lb/yr
	Chromium VI (Soluble Chromate)	9.65E-07 lb/day
	Mercury	4.66E-08 lb/day
	Nickel Metal	8.78E-06 lb/day
Wet Ash Receiving – Transfer to Hopper (F-2)	Arsenic	3.44E-03 lb/yr
	Beryllium	7.12E-04 lb/yr
	Cadmium	6.14E-04 lb/yr
	Chromium VI (Soluble Chromate)	1.93E-06 lb/day
	Mercury	9.26E-08 lb/day
	Nickel Metal	1.75E-05 lb/day
Wet Ash Receiving – Unloading Pile (F-3)	Arsenic	5.09E-03 lb/yr
	Beryllium	1.05E-03 lb/yr
	Cadmium	9.10E-04 lb/yr

Emission Source	Toxic Air Pollutant	Emission Limit(s)
	Chromium VI (Soluble Chromate)	1.86E-06 lb/day
	Mercury	8.95E-08 lb/day
	Nickel Metal	1.69E-05 lb/day
Ash Basin (F-4)	Arsenic	0.620 lb/yr
	Beryllium	0.129 lb/yr
	Cadmium	0.110 lb/yr
	Chromium VI (Soluble Chromate)	2.25E-04 lb/day
	Mercury	1.08E-05 lb/day
	Nickel Metal	2.05E-03 lb/day

b. No testing/monitoring/recordkeeping/reporting shall be required to demonstrate compliance with 15A NCAC 02D .1100.

State-only Requirement

2. 15A NCAC 02Q .0711: EMISSION RATES REQUIRING A PERMIT

a. Pursuant to 15A NCAC 02Q .0711 "Emission Rates Requiring a Permit", for each of the below listed toxic air pollutants (TAPs), the Permittee has made a demonstration that facility-wide actual emissions do not exceed the Toxic Permit Emission Rates (TPERs) listed in 15A NCAC 02Q .0711(a). The facility shall be operated and maintained in such a manner that emissions of any listed TAPs from the facility, including fugitive emissions, will not exceed TPERs listed in 15A NCAC 02Q .0711.

i. A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.
ii. PRIOR to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 02D .1100 "Control of Toxic Air Pollutants".
iii. In accordance with the approved application, the Permittee shall maintain records of operational information demonstrating that the TAP emissions do not exceed the TPERs as listed below:

Pollutant (CAS Number)	Carcinogens	Chronic Toxicants	Acute Systemic Toxicants	Acute Irritants
	(lb/yr)	(lb/day)	(lb/hr)	(lb/hr)
acetaldehyde (75-07-0)				6.8
carbon tetrachloride (56-23-5)	460			
chlorobenzene (108-90-7)		46		
chloroform (67-66-3)	290			
phenol (108-95-2)			0.24	
styrene (100-42-5)			2.7	
toluene (108-88-3)		98		14.4
xylene (1330-20-7)		57		16.4

Testing/Monitoring/Recordkeeping/Reporting [15A NCAC 02D .0611]

b. No testing/monitoring/recordkeeping/reporting shall be required to demonstrate compliance with 15A NCAC 02Q .0711.

2.3- Phase II Acid Rain Permit Requirements

ORIS code: 2720
Effective: August 26, 2016 until July 31, 2021

A. Statement of Basis

Statutory and Regulatory Authorities: In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended and Titles IV and V of the Clean Air Act, Division of Air Quality issues this permit pursuant to Title 15A North Carolina Administrative Codes, Subchapter 02Q .0400 and 02Q .0500, and other applicable Laws.

B. SO_2 Allowance Allocations and NO_x Requirements for each affected unit

ES-11 (11C)	SO_2 allowances	SO_2 allowances are not allocated by U.S. EPA for new units under 40 CFR part 72.
ES-12 (12C)	NO_x limit	Does not apply for gas or oil-fired units.

C. Acid Rain Permit Application and Phase II NOx Compliance Plan (attached)

The permit applications submitted for this facility, as approved by the Division of Air Quality, are part of this permit. The owners and operators of these Phase II acid rain sources must comply with the standard requirements and special provisions set forth in the following attached applications:

Acid Rain Permit Application dated April 22, 2016

SECTION 3 - GENERAL CONDITIONS (version 5.2, 04/03/2018)

This section describes terms and conditions applicable to this Title V facility.

A. **General Provisions** [NCGS 143-215 and 15A NCAC 02Q .0508(i)(16)]
1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 02D and 02Q.
2. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by the DAQ.
3. This permit is not a waiver of or approval of any other Department permits that may be required for other aspects of the facility which are not addressed in this permit.
4. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of state laws or rules, unless specifically authorized by an order from the North Carolina Environmental Management Commission.
5. Except as identified as state-only requirements in this permit, all terms and conditions contained herein shall be enforceable by the DAQ, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.
6. Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the DAQ, unless the source is exempted by rule. The DAQ may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

B. **Permit Availability** [15A NCAC 02Q .0507(k) and .0508(i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environmental Quality upon request.

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to he invalid, shall remain valid and must be complied with.

D. **Submissions** [15A NCAC 02Q .0507(e) and 02Q .0508(i)(16)]
Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required hy this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NOx budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:

Supervisor, Stationary Source Compliance
North Carolina Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

All submittals shall include the facility name and Facility ID number (refer to the cover page of this permit).

