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Director



NORTH CAROLINA  
Environmental Quality

TBD

Mr. Kristopher Eisenrieth  
General Manager, Buck Combined Cycle Facility  
Duke Energy Carolinas LLC  
1385 Dukeville Road  
Salisbury, NC 28146

SUBJECT: Air Quality Permit No. 03786T37  
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. Eisenrieth:

In accordance with your completed Air Quality Permit Application for renewal of a Title IV permit, received October 22, 2020, for administrative amendment of a Title V permit, received December 22, 2020, and for renewal and Part 2 of a significant modification of a Title V permit, received January 27, 2021, we are hereby forwarding herewith Air Quality Permit No. 03786T37 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 identified as such in the permit. 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 file a petition for contested case hearing in the North Carolina Office of Administrative Hearings. Information regarding the right, procedure, and time limit for permittees and other persons aggrieved to file such a petition is contained in the attached "Notice Regarding the Right to Contest A Division of Air Quality Permit Decision."

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to existing 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



North Carolina Department of Environmental Quality | Division of Air Quality  
217 West Jones Street | 1641 Mail Service Center | Raleigh, North Carolina 27699-1641  
919.707.8400

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<sub>10</sub>, SO<sub>2</sub>, and NO<sub>x</sub>. Any increment changes associated with the Part 2 modification were addressed in the Part 1 permit application (applications 8000004.17B and .19A and Title V permits 03786T35 and 03786T36). This new permit is not expected to expand or consume any increment for any tracked pollutant.

This Air Quality Permit shall be effective from TBD until TBD+5 years, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Should you have any questions concerning this matter, please contact Russell Braswell at 919-707-8731 or [russell.braswell@ncdenr.gov](mailto:russell.braswell@ncdenr.gov).

Sincerely,

Mark J. Cuilla, EIT, CPM, Chief, Permitting Section  
Division of Air Quality, NCDEQ

Enclosure

c: Michael Sparks, EPA Region 4 (Permit and Review)  
Mooresville Regional Office  
Connie Horne (cover letter only)  
Central Files

**NOTICE REGARDING THE RIGHT TO CONTEST A DIVISION OF AIR QUALITY PERMIT  
DECISION**

**Right of the Permit Applicant or Permittee to File a Contested Case:** Pursuant to NCGS 143-215.108(e), a permit applicant or permittee who is dissatisfied with the Division of Air Quality's decision on a permit application may commence a contested case by filing a petition under NCGS 150B-23 in the Office of Administrative Hearings within 30 days after the Division notifies the applicant or permittee of its decision. If the applicant or permittee does not file a petition within the required time, the Division's decision on the application is final and is not subject to review. The filing of a petition will stay the Division's decision until resolution of the contested case.

**Right of Other Persons Aggrieved to File a Contested Case:** Pursuant to NCGS 143-215.108(e1), a person other than an applicant or permittee who is a person aggrieved by the Division's decision on a permit application may commence a contested case by filing a petition under NCGS 150B-23 within 30 days after the Division provides notice of its decision on a permit application, as provided in NCGS 150B-23(f), or by posting the decision on a publicly available Web site. The filing of a petition under this subsection does not stay the Division's decision except as ordered by the administrative law judge under NCGS 150B-33(b).

**General Filing Instructions:** A petition for contested case hearing must be in the form of a written petition, conforming to NCGS 150B-23, and filed with the Office of Administrative Hearings, 1711 New Hope Church Road, Raleigh NC, 27609, along with a fee in an amount provided in NCGS 150B-23.2. A petition for contested case hearing form may be obtained upon request from the Office of Administrative Hearings or on its website at <https://www.oah.nc.gov/hearings-division/filing/hearing-forms>. Additional specific instructions for filing a petition are set forth at 26 NCAC Chapter 03.

**Service Instructions:** A party filing a contested case is required to serve a copy of the petition, by any means authorized under 26 NCAC 03 .0102, on the process agent for the Department of Environmental Quality:

William F. Lane, General Counsel  
North Carolina Department of Environmental Quality  
1601 Mail Service Center  
Raleigh, North Carolina 27699-1601

If the party filing the petition is a person aggrieved other than the permittee or permit applicant, the party **must also** serve the permittee in accordance with NCGS 150B-23(a).

\* \* \*

Additional information is available at <https://www.oah.nc.gov/hearings-division/hearing-process/filing-contested-case>. Please contact the OAH at 984-236-1850 or [oah.postmaster@oah.nc.gov](mailto:oah.postmaster@oah.nc.gov) with all questions regarding the filing fee and/or the details of the filing process.

## Summary of Changes to Permit

The following changes were made Air Quality Permit No. 03786T36:\*

Page No.	Section	Description of Changes
Throughout	Throughout	<ul style="list-style-type: none"> <li>• Updated dates and permit numbers.</li> <li>• Corrected typos.</li> <li>• Updated permit format to match current DAQ Title V permit format.</li> </ul>
3	1.	<ul style="list-style-type: none"> <li>• Added CD-74C “air staging and water injection” associated with ES-74. This does not reflect a physical change or change in the operation of ES-74, this is only for clarity. Also noted that this control device is “Non-optional air pollution control equipment that constitutes an integral part of the process equipment as originally designed and manufactured by the equipment supplier.”</li> <li>• Added footnote to ES-74 regarding the use of non-hazardous fire retardants.</li> </ul>
n/a	2.1 A.4 (former)	<ul style="list-style-type: none"> <li>• Removed specific condition for 02D .0530(u) because the Permittee has completed the reporting requirement.</li> </ul>
10	2.1 A.5	<ul style="list-style-type: none"> <li>• The table of emission limits in this section has been corrected. Previously, limits in this table were incorrectly written in units of “tons per 12-month rolling average.” This should have always been the 12-month rolling <u>total</u>, not average.               <ul style="list-style-type: none"> <li>○ The emission calculation methods in this section have always correctly produced results in units of tons per 12-month rolling average.</li> <li>○ The Permittee has always reported results in terms of 12-month rolling average.</li> <li>○ The basis for PSD avoidance is, and always has been, a limit on 12-month total emissions, not average emissions. Based on this information, the above change is only a correction and does not affect the Permittee’s previous, current, or future compliance requirements.</li> </ul> </li> <li>• This condition now requires Part 75 data substitution for the NOx CEMS data when demonstrating compliance with PSD Avoidance.</li> <li>• This condition now defines and limits monitor downtime.</li> </ul>

Page No.	Section	Description of Changes
12	2.1 A.6	<ul style="list-style-type: none"> <li>• The table of emission limits in this section has been corrected. Previously, limits in this table were incorrectly written in terms of “tons per 12-month rolling average.” This should have always been the 12-month rolling <u>total</u>, not average. <ul style="list-style-type: none"> <li>○ The emission calculation method in this section have always correctly produced results in units of tons per 12-month rolling average.</li> <li>○ The Permittee has always reported results in terms of 12-month rolling average.</li> <li>○ The basis for NSR avoidance is, and always has been, a limit on 12-month total emissions, not average emissions. Based on this information, the above change is only a correction and does not affect the Permittee’s previous, current, or future compliance requirements.</li> </ul> </li> </ul>
18	2.1 D	<ul style="list-style-type: none"> <li>• Added specific condition for 02D .0516. No monitoring, recordkeeping, or reporting is required for this condition.</li> <li>• Renumbered other conditions</li> </ul>
18	2.1 D.3	<ul style="list-style-type: none"> <li>• Updated this NSPS Subpart IIII condition to reflect minor regulatory updates.</li> </ul>
22	2.1 E	<ul style="list-style-type: none"> <li>• Added specific condition for 02D .0516. No monitoring, recordkeeping, or reporting is required for this condition.</li> <li>• Renumbered other conditions</li> </ul>
22	2.1 E.3	<ul style="list-style-type: none"> <li>• Updated this NSPS Subpart IIII condition to reflect minor regulatory updates.</li> </ul>
n/a	2.1 F through I, and 2.2 B.2 (former)	<ul style="list-style-type: none"> <li>• Removed references to 02Q .0504 because Permittee has completed the application submittal requirement.</li> </ul>
28	2.1 F.4	<ul style="list-style-type: none"> <li>• Removed initial performance test requirement because the Permittee has completed the initial test.</li> </ul>
29	2.1 G.1	<ul style="list-style-type: none"> <li>• Removed maintenance, monitoring, recordkeeping, and reporting requirements for the control devices associated with the sources in Section 2.1 G. As noted in the list of Permitted Emission Sources in Section 1, these control devices are “Non-optional air pollution control equipment that constitutes an integral part of the process equipment as originally designed and manufactured by the equipment supplier.”</li> </ul>
31	2.1 H	<ul style="list-style-type: none"> <li>• Added specific condition for 02D .0516. No monitoring, recordkeeping, or reporting is required for this condition.</li> <li>• Renumbered other conditions</li> </ul>
31	2.1 H.3	<ul style="list-style-type: none"> <li>• Updated this NSPS Subpart IIII condition to reflect minor regulatory updates.</li> </ul>
40	2.2 B.1	<ul style="list-style-type: none"> <li>• Incorporated results of PM emission testing (test reference number 2020-163ST) into emission calculation.</li> </ul>

Page No.	Section	Description of Changes
41	2.3 (new)	<ul style="list-style-type: none"> <li>• Moved list of insignificant activities to this section to match DAQ's current Title V permit format.</li> <li>• Removed the following insignificant activities at the Permittee's request: <ul style="list-style-type: none"> <li>○ I-12</li> <li>○ I-24</li> <li>○ I-25</li> <li>○ I-67</li> <li>○ I-71</li> </ul> </li> <li>• Corrected the description of the following insignificant activities at the Permittee's request: <ul style="list-style-type: none"> <li>○ I-11</li> <li>○ I-79</li> <li>○ I-85</li> <li>○ I-107</li> </ul> </li> <li>• Added the following insignificant activities at the Permittee's request: <ul style="list-style-type: none"> <li>○ I-108 through I-114</li> </ul> </li> </ul>
43	2.5 (new)	<ul style="list-style-type: none"> <li>• Created this section.</li> <li>• Moved CSAPR requirements to this section.</li> <li>• Removed references to 40 CFR Part 97, Subpart BBBBBB from CSAPR because this rule does not apply in North Carolina.</li> </ul>
44	3.	<ul style="list-style-type: none"> <li>• Updated General Conditions to v6.0.</li> </ul>

\* This list is not intended to be a detailed record of every change made to the permit but a summary of those changes.



## AIR QUALITY PERMIT

Permit No.	Replaces Permit No.	Effective Date	Expiration Date
03786T37	03786T36	TBD	TBD+5 years

NOTE: Per General Condition K, a permit application for the renewal of this Title V permit shall be submitted no later than *[enter date six months prior to expiration date]*.

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  
**Primary SIC Code:** 4911  
**NAICS Code:** 221112

**Facility Site Location:** 1385 Dukeville Road  
**City, County, State, Zip:** Salisbury, Rowan, North Carolina 28146  
**Mailing Address:** 1385 Dukeville Road  
**City, State, Zip:** Salisbury, North Carolina 28146

**Application Numbers:** 8000004.20A, 8000004.20B, 8000004.21A  
**Complete Application Date:** October 22, 2020 (.20A), December 22, (.20B), January 27, 2021 (.21A)

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

Permit issued this the TBD

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Mark J. Cuilla, EIT, CPM, Chief, Air Permitting Section  
By Authority of the Environmental Management Commission

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Acid Rain Permit Application

DRAFT

## List of Acronyms

<b>AOS</b>	Alternative Operating Scenario
<b>BACT</b>	Best Available Control Technology
<b>BAE</b>	Baseline Actual Emissions
<b>Btu</b>	British thermal unit
<b>CAA</b>	Clean Air Act
<b>CAM</b>	Compliance Assurance Monitoring
<b>CEMS</b>	Continuous Emission Monitoring System
<b>CEDRI</b>	Compliance and Emissions Data Reporting Interface
<b>CFR</b>	Code of Federal Regulations
<b>CO</b>	Carbon Monoxide
<b>COMS</b>	Continuous Opacity Monitoring System
<b>CSAPR</b>	Cross-State Air Pollution Rule
<b>DAQ</b>	Division of Air Quality
<b>DEQ</b>	Department of Environmental Quality
<b>EMC</b>	Environmental Management Commission
<b>EPA</b>	Environmental Protection Agency
<b>FR</b>	Federal Register
<b>GACT</b>	Generally Available Control Technology
<b>GHGs</b>	Greenhouse Gases
<b>HAP</b>	Hazardous Air Pollutant
<b>LAER</b>	Lowest Achievable Emission Rate
<b>MACT</b>	Maximum Achievable Control Technology
<b>NAA</b>	Non-Attainment Area
<b>NAAQS</b>	National Ambient Air Quality Standards
<b>NAICS</b>	North American Industry Classification System
<b>NCAC</b>	North Carolina Administrative Code
<b>NCGS</b>	North Carolina General Statutes
<b>NESHAP</b>	National Emission Standards for Hazardous Air Pollutants
<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>NSPS</b>	New Source Performance Standard
<b>NSR</b>	New Source Review
<b>OAH</b>	Office of Administrative Hearings
<b>PAE</b>	Projected Actual Emissions
<b>PAL</b>	Plantwide Applicability Limitation
<b>PM</b>	Particulate Matter
<b>PM<sub>2.5</sub></b>	Particulate Matter with Nominal Aerodynamic Diameter of 2.5 Micrometers or Less
<b>PM<sub>10</sub></b>	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
<b>POS</b>	Primary Operating Scenario
<b>PSD</b>	Prevention of Significant Deterioration
<b>PTE</b>	Potential to Emit
<b>RACT</b>	Reasonably Available Control Technology
<b>SIC</b>	Standard Industrial Classification
<b>SIP</b>	State Implementation Plan
<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>TAP</b>	Toxic Air Pollutant
<b>tpy</b>	Tons Per Year
<b>VOC</b>	Volatile Organic Compound

## 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:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
<b>Natural Gas-Fired Combined Cycle Electric Generating Facility</b>			
ES-11 ES-12 <b>NSPS KKKK, RACT</b>	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) <sup>1</sup>
		C11B C12B	CO oxidation catalyst <sup>1</sup>
ES-13	Multi-cell cooling tower with drift eliminators (nominally 213,000 gallons per minute recirculating water flow rate)	NA	NA
ES-14 <b>NSPS Dc, RACT</b>	Natural gas-fired auxiliary boiler (36.74 million Btu per hour heat input)	NA	NA
ES-15 <b>NSPS IIII, GACT ZZZZ</b>	No. 2 fuel oil-fired emergency generator (1,490 horsepower) (2007 model year)	NA	NA
ES-16 <b>NSPS IIII, GACT ZZZZ</b>	No. 2 fuel oil-fired emergency firewater pump engine (237 horsepower) (2007 model year)	NA	NA
ES-72	Chiller cooling tower	NA	NA
ES-17EmGen <b>NSPS IIII, GACT ZZZZ</b>	No. 2 fuel oil-fired emergency generator (762 horsepower) (manufactured on December 2, 2013)	NA	NA
<b>Fly Ash Processing Facility</b>			
ES-73	Feed silo with a maximum 125 tons per hour filling rate and maximum 75 tons per hour unloading rate	CD-73 <sup>2</sup>	Bin vent capture device with a maximum 4-to-1 air to cloth ratio

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-74 <b>RACT</b>	STAR® (Staged Turbulent Air Reactor®) system with 140 million Btu per hour maximum firing rate and not to exceed 400,000 tons per year processing rate for feedstock (fly ash and other ingredient materials <sup>3</sup> ) into commercial products, and equipped with natural gas/propane low-NOx startup burners (60 million Btu per hour total maximum capacity) for use during startup or when necessary to maintain the desired reactor temperature; an integral cyclone and baghouse for product recovery	CD-74C <sup>2</sup>  CD-74A  CD-74B	Air staging and water injection  Dry flue-gas desulfurization (FGD) scrubber with a to be determined minimum lime-to-sulfur ratio  Bagfilter with a maximum 2.18-to-1 air to cloth ratio
ES-75	FGD byproduct silo (capacity to be determined)	CD-75 <sup>2</sup>	Bin vent capture device with a maximum 4-to-1 air to cloth ratio
ES-76	FGD absorbent silo (capacity to be determined)	CD-76 <sup>2</sup>	Bin vent capture device with a maximum 4-to-1 air to cloth ratio
ES-77	External heat exchanger 1 with 70 tons per hour maximum capacity	CD-77 <sup>2</sup>	Bagfilter with a maximum 3-to-1 air to cloth ratio
ES-78	External heat exchanger 2 with 70 tons per hour maximum capacity	CD-78 <sup>2</sup>	Bagfilter with a maximum 3-to-1 air to cloth ratio
ES-79	Transfer silo with 125 tons per hour maximum filling rate and 75 tons per hour maximum unloading rate	CD-79 <sup>2</sup>	Bin vent capture device with a maximum 4-to-1 air to cloth ratio
ES-80	Storage dome with 75 tons per hour maximum filling rate and 275 tons per hour maximum unloading rate	CD-80 <sup>2</sup>	Bin vent capture device with a maximum 4-to-1 air to cloth ratio
ES-81	Loadout silo with 300 tons per hour maximum unloading rate	CD-81 <sup>2</sup>	Bin vent capture device with a maximum 4-to-1 air to cloth ratio
ES-81A	Loadout silo chute with 100 tons per hour maximum unloading rate	CD-81A <sup>2</sup>	Bin vent capture device with a maximum 4-to-1 air to cloth ratio
ES-81B	Loadout silo chute with 100 tons per hour maximum unloading rate	CD-81B <sup>2</sup>	Bin vent capture device with a maximum 4-to-1 air to cloth ratio
ES-82A1 and ES-82A2	Two vibrating screeners, each 200 tons per hour maximum fly ash processing capacity	NA	NA
ES-82B1 and ES-82B2 <b>NSPS III, GACT ZZZZ</b>	Two diesel-fired vibrating screener engines, each 225 horsepower maximum engine power	NA	NA
ES-82C1 through ES-82C6	Six tele-stackers, each 200 tons per hour maximum fly ash processing capacity	NA	NA

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-82D1 through ES-82D6 <b>NSPS III, GACT ZZZZ</b>	Six diesel-fired tele-stacker engines, each 74 horsepower maximum engine power	NA	NA
ES-84	Ball mill classifier with 15 tons per hour maximum capacity	CD-84 <sup>2</sup>	Bin vent capture device with a maximum 3.1-to-1 air to cloth ratio
ES-85	Ball mill feed silo with 15 tons per hour maximum filling rate and 15 tons per hour maximum unloading rate	CD-85 <sup>2</sup>	Bin vent capture device with a maximum 2.2-to-1 air to cloth ratio
ES-86 <b>NSPS III, GACT ZZZZ</b>	Diesel-fired ash basin dewatering pump (74 horsepower maximum engine power)	NA	NA
ES-F1	Wet ash receiving - transfer to shed	NA	NA
ES-F2	Wet ash receiving - transfer to hopper	NA	NA
ES-F3	Wet ash receiving - unloading pile	NA	NA
ES-F4	Ash basin	NA	NA
ES-F5	Ash handling	NA	NA
ES-F6	Haul roads	NA	NA

<sup>1</sup> Applicable to combined-cycle operation only

<sup>2</sup> Non-optional air pollution control equipment that constitutes an integral part of the process equipment as originally designed and manufactured by the equipment supplier.

<sup>3</sup> May include emissions-neutral flyash additives to improve system performance (e.g., flame retardants).

## 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-NO<sub>x</sub> 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:

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.125 pounds per million Btu 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 <sub>2</sub> (30-day rolling average) 96 ppm at 15% O <sub>2</sub> 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 <sub>2</sub> for the first 500 hours of operation and 2.5 ppmvd at 15% O <sub>2</sub> after 500 hours (30-day rolling average)	15A NCAC 02D .1418 (RACT)
	Cross State Air Pollution Rules See Section 2.5	40 CFR Part 97, Subpart AAAAA
Sulfur dioxide	0.06 pounds per 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)
	Cross State Air Pollution Rules See Section 2.5	40 CFR Part 97, Subpart CCCCC
Carbon monoxide Nitrogen oxides Particulate matter PM <sub>10</sub> Sulfuric acid	See Section 2.1 A.5	15A NCAC 02Q .0317 Avoidance of 15A NCAC 02D .0530
Volatile organic compounds	Less than 44.7 tpy, combined	15A NCAC 02Q .0317 Avoidance of 15A NCAC 02D .0531
Toxic air pollutants	State-enforceable only (See Section 2.2 A.1)	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only (See Section 2.2 A.2)	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 in these turbines (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 turbines (**ID Nos. ES-11 and ES-12**).

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

- a. Visible emissions from these turbines (**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 turbines (**ID Nos. ES-11 and ES-12**).

**3. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS**

- a. The Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, recordkeeping, 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 "Standards of Performance for Stationary Combustion Turbines," including Subpart A "General Provisions."

**Emission Limitations** [15A NCAC 02Q .0508(f)]

- b. Nitrogen oxides 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<sub>2</sub> or shall not exceed 96 ppm at 15 percent O<sub>2</sub> when operating at less than 75 percent of peak load or operating at ambient temperature below 0 °F. [40 CFR 60.4320, Table 1 to 40 CFR Part 60, Subpart KKKK, and 40 CFR 60.8(c)]
- c. Sulfur dioxide 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. [40 CFR 60.4330 and 40 CFR 60.8(c)]

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

- d. The Permittee completed initial testing required by 40 CFR 60.4400(a) for combined-cycle operation on January 10, 2012 (Test reference numbers 2011-161ST and 2012-097ST).
- 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 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 these turbines (**ID Nos. ES-11 and ES-12**), associated air pollution control equipment (**ID Nos. C11A, C11B, C12A, and C12B**), 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. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the Permittee does not maintain the turbines, associated air pollution control devices, and monitoring equipment as specified. [40 CFR 60.4333(a) and 60.11(d)]
- g. The Permittee shall install, calibrate, maintain and operate a NO<sub>x</sub> continuous emissions monitoring system (CEMS) to demonstrate compliance with the applicable NO<sub>x</sub> emission limit as described in 40 CFR 60.4340(b). Excess emissions are based on a 30-unit operating day rolling average, and shall be determined in accordance with 40 CFR 60.4345 and 40 CFR 60.4350. As provided in 40 CFR 60.4345(e), the Permittee may satisfy the quality assurance (QA) plan requirements by implementing the QA program specified in 40 CFR Part 75 Appendix B, Part 1. If the

NOx CEMS does not comply with the requirements of 40 CFR 60.4340(b) and 40 CFR 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. [40 CFR 60.4340, 60.4345, and 60.4350]

- h. The Permittee shall demonstrate compliance with the applicable SO<sub>2</sub> 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 emissions of less than 0.060 pounds of SO<sub>2</sub> per million Btu in accordance with 40 CFR 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<sub>2</sub> 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. [40 CFR 60.4365 and 60.7(f)]

**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 40 CFR 60.13(c). Notification shall be postmarked not less than 30 days prior to such date. [40 CFR 60.13(c)]
- j. The Permittee shall submit a written report of the results of each performance test required in 40 CFR 60.4340(a) before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]
- k. The Permittee shall submit reports of excess emissions and monitor downtime in accordance with 40 CFR 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 calculations in reports required under 40 CFR 60.7(c) must be calculated on a quarterly basis and be postmarked by the 30th day following the end of each 6-month period. [40 CFR 60.4375(a), 40 CFR 60.4380(c) and 40 CFR 60.4395]
- l. Excess emissions and monitor downtime for NOx are defined as follows: [40 CFR 60.4380]
  - 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 40 CFR 60.4380(b).
  - ii. For turbines 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<sub>2</sub> or O<sub>2</sub> concentration.
- m. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Sections 2.1 A.3.f through h, above, 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 .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 <sub>2</sub> for the first 500 hours of operation and 2.5 ppmvd at 15% O <sub>2</sub> 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 startup, 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 startup 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. Startup 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.4.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, above. If the NOx CEMS does not comply with the applicable requirements of 40 CFR 60.4340, 40 CFR 60.4345 and 40 CFR 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 NOx limit in Section 2.1 A.4.a and ammonia limits in Section 2.1 A.4.d.i, above, 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 NOx 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 (ID No. ES-11)	< 52.6	64
	52.6 – 79.6	90
	79.6 - 100	146
Buck Turbine 12C (ID No. ES-12)	< 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 startup 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 Section 2.1 A.4.d.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 Section 2.1 A.4.d.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.3.1, above. Excess emissions and monitor downtime for NOx for purposes of compliance with the applicable RACT limits are defined in Section 2.1 A.3.1.
- f. The Permittee shall submit a semiannual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities in Sections 2.1 A.4.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. All instances of deviations from the requirements of this permit must be clearly identified.

**5. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS  
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the combustion turbines (ID Nos. ES-11 and ES-12) shall discharge into the atmosphere less than the following:

Pollutant	Emission limits	Control technology
carbon monoxide	147.0 tons per 12-month rolling total (total both turbines)	oxidation catalyst

Pollutant	Emission limits	Control technology
nitrogen oxides	599.8 tons per 12-month rolling total (total both turbines)	selective catalytic reduction
particulate matter	198.9 tons per 12-month rolling total (total both turbines)	none
PM <sub>10</sub>	160.8 tons per 12-month rolling total (total both turbines)	sulfur content of natural gas shall not exceed 1.7 grains per 100 standard cubic feet
sulfuric acid	18.5 tons per 12-month rolling total (total both turbines)	sulfur content of natural gas shall not exceed 1.7 grains per 100 standard cubic feet

\* Emission limits shall apply at all times except the following: Emissions resulting from startup, 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 startup and/or shutdown or operation below 50% load shall not exceed six hours in any 24-hour block period beginning at midnight. Startup 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 Sections 2.1 A.5.d through g, below:
- emissions will be considered "uncontrolled" when the catalyst 4-hour rolling average inlet temperature is less than 570 °F, and
  - "Operating time" includes periods of startup, shutdown and malfunctions.
- d. In order to demonstrate compliance with the CO emission limit in Section 2.1 A.5.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:

$$\text{CO Emissions from ES-11 or ES-12 (pound/month)} = (\text{OT}_{c,db})(E_{c,db}) + (\text{OT}_{c,ndb})(E_{c,ndb}) + (\text{OT}_{nc,db})(E_{nc,db}) + (\text{OT}_{nc,ndb})(E_{nc,ndb})$$

$$\text{Total monthly CO emissions} = \text{CO emissions from ES-11} + \text{CO emissions from ES-12}$$

where:

$\text{OT}_{c,db}$  = Operating time (hours per month) when the duct burners are operating and the catalyst meets the requirements of Section 2.1 A.5.c above.

$E_{c,db}$  = CO emission factor when the duct burners are operating and the catalyst meets the requirements of Section 2.1 A.5.c above. (i.e. 14.6 pound/hour)

$\text{OT}_{c,ndb}$  = Operating time (hours per month) when the duct burners not are operating and the catalyst meets the requirements of Section 2.1 A.5.c above.

$E_{c,ndb}$  = CO emission factor when the duct burners are not operating and the catalyst meets the requirements of Section 2.1 A.5.c above. (i.e. 8.9 pound/hour)

$\text{OT}_{nc,db}$  = Operating time (hours per month) when the duct burners are operating and the catalyst does not meet the requirements of Section 2.1 A.5.c above.

$E_{nc,db}$  = CO emission factor when the duct burners are operating and the catalyst does not meet the requirements of Section 2.1 A.5.c above. (i.e. 88.96 pound/hour)

$\text{OT}_{nc,ndb}$  = Operating time (hours per month) when the duct burners are not operating and the catalyst does not meet the requirements of Section 2.1 A.5.c above.

$E_{nc,ndb}$  = CO emission factor when the duct burners are not operating and the catalyst does not meet the requirements of Section 2.1 A.5.c above. (i.e. 33.16 pound/hour)

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if CO emissions and catalyst temperature are not recorded as required above.

- e. The Permittee shall record and maintain records of the monthly nitrogen oxides emissions from these turbines (**ID Nos. ES-11 and ES-12**) in a logbook (written or in electronic format) as determined using a CEMS meeting the

requirements in Section 2.1 A.3.g above. NOx CEMS data reported to meet the requirements of this section shall include data substituted using the missing data procedures in Subpart D of 40 CFR Part 75 except that unbiased values may be used. The missing data procedure shall be used whenever the emission unit combusts any fuel. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if NOx emissions are not monitored and recorded.

f. Monitor downtime:

For each CEMS required by Sections 2.1 A.5.e above, monitor downtime:

- (A) shall not exceed 5.0 percent of the operating time in a calendar quarter;
- (B) shall be calculated using the following equation:

$$\%MD = \left( \frac{\text{Total Monitor Downtime}}{\text{Total Source Operating Time}} \right) \times 100$$

Where:

"Total Monitor Downtime" is the number of hours in a calendar quarter where an emission source was operating but data from the associated CEMS are invalid, not available, and/or or filled with missing data procedure; and "Total Source Operating Time" is the number of hours in a calendar quarter where the emission source associated with the CEMS was operating.

g. In order to demonstrate compliance with the PM<sub>10</sub> emission limit in Section 2.1 A.5.a, above, the Permittee shall calculate the monthly PM<sub>10</sub> emissions from each source as follows:

$$\text{PM}_{10} \text{ emissions from ES-11 or ES-12 (pound/month)} = (OT_{db})(E_{db}) + (OT_{ndb})(E_{ndb})$$

$$\text{Total monthly PM}_{10} \text{ emissions} = \text{PM}_{10} \text{ emissions from ES-11} + \text{PM}_{10} \text{ emissions from ES-12}$$

where:

- OT<sub>db</sub> = Operating time (hours per month) when the duct burners are operating.
- E<sub>db</sub> = PM<sub>10</sub> emission factor when the duct burners are operating. (i.e. 16.97 pound/hour)
- OT<sub>ndb</sub> = Operating time (hours per month) when the duct burners are not operating.
- E<sub>ndb</sub> = PM<sub>10</sub> emission factor when the duct burners are not operating. (i.e. 11.53 pound/hour)

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if PM<sub>10</sub> are not recorded as required above.

h. The sulfur content of the natural gas shall not exceed 1.7 grains per 100 standard cubic feet. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the sulfur content exceeds this value.

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

- i. The Permittee shall submit a semiannual 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:
  - i. the monthly CO emissions from each source (ID Nos. ES-11 and ES-12),
  - ii. 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;
  - iii. Records of excess emissions and monitor downtime, calculated on a quarterly basis, for the associated CEMS in the format approved by DAQ Technical Services Section; and
  - iv. All instances of deviations from the requirements of this permit must be clearly identified.

**6. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0531: SOURCES IN NONATTAINMENT AREAS**

- a. In order to avoid applicability of 15A NCAC 02D .0531, the combustion turbines (**ID Nos. ES-11 and ES-12**) shall discharge into the atmosphere less than the following:

Pollutant	Emission Limits*	Control Technology
volatile organic compounds	44.7 tons per 12-month rolling total (total both turbines)	oxidation catalyst

\* Emission limits shall apply at all times except the following: Emissions resulting from startup, 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 startup and/or shutdown or operation below 50% load shall not exceed six hours in any 24-hour block period beginning at midnight. Startup 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.6.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 Section 2.1 A.6.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 startup, shutdown and malfunctions.
- d. In order to demonstrate compliance with the VOC emission limit in Section 2.1 A.6.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:

$$\text{VOC emissions from ES-11 or ES-12 (pound/month)} = (OT_{c,db})(E_{c,db}) + (OT_{c,ndb})(E_{c,ndb}) + (OT_{nc,db})(E_{nc,db}) + (OT_{nc,ndb})(E_{nc,ndb})$$

where:

- $OT_{c,db}$  = Operating time (hours per month) when the duct burners are operating and the catalyst meets the requirements of Section 2.1 A.6.c, above.
- $E_{c,db}$  = VOC emission factor when the duct burners are operating and the catalyst meets the requirements of Section 2.1 A.6.c, above. (i.e. 5.0 pound/hour)
- $OT_{c,ndb}$  = Operating time (hours per month) when the duct burners are not operating and the catalyst meets the requirements of Section 2.1 A.6.c, above.
- $E_{c,ndb}$  = VOC emission factor when the duct burners are not operating and the catalyst meets the requirements of 2.1 A.6.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 2.1 A.6.c, above.
- $E_{nc,db}$  = VOC emission factor when the duct burners are operating and the catalyst does not meet the requirements of 2.1 A.6.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 2.1 A.6.c, above.
- $E_{nc,ndb}$  = VOC emission factor when the duct burners are not operating and the catalyst does not meet the requirements of 2.1 A.6.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 2.1 A.6.c, 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 semiannual summary report of the monitoring and recordkeeping activities given in Sections 2.1 A.6.c and d, above, 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.

**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:

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ for $P \leq 30$ tons per hour, or $E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons per hour  Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Toxic air pollutants	State-enforceable only (See Section 2.2 A.1)	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only (See Section 2.2 A.2)	15A NCAC 02Q .0711

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

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

$$E = 4.10 \times P^{0.67} \quad (\text{for process rates less than or equal to 30 tons per hour}), \text{ or}$$

$$E = 55.0 \times P^{0.11} - 40 \quad (\text{for process rates greater than 30 tons per hour})$$

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)]

- c. No monitoring/recordkeeping/reporting is required for particulate matter emissions from these cooling towers (**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:

<b>Pollutant</b>	<b>Limits/Standards</b>	<b>Applicable Regulation</b>
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
Sulfur dioxide Visible emissions	recordkeeping	15A NCAC 02D .0524 (40 CFR Part 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 pounds per million Btu)	15A NCAC 02Q .0317 Avoidance of 15A NCAC 02D .0501(c)
Toxic air pollutants	State-enforceable only (See Section 2.2 A.1)	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only (See Section 2.2 A.2)	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 boiler (**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 boiler (**ID No. ES-14**).

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

- a. Emissions of sulfur dioxide from this boiler (**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 the firing of natural gas in this boiler (**ID No. ES-14**).

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

- a. Visible emissions from this boiler (**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 the firing of natural gas in this boiler (**ID No. ES-14**).

**4. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS**

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 “New Source Performance Standards” (NSPS) as promulgated in 40 CFR Part 60 Subpart Dc “Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units,” including Subpart A “General Provisions.”

**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.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- c. In addition to any other recordkeeping required by 40 CFR 60.48c or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired in this boiler (**ID No. ES-14**) during each month. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained. [40 CFR 60.48c(g)(2)]

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

- d. 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 02D .1407.

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

- c. To ensure 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.

If tune-ups and inspections are not conducted, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .1407.

- d. 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, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .1407.

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

- f. 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 within the range established by the equipment manufacturer to ensure that the emission limitation for nitrogen oxides has not been exceeded; and
  - vi. any other information requested by the Director (or designee) to show that the boiler is being operated and maintained in a manner to minimize the emissions of nitrogen oxides.
- g. 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.
- h. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1407 if the records required by Sections 2.1 C.5.f and g above are not maintained.

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

- f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities required by Sections 2.1 C.5.c through g above 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  
for 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 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 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.
- e. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the operating hours exceed the limit in Section 2.1 C.6.c if the Permittee does not complete the fuel quality demonstration, if the sulfur content exceeds the limit in 2.1 C.6.b, and/or if the required records are not maintained.

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

- f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities in 2.1 C.6.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. All instances of deviations from the requirements of this permit must be clearly identified.

**D. one No. 2 fuel oil-fired emergency firewater pump engine (ID No. ES-16)**

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

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 Volatile organic compounds Carbon monoxide Particulate matter	See Section 2.1 D.2	15A NCAC 02D .0524 (40 CFR Part 60 Subpart IIII)
Hazardous air pollutants	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 this firewater pump engine (**ID Nos. ES-16**) 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 (list fuels) in this firewater pump engine (**ID Nos. ES-16**).

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

- a. Visible emissions from this firewater pump engine (**ID Nos. ES-16**) 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.1.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 this firewater pump engine (**ID No. ES-16**).

**3. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS**

- a. For the firewater pump engine (**ID No. ES-16**), 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 IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines,” including Subpart A “General Provisions.”

**Definitions and Nomenclature**

- b. For the purposes of this permit condition, the definitions and nomenclature contained in 40 CFR 60.4219 shall apply.

**General Provisions** [15A NCAC 02Q .0508(f)]

- c. 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. [40 CFR 60.4218]

**Emission Standards** [15A NCAC 02Q .0508(f)]

- d. 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 this firewater pump engine (**ID No. ES-16**): [40 CFR 60.4205(c)]
- i. NMHC and NO<sub>x</sub> emissions (combined) shall not exceed 4.0 grams per kilowatt-hour;
  - ii. CO emissions shall not exceed 3.5 grams per kilowatt-hour; and
  - iii. PM emissions shall not exceed 0.20 grams per kilowatt-hour.

**Fuel Requirements** [15A NCAC 02Q .0508(f)]

- e. The Permittee shall use diesel fuel in the engine that meets the requirements of 40 CFR 1090.305 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 02Q .0508(f)]

- f. 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 Sections 2.1 D.3.d and e above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- g. The engine has the following monitoring requirements:
- i. The engines shall be equipped with a non-resettable hour meter prior to startup. [40 CFR 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. [40 CFR 60.4209(b)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring requirements are not met.

**Compliance Requirements** [15A NCAC 02Q .0508(b)]

- h. 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. [40 CFR 60.4206 and 40 CFR 60.4211(a)]
- i. The Permittee shall demonstrate compliance with the emission standards in Section 2.1 D.3.d according to one of the methods below:
- i. Purchasing an engine certified to the emission standards in Section 2.1 D.3.d. The engine shall be installed and configured according to the manufacturer's specifications.
  - ii. Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
  - iii. Keeping records of engine manufacturer data indicating compliance with the standards.
  - iv. Keeping records of control device vendor data indicating compliance with the standards.
  - v. Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR 60.4212, as applicable. [40 CFR 60.4211(b)]
- j. In order for the engine to be considered an emergency stationary internal combustion engine (ICE) as defined in Section 2.1 D.3.b, any operation other than emergency operation, maintenance and testing, 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 paragraph (A) below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (iii) below counts as part of the 100 hours per calendar year allowed by this paragraph (ii).

- (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. 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 (ii) above. Except as provided in paragraph (A) below, 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.
  - (A) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
    - (1) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
    - (2) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
    - (3) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
    - (4) The power is provided only to the facility itself or to support the local transmission and distribution system.
    - (5) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR 60.4211(f)]

- k. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the requirements in Sections 2.1 D.3.h through j are not met.

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

- l. The following records shall be maintained:
  - i. The results of inspection and maintenance made pursuant to Section 2.1 D.3.h 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:
    - (A) the date and time of each recorded action;
    - (B) the results of each inspection;
    - (C) the results of any maintenance performed on the engine;
    - (D) any variance from manufacturer's recommendations, if any, and corrections made;
    - (E) the hours of operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time [40 CFR 60.4214(b)]; and
    - (F) 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 CFR 60.4214(c)];
  - ii. If the stationary compression ignition ICE is:
    - (A) a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards in Section 2.1 D.3.d.
    - (B) not a certified engine, documentation that the engine meets the emission standards in Section 2.1 D.3.d.
  - iii. records showing the fuel combusted meets the requirements in Section 2.1 D.3.e.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these recordkeeping requirements are not met.

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

- m. The Permittee shall meet the following reporting requirements:
  - i. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Sections 2.1 D.3.g through i, above, 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.

- ii. If the Permittee owns or operates an emergency stationary compression ignition ICE with a maximum engine power more than 100 HP that operates for the purposes specified in Section 2.1 D.3.j.iii(A), 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 directly to the EPA pursuant to 40 CFR60.4214(d)(3). [40 CFR60.4214(d)]

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

- a. For the firewater pump engine (**ID No. ES-16**), 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. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the Permittee does not comply with the requirements of 40 CFR Part 60, Subpart IIII, as specified in Section 2.1 D.3 above. [40 CFR 63.6590(c) and (c)(1)]

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**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:

<b>Regulated Pollutant</b>	<b>Limits/Standards</b>	<b>Applicable Regulation</b>
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 Volatile organic compounds Carbon monoxide Particulate matter	See Section 2.1 E.1	15A NCAC 02D .0524 (40 CFR Part 60 Subpart IIII)
Hazardous air pollutants	See Section 2.1 E.2	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 emergency generators (**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 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 (list fuels) in these emergency generators (**ID Nos. ES-15 and ES-17EmGen**).

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

- a. Visible emissions from these emergency generators (**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.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 visible emissions from the firing of No. 2 fuel oil in these emergency generators (**ID Nos. ES-15 and ES-17EmGen**).

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

- a. For these emergency generators (**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 02D .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.”

**Definitions and Nomenclature**

- b. For the purposes of this permit condition, the definitions and nomenclature contained in 40 CFR 60.4219 shall apply.

**General Provisions** [15A NCAC 02Q .0508(f)]

- c. The Permittee shall comply with the General Provisions of 40 CFR 60 Subpart A as presented in Table 8 of 40 CFR 60 Subpart III. [40 CFR 60.4218]

**Emission Standards** [15A NCAC 02Q .0508(f)]

- d. 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 these emergency generators (**ID Nos. ES-15 and ES-17EmGen**):
- i. NMHC and NO<sub>x</sub> emissions (combined) shall not exceed 6.4 g/kW-hr;
  - ii. CO emissions shall not exceed 3.5 g/kW-hr; and
  - iii. PM emissions shall not exceed 0.20 g/kW-hr.
- [40 CFR 60.4205(b), 40 CFR 60.4202, Appendix I to 40 CFR Part 1039]

**Fuel Requirements** [15A NCAC 02Q .0508(f)]

- e. The Permittee shall use diesel fuel in the engine that meets the requirements of 40 CFR 1090.305 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 02Q .0508(f)]

- f. 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 E.3.d and e above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- g. These emergency generators (**ID Nos. ES-15 and ES-17EmGen**) have the following monitoring requirements:
- i. The engines shall be equipped with a non-resettable hour meter prior to startup. [40 CFR 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. [40 CFR 60.4209(b)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring requirements are not met.

**Compliance Requirements** [15A NCAC 02Q .0508(b)]

- h. 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.
- [40 CFR 60.4206 and 60.4211(a)]
- i. The Permittee shall comply with the emission standards in Section 2.1 E.3.d by purchasing an engine certified to the emission standards in Section 2.1 E.3.d for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications. [40 CFR 60.4211(c)]
- j. In order for any engine to be considered an emergency stationary internal combustion engine (ICE) as defined in Section 2.1 E.3.b, any operation other than emergency operation, maintenance and testing, 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 paragraph (A) below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (iii) below counts as part of the 100 hours per calendar year allowed by this paragraph (ii).

(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. 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 (ii) above. Except as provided in paragraph (A) below, 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.

- (A) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
- (1) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
  - (2) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
  - (3) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
  - (4) The power is provided only to the facility itself or to support the local transmission and distribution system.
  - (5) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR 60.4211(f)]

- k. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the compliance requirements in Section 2.1 E.3.h through j are not met.

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

- l. The following records shall be maintained:
- i. The results of inspection and maintenance made pursuant to Section 2.1 E.3.h 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:
    - (A) the date and time of each recorded action;
    - (B) the results of each inspection;
    - (C) the results of any maintenance performed on the engine;
    - (D) any variance from manufacturer's recommendations, if any, and corrections made;
    - (E) the hours of operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time [40 CFR 60.4214(b)]; and
    - (F) 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 CFR 60.4214(c)]
  - ii. documentation from the manufacturer that the engine is certified to meet the emission standards in Section 2.1 E.3.d; and
  - iii. records showing the fuel combusted meets the requirements in Section 2.1 E.3.e.
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these recordkeeping requirements are not met.

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

- m. The Permittee shall meet the following reporting requirements:
- i. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Sections 2.1 E.3.g through l, above, 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.
  - ii. If the Permittee owns or operates an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates for the purposes specified in Section 2.1 E.3.j.iii(A), 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 directly to the EPA pursuant to 40 CFR 60.4214(d)(3). [40 CFR 60.4214(d)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if this reporting requirement is not met.

**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. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the Permittee does not comply with the requirements of 40 CFR Part 60, Subpart IIII, as specified in Section 2.1 E.3 above. [40 CFR 63.6590(c) and (c)(1)]

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**F. STAR® (Staged Turbulent Air Reactor®) equipped with natural gas/propane low-NOx startup burners (ID No. ES-74) with water injection (ID No. CD-74C)\* and a dry FGD scrubber in series with a bagfilter (ID Nos. CD-74A and CD-74B)**

\* This air pollution control equipment constitutes an integral part of the process equipment as originally designed and manufactured by the equipment supplier

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ for $P \leq 30$ tons per hour, or $E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons per hour  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
Nitrogen oxides	0.12 pounds per million Btu heat input	15A NCAC 02D .1413
Toxic air pollutants	State-enforceable only (See Section 2.2 A.1)	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only (See Section 2.2 A.2)	15A NCAC 02Q .0711
Particulate matter	See Section 2.2 B.1	15A NCAC 02Q .0317 Avoidance of 15A NCAC 02D .0530

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

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

$$E = 4.10 \times P^{0.67} \quad (\text{for process rates less than or equal to 30 tons per hour}), \text{ or}$$

$$E = 55.0 \times P^{0.11} - 40 \quad (\text{for process rates greater than 30 tons per hour})$$

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 2Q .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.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

- c. Particulate matter emissions from the STAR® (ID No. ES-74) shall be controlled by the bagfilter (ID Nos. CD-74B). To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
- a monthly visual inspection of the system ductwork and material collection unit for leaks; and
  - an annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilters are not inspected and maintained.

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

- d. The results of inspection and maintenance activities required by Section 2.1 F.1.c above 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 any control device; and
- iv. any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

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

- e. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
- f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 F.1.c and d above 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 .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**

- a. Emissions of sulfur dioxide from the STAR® (**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 2Q .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 operate the dry scrubber (**ID No. CD-74A**) at any time the reactor is in operation other than during startup, shutdown or malfunction. If the Permittee does not operate the dry scrubber as required, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.
- d. To ensure compliance, the Permittee shall install a sulfur dioxide continuous emissions monitoring (CEM) system including any required diluent monitor system with the following requirements:
  - i. The CEM system shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60, Appendix B.
  - ii. Compliance with the sulfur dioxide emission standard shall be demonstrated based on a three-hour rolling average of the sulfur dioxide exhaust gas concentration measured by the CEM system<sup>1</sup>.
  - iii. Pursuant to 15A NCAC 02D .0613 "Quality Assurance Program," the Permittee shall develop and implement a written quality assurance program containing information required by 40 CFR Part 60, Appendix F, Section 3, Quality Assurance Procedures.

If the Permittee fails to operate the CEM as required, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

- e. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
- f. For the CEMs, the Permittee shall submit semiannually an excess emissions and monitoring systems summary report. The emission information included in the report shall be calculated on a quarterly basis in a format as provided by the Director. The report shall include any quality assurance assessments, as stated in the quality assurance program, and shall be postmarked on or before July 30 for the period between January 1 and June 30 and January 30 for the period between July 1 and December 31 of each year. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Visible emissions from the STAR® (**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.

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<sup>1</sup>The SO<sub>2</sub> monitored value subject to the 2.3 pounds per million Btu limit will have a 5% CO<sub>2</sub> diluent cap, or a 14% O<sub>2</sub> diluent cap, substituted in the emission rate calculation whenever the actual CO<sub>2</sub> concentration is lower than 5% or whenever the actual O<sub>2</sub> concentration is higher than 14%.

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

- c. To ensure 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.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required and/or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

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

- d. The results of the monitoring activities given in Section 2.1 F.3.c, above, 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;
  - ii. the results of each observation and/or test noting any corrective actions taken to reduce visible emissions; and
  - iii. 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 2Q .0508(f)]

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 F.3.c and d, above, 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 .1413: SOURCES NOT OTHERWISE LISTED**

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

Pollutant	RACT control technology	RACT emission limits
NOx	Air staging and water injection	0.12 pounds per million Btu heat input

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

- b. The Permittee shall conduct periodic performance testing of the STAR® (**ID No. ES-74**) at least once every five years (not more than 61 months from the previous stack test) to demonstrate compliance with the NOx emission limit in 2.1 F.4.a above. 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 this testing are greater than the limit in Section 2.1 F.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1413.

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

- c. No additional monitoring, recordkeeping or reporting is required to demonstrate compliance with 15A NCAC 02D .1413 for the STAR® (**ID No. ES-74**).

**G. The following sources:**

- **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),**
- **Two vibrating screeners (ID Nos. ES-82A1 and ES-82A2),**
- **Six tele-stackers (ID Nos. ES-82C1 through ES-82C6),**
- **Ball mill classifier (ID No. ES-84) with bin vent filter\* (ID No. CD-84), and**
- **Ball mill feed silo (ID No. ES-85) with bin vent\* (ID No. CD-85)**

\* This air pollution control equipment constitutes an integral part of the process equipment as originally designed and manufactured by the equipment supplier

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ for $P \leq 30$ tons per hour, or $E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons per hour  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	State-enforceable only (See Section 2.2 A.1)	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only (See Section 2.2 A.2)	15A NCAC 02Q .0711
Particulate matter	See Section 2.2 B.1	15A NCAC 02Q .0317 Avoidance of 15A NCAC 02D .0530

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

- a. Emissions of particulate matter from the sources identified above (**ID Nos. ES-73, ES-75 through ES-81, ES-81A, ES-81B, ES-82A1, ES-82A2, ES-82C1 through ES-82C6, ES-84, and ES-85**) shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad (\text{for process rates less than or equal to 30 tons per hour}), \text{ or}$$

$$E = 55.0 \times P^{0.11} - 40 \quad (\text{for process rates greater than 30 tons per hour})$$

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 2Q .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.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

- c. The Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formulas contained above, can be derived and shall make these records available to a DAQ authorized representative

upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the production records are not maintained or the types of materials and finishes are not monitored.

- d. No reporting is required for particulate emissions from these sources (**ID Nos. ES-73, ES-75 through ES-81, ES-81A, ES-81B, ES-82A1, ES-82A2, ES-82C1 through ES-82C6, ES-84, and ES-85**).

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

- a. Visible emissions from the sources identified above (**ID Nos. ES-73, ES-75 through ES-81, ES-81A, ES-81B, ES-82A1, ES-82A2, ES-82C1 through ES-82C6, ES-84, and ES-85**) 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 2Q .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 2Q .0508(f)]

- c. To ensure compliance, once every six months the Permittee shall observe the emission points of these sources (**ID Nos. ES-73, ES-75 through ES-81, ES-81A, ES-81B, ES-82A1, ES-82A2, ES-82C1 through ES-82C6, ES-84, and ES-85**) 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.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required semiannual observations are not conducted as required and/or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

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

- d. The results of the monitoring activities given in Section 2.1 G.2.c, above, 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 be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

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

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 G.2.c and d, above, 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.

**H. The following sources:**

- **two diesel-fired vibrating screener engines (ID Nos. ES-82B1 and ES-82B2)**
- **six diesel-fired tele-stacker engines (ID Nos. ES-82D1 through ES-82D6)**
- **one diesel-fired ash basin dewatering pump (ID No. ES-86)**

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

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 Volatile organic compounds Carbon monoxide Particulate matter	See Section 2.1 H.2	15A NCAC 02D .0524 (40 CFR Part 60 Subpart IIII)
Hazardous air pollutants	See Section 2.1 H.3	15A NCAC 02D .1111 (40 CFR 63 Subpart ZZZZ)
Particulate matter	See Section 2.2 B.1	15A NCAC 02Q .0317 Avoidance of 15A NCAC 02D .0530

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

- a. Emissions of sulfur dioxide from these engines (**ID Nos. ES-82B1, ES-82B2, ES-82D1 through ES-82D6, and ES-86**) 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 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 (list fuels) in these engines (**ID Nos. ES-82B1, ES-82B2, ES-82D1 through ES-82D6, and ES-86**).

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

- a. Visible emissions from these engines (**ID Nos. ES-82B1, ES-82B2, ES-82D1 through ES-82D6, and ES-86**) 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 2Q .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 H.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 diesel-fuel in these engines (**ID Nos. ES-82B1, ES-82B2, ES-82D1 through ES-82D6, and ES-86**).

**3. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS**

- a. For these engines (**ID Nos. ES-82B1, ES-82B2, ES-82D1 through ES-82D6, and ES-86**), 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 IIII,

“Standards of Performance for Stationary Compression Ignition Internal Combustion Engines,” including Subpart A “General Provisions.”

**Definitions and Nomenclature**

- b. For the purposes of this permit condition, the definitions and nomenclature contained in 40 CFR 60.4219 shall apply.

**General Provisions** [15A NCAC 02Q .0508(f)]

- c. The Permittee shall comply with the General Provisions of 40 CFR 60 Subpart A as presented in Table 8 of 40 CFR 60 Subpart III. [40 CFR 60.4218]

**Emission Standards** [15A NCAC 02Q .0508(f)]

- d. The Permittee shall comply with the emission standards for new nonroad CI engines in 40 CFR 60.4201 for the same model year and maximum engine power for this engine:

- i. ES-82B1 and ES-82B2:  
(A) PM: 0.02 grams per kilowatt-hour;  
(B) NO<sub>x</sub>: 0.40 grams per kilowatt-hour; and  
(C) CO: 3.5 grams per kilowatt-hour.
- ii. ES-82D1 through ES-82D6 and ES-86:  
(A) PM: 0.03 grams per kilowatt-hour;  
(B) NO<sub>x</sub>+NMHC: 4.7 grams per kilowatt-hour; and  
(C) CO: 5 grams per kilowatt-hour.

[40 CFR 60.4204(b), 40 CFR 60.4201(a), 40 CFR 1039.101]

**Fuel Requirements** [15A NCAC 02Q .0508(f)]

- e. The Permittee shall use diesel fuel in the engine that meets the requirements of 40 CFR 1090.305 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 02Q .0508(f)]

- f. 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 Sections 2.1 H.3.d and e above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- g. 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)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if this requirement is not met.

**Compliance Requirements** [15A NCAC 02Q .0508(b)]

- h. 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.  
[40 CFR 60.4206 and 60.4211(a)]
- i. The Permittee shall comply with the emission standards in Section 2.1 H.3.d by purchasing an engine certified to the emission standards in Section 2.1 H.3.d. The engine shall be installed and configured according to the manufacturer's emission-related specifications. [40 CFR 60.4211(c)]
- j. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the requirements in Sections 2.1 H.3.h through i are not met.

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

- k. The following records shall be maintained:  
i. The results of inspection and maintenance made pursuant to Section 2.1 H.3.h 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:  
(A) the date and time of each recorded action;

- (B) the results of each inspection;
  - (C) the results of any maintenance performed on the engine;
  - (D) any variance from manufacturer's recommendations, if any, and corrections made;
  - (E) 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 CFR 60.4214(c)]
- ii. documentation from the manufacturer that the engine is certified to meet the emission standards in Section 2.1 H.3.d; and
  - iii. records showing the fuel combusted meets the requirements in Section 2.1 H.3.e.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these recordkeeping requirements are not met.

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

- 1. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1 H.3.g through k, above, 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.

**4. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY  
40 CFR Part 63, Subpart ZZZZ**

- a. For these sources (**ID Nos. ES-82B1 and ES-82B2, ES-82D1 through ES-82D6, and ES-86**), 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 H.3 above. No further requirements apply under 40 CFR Part 63. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the Permittee does not comply with the requirements of 40 CFR Part 60, Subpart IIII, as specified in Section 2.1 H.3 above. [40 CFR 63.6590(c) and (c)(1)]

**I. The following sources:**

- **Wet Ash Receiving – Transfer to Shed (ID No. ES-F1)**
- **Wet Ash Receiving – Transfer to Hopper (ID No. ES-F2)**
- **Wet Ash Receiving – Unloading Pile (ID No. ES-F3)**
- **Ash Basin (ID No. ES-F4)**
- **Ash Handling (ID No. ES-F5)**
- **Haul Roads (ID No. ES-F6)**

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

<b>Pollutant</b>	<b>Limits/Standards</b>	<b>Applicable Regulation</b>
Fugitive non-process dust emissions	State-enforceable only fugitive non-process dust emissions shall not cause or contribute to substantive complaints	15A NCAC 02D .0540
Toxic air pollutants	State-enforceable only (See Section 2.2 A.1) (All sources in Section 2.1 I except ID ES-F6)	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only (See Section 2.2 A.2) (All sources in Section 2.1 I except ID ES-F6)	15A NCAC 02Q .0711
Particulate matter	See Section 2.2 B.1	15A NCAC 02Q .0317 Avoidance of 15A NCAC 02D .0530

**STATE-ENFORCEABLE ONLY****1. 15A NCAC 02D .0540: PARTICULATES FROM FUGITIVE NON-PROCESS DUST EMISSION SOURCES**

- a. For the purpose of this Rule the following definitions shall apply:
  - i. "Fugitive non-process dust emission" means particulate matter that is not collected by a capture system and is generated from areas such as pit areas, process areas, haul roads, stockpiles, and plant roads.
  - ii. "Substantive complaints" means complaints that are verified with physical evidence acceptable to the DAQ.
- b. The Permittee shall not cause or allow fugitive non-process dust emissions to cause or contribute to substantive complaints.
- c. If fugitive non-process dust emissions from a facility required complying with this Rule cause or contributing to substantive complaints, the Permittee shall:
  - i. Within 30 days upon receipt of written notification from the Director of a second substantive complaint in a 12-month period, submit to the Director a written description of what has been done and what will be done to reduce fugitive non-process dust emissions from that part of the facility that caused the second substantive complaint;
  - ii. Within 90 days of receipt of written notification from the Director of a second substantive complaint in a 12-month period, submit to the Director a control plan as described in Paragraph (e) of this Rule; and
  - iii. Within 30 days after the Director approves the plan, be in compliance with the plan.
- d. The Director may require that the Permittee develop and submit a fugitive non-process dust control plan as described in Paragraph (e) of this Rule if:
  - i. Ambient air quality measurements or dispersion modeling acceptable to the DAQ show violation or a potential for a violation of an ambient air quality standard for particulates in 15A NCAC 02D .0400 "Ambient Air Quality Standards;" or
  - ii. If the DAQ observes excessive fugitive non-process dust emissions from the facility beyond the property boundaries.

The control plan shall be submitted to the Director no later than 90 days after notification. The facility shall be in compliance with the plan within 30 days after the Director approves the plan.
- e. The fugitive dust control plan shall:
  - i. Identify the sources of fugitive non-process dust emissions within the facility;
  - ii. Describe how fugitive non-process dust will be controlled from each identified source;
  - iii. Contain a schedule by which the plan will be implemented;
  - iv. Describe how the plan will be implemented, including training of facility personnel; and
  - v. Describe methods to verify compliance with the plan.
- f. The Director shall approve the plan if:
  - i. The plan contains all required elements in Paragraph (e) of this Rule;
  - ii. The proposed schedule contained in the plan will reduce fugitive non-process dust emissions in a timely manner;

iii. The methods used to control fugitive non-process dust emissions are sufficient to prevent fugitive non-process dust emissions from causing or contributing to a violation of the ambient air quality standards for particulates; and

iv. The described compliance verification methods are sufficient to verify compliance with the plan.

If the Director finds that the proposed plan does not meet the requirements of this Paragraph he shall notify the Permittee of any deficiencies in the proposed plan. The Permittee shall have 30 days after receiving written notification from the Director to correct the deficiencies.

g. If, after a plan has been implemented, the Director finds that the plan inadequately controls fugitive non-process dust emissions, the Permittee shall be required to correct the deficiencies in the plan. Within 90 days after receiving written notification from the Director identifying the deficiency, the Permittee shall submit a revision to his plan to correct the deficiencies.

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## 2.2- Multiple Emission Source(s) Specific Limitations and Conditions

### A. Facility-wide affected sources

#### STATE-ENFORCEABLE ONLY

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

- a. The Permittee has demonstrated compliance with the following permit limits in accordance with the completed application (8000004.19A) received July 2, 2019. The Permittee has evaluated all toxic air pollutants (TAP) covered in 15A NCAC 02D .1104 for all sources at the facility, excluding the sources exempt from evaluation under 15A NCAC 02Q .0702. The modeling analysis was reviewed and approved by the Air Quality Analysis Branch (AQAB) on October 1, 2019. Placement of the emission sources, configuration of the emission points, and operating of the sources shall be in accordance with the submitted dispersion modeling analysis and should reflect any changes from the original analysis submittal as outlined in the AQAB review memorandum.

Emission Source	Toxic Air Pollutant	Emission Limit(s)
Turbines (ID Nos. ES-11 and ES-12) (emission limit for each turbine)	Arsenic	29.78 lb/yr
	Benzene	104,244.00 lb/yr
	Beryllium	16.91 lb/yr
	Cadmium	2,014.80 lb/yr
	Formaldehyde	265 lb/hr
	Mercury	44.60 lb/day
	Nickel Metal	13.30 lb/day
	Sulfuric Acid Mist	181 lb/hr 1,010 lb/day
Cooling Tower (ID No. ES-13)	Chlorine	0.000225 lb/hr
		0.054 lb/day
Boiler (ID No. ES-14)	Arsenic	0.131 lb/yr
	Benzene	97.24 lb/yr
	Beryllium	0.074 lb/yr
	Cadmium	8.85 lb/yr
	Formaldehyde	2.19 lb/hr
	Mercury	1.37 lb/day
	Nickel Metal	0.25 lb/day
Chiller Cooling Tower (ID No. ES-72)	Chlorine	0.00025 lb/hr
		0.006 lb/day
Feed Silo Filling and Unloading (ID No. ES-73A/73B) (Total)	Arsenic	0.0307 lb/yr
	Beryllium	0.0599 lb/yr
	Cadmium	0.0678 lb/yr
	Mercury	0.00081 lb/day
	Nickel Metal	0.0035 lb/day
STAR® Reactor (ID No. ES-74)	Arsenic	115.63 lb/yr
	Benzene	510.71 lb/yr
	Beryllium	223.38 lb/yr
	Cadmium	298.72 lb/yr
	Formaldehyde	2.63 lb/hr
	Mercury	3.02 lb/day
	Nickel Metal	6.22 lb/day
	Sulfuric Acid Mist	10.7 lb/hr 59.52 lb/day
External Heat Exchangers (ID Nos. ES-77 and ES-78) (emission limit per heat exchanger)	Arsenic	47.30 lb/yr
	Beryllium	91.98 lb/yr
	Cadmium	104.24 lb/yr
	Mercury	0.566 lb/day
	Nickel Metal	2.45 lb/day

<b>Emission Source</b>	<b>Toxic Air Pollutant</b>	<b>Emission Limit(s)</b>
Transfer Silo Filling and Unloading (ID No. ES-79A/B) (Total)	Arsenic	0.031 lb/yr
	Beryllium	0.0599 lb/yr
	Cadmium	0.0678 lb/yr
	Mercury	0.00081 lb/day
	Nickel Metal	0.0035 lb/day
Storage Dome Filling and Unloading (ID No. ES-80A/B) (Total)	Arsenic	0.031 lb/yr
	Beryllium	0.0599 lb/yr
	Cadmium	0.0678 lb/yr
	Mercury	0.00081 lb/day
	Nickel Metal	0.0035 lb/day
Loadout Silo (ID No. ES-81)	Arsenic	0.0153 lb/yr
	Beryllium	0.0299 lb/yr
	Cadmium	0.0339 lb/yr
	Mercury	0.0012 lb/day
	Nickel Metal	0.005 lb/day
Loadout Silo Chutes (ID No. ES-81A/B) (Emissions limit per chute)	Arsenic	0.000777 lb/yr
	Beryllium	0.0150 lb/yr
	Cadmium	0.0169 lb/yr
	Mercury	0.000403 lb/day
	Nickel Metal	0.00173 lb/day
Ball Mill Classifier (ID No. ES-84)	Arsenic	5.40 lb/yr
	Beryllium	10.51 lb/yr
	Cadmium	11.91 lb/yr
	Mercury	0.065 lb/day
	Nickel Metal	0.278 lb/day
Ball Mill Feed Silo (ID No. ES-85)	Arsenic	0.000003 lb/yr
	Beryllium	0.000007 lb/yr
	Cadmium	0.000008 lb/yr
	Mercury	0.000121 lb/day
	Nickel Metal	0.000521 lb/day
Wet Ash Receiving – Transfer to Shed (ES-F1)	Arsenic	0.0114 lb/yr
	Beryllium	0.0222 lb/yr
	Cadmium	0.0252 lb/yr
	Mercury	0.00021 lb/day
	Nickel Metal	0.000905 lb/day
Wet Ash Receiving – Transfer to Hopper (ES-F2)	Arsenic	0.0229 lb/yr
	Beryllium	0.0446 lb/yr
	Cadmium	0.0503 lb/yr
	Mercury	0.00042 lb/day
	Nickel Metal	0.0018 lb/day
Wet Ash Receiving – Unloading Pile (ES-F3)	Arsenic	0.0142 lb/yr
	Beryllium	0.0277 lb/yr
	Cadmium	0.0313 lb/yr
	Mercury	0.00017 lb/day
	Nickel Metal	0.00073 lb/day
Ash Basin, Ash Handling, Vibrating Screeners, and Tele-stackers (ES-F4, ES-F5, ES-82A1, ES-82A2, and ES-C1 through ES-C6) (Total)	Arsenic	4.80 lb/yr
	Beryllium	9.37 lb/yr
	Cadmium	10.60 lb/yr
	Mercury	0.118 lb/day
	Nickel Metal	0.506 lb/day

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

**STATE-ENFORCEABLE ONLY**

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

- a. The facility shall be operated and maintained in such a manner that any new, existing or increased actual emissions of any Toxic Air Pollutant (TAP) listed in 15A NCAC 02Q .0711 or in this permit from all sources at the facility (excluding those sources exempt under 15A NCAC 02Q .0702 "Exemptions"), including fugitive emissions and emission sources not otherwise required to have a permit, will not exceed its respective TAP permitting emission rates (TPER) listed in 15A NCAC 02Q .0711 without first obtaining an air permit to construct or operate.
- b. PRIOR to exceeding any of the TPERs listed in 15A NCAC 02Q .0711, the Permittee shall be responsible for obtaining an air permit to emit TAPs and for demonstrating compliance with the requirements found in 15A NCAC 02D .1100 "Control of Toxic Air Pollutants."
- c. The Permittee shall maintain at the facility records of operational information sufficient for demonstrating to the Division of Air Quality staff that actual TAPs are less than the rate listed in 15A NCAC 02Q .0711.
- d. The TPER table listed below is provided to assist the Permittee in determining when an air permit is required pursuant to 15A NCAC 02Q .0711 and may not represent all TAPs being emitted from the facility. This table will be updated at such time as the permit is either modified or renewed.

Pollutant (CAS Number)	Carcinogens (lb/yr)	Chronic Toxicants (lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
acetaldehyde (75-07-0)				6.8
carbon tetrachloride (56-23-5)	460			
chlorobenzene (108-90-7)		46		
chloroform (67-66-3)	290			
n-hexane (110-54-3)		23		
soluble chromate compounds, as chromium (VI) equivalent		0.013		
manganese and compounds		0.63		
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

**B. The following sources:**

- Feed silo (ID No. ES-73)
- STAR® (Staged Turbulent Air Reactor) system (ID No. ES-74)
- FGD byproduct silo (ID No. ES-75)
- FGD absorbent silo (ID No. ES-76)
- External heat exchanger 1 (ID No. ES-77)
- External heat exchanger 2 (ID No. ES-78)
- Transfer silo (ID No. ES-79)
- Storage dome (ID No. ES-80)
- Loadout silo (ID No. ES-81)
- Two loadout silo chutes (ID No. ES-81A and ES-81B)
- Two vibrating screeners (ID Nos. ES-82A1 and ES-82A2)
- Two diesel-fired vibrating screener engines (ID Nos. ES-82B1 and ES-82B2)
- Six tele-stackers (ID Nos. ES-82C1 through ES-82C6)
- Six diesel-fired tele-stacker engines ID Nos. ES-82D1 through ES-82D6)
- Ball mill classifier (ID No. ES-84)
- Ball mill feed silo (ID No. ES-85)
- Diesel-fired ash basin dewatering pump (ID No. ES-86)
- Wet ash receiving – transfer to shed (ID No. ES-F1)
- Wet ash receiving – transfer to hopper (ID No. ES-F2)
- Wet ash receiving – unloading pile (ID No. ES-F3)
- Ash basin (ID No. ES-F4)
- Ash handling (ID No. ES-F5)
- Haul roads (ID No. ES-F6)

**1. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS  
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. In order to avoid applicability of 15A NCAC 02D .0530(g), the sources listed above (ID Nos. ES-73 through ES-81, ES-81A and 81B, ES-82A1 and 82A2, ES-82B1 and 82B2, ES-82C1 through 82C6, ES-82D1 through 82D6, ES-84 through 86, and ES-F1 through F6) shall discharge into the atmosphere less than 108.2 tons of particulate matter per consecutive 12-month period.

**Operating Limitations** [15A NCAC 02Q .0508(f)]

- b. The average and maximum annual coal ash processing rates for STAR® system (ID No. ES-74) shall not exceed 130 million Btu per hour and 400,000 tons, respectively, during any consecutive 12-month period.
- c. The operating hours for STAR® system