E. **Duty to Comply** [15A NCAC 02Q .0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

F. **Circumvention** - STATE ENFORCEABLE ONLY
The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

G. **Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 02Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

H. **Changes Not Requiring Permit Modifications**
1. Reporting Requirements
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
   a. changes in the information submitted in the application;
   b. changes that modify equipment or processes; or
   c. changes in the quantity or quality of materials processed.

   If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;

iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
iv. the Permittee shall attach the notice to the relevant permit.

c. The written notification shall include:
i. a description of the change;
ii. the date on which the change will occur;
iii. any change in emissions; and
iv. any permit term or condition that is no longer applicable as a result of the change.

d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.

3. Off Permit Changes [15A NCAC 02Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
a. the change affects only insignificant activities and the activities remain insignificant after the change; or
h. the change is not covered under any applicable requirement.

4. Emissions Trading [15A NCAC 02Q .0523(c)]
To the extent that emissions trading is allowed under 15A NCAC 02D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 02Q .0523(c).

I.A **Reporting Requirements for Excess Emissions and Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]
"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 02D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 02Q .0700. *(Note: Definitions of excess emissions under 02D .1110 and 02D .1111 shall apply where defined by rule.)*

"Deviations" - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
- name and location of the facility;
- nature and cause of the malfunction or breakdown;
- time when the malfunction or breakdown is first observed;
- expected duration; and
- estimated rate of emissions;

ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

Permit Deviations

3. Pursuant to 15A NCAC 02Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:
   a. Notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 02D .0535 quarterly. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

I.B **Other Requirements under 15A NCAC 02D .0535**

The Permittee shall comply with all other applicable requirements contained in 15A NCAC 02D .0535, including 15A NCAC 02D .0535(c) as follows:

1. Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in 15A NCAC 02D .0535(c)(1) through (7).
2. 15A NCAC 02D .0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

J. **Emergency Provisions** [40 CFR 70.6(g)]

The Permittee shall be subject to the following provisions with respect to emergencies:

1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
   a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
   b. the permitted facility was at the time being properly operated;
   c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
   d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 02Q .0508(e) and 02Q .0513(b)]

This 15A NCAC 02Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least six months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 02Q .0512(b)(1), this 15A NCAC 02Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 02Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 02Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 02Q .0400 requirements. In

either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 02Q .0508(i)(4)]
It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 02Q .0508(i)(9)]
1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 02Q .0507(f)]
The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 02Q .0508(f) and 02Q .0508 (l)]
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 02Q .0508(n)]
The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:
1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent; and
4. the method(s) used for determining the compliance status of the source during the certification period.

Q. **Certification by Responsible Official** [15A NCAC 02Q .0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. **Permit Shield for Applicable Requirements** [15A NCAC 02Q .0512]
1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
   a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
   b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
   c. the applicable requirements under Title IV; or
   d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 02Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 02Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 02Q .0519]
The Director may terminate, modify, or revoke and reissue this permit if:
1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred;
4. the EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

T. **Insignificant Activities** [15A NCAC 02Q .0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. **Property Rights** [15A NCAC 02Q .0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

V. **Inspection and Entry** [15A NCAC 02Q .0508(l) and NCGS 143-215.3(a)(2)]
1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
   a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
   b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
   c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
   d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or

interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 02Q .0508(i)(10)]
1. The Permittee shall pay all fees in accordance with 15A NCAC 02Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environmental Quality. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 02Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 02Q .0207]
The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 02Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

Y. **Confidential Information** [15A NCAC 02Q .0107 and 02Q. 0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 02Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 02Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]
A construction and operating permit shall he obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 02Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 02Q .0505 and .0507]
The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 02Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History** [15A NCAC 02Q .0507(d)(4)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(e)]
1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall serviec, repair, and maintain such equipment according to tbe work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.
2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 02Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** – FEDERALLY-ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

FF. **Title IV Allowances** [15A NCAC 02Q .0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

GG. **Air Pollution Emergency Episode** [15A NCAC 02D .0300]
Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 02D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 02D .0202]
The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 02D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 02D .0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 02Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 02D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.

a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
   i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
   ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
   iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 02D .2600 has precedence over all other tests.

KK. **Reopening for Cause** [15A NCAC 02Q .0517]

1. A permit shall be reopened and revised under the following circumstances:
   a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
   b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
   c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
   d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 02Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 02Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 02Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.
4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

LL. **Reporting Requirements for Non-Operating Equipment** [15A NCAC 02Q .0508(i)(16)]

The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. When permitted equipment is not in operation, the requirements for testing, monitoring, and recordkeeping are suspended until operation resumes.

MM. **Fugitive Dust Control Requirement** [15A NCAC 02D .0540]

As required by 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method

22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

"Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas, stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

NN. **Specific Permit Modifications** [15A NCAC 02Q .0501 and .0523]

1. For modifications made pursuant to 15A NCAC 02Q .0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 02Q .0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 02Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA - Air Planning Branch, 61 Forsyth Street SW, Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
   a. a description of the change at the facility;
   b. the date on which the change will occur;
   c. any change in emissions; and
   d. any permit term or condition that is no longer applicable as a result of the change.

In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

OO. **Third Party Participation and EPA Review** [15A NCAC 02Q .0521, .0522 and .0525(7)]

For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
DAQ	Division of Air Quality
DEQ	Department of Environmental Quality
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standard
OAH	Office of Administrative Hearings
PM	Particulate Matter
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
tpy	Tons Per Year
VOC	Volatile Organic Compound

Acid Rain Permit Application

(five pages, dated April 22, 2016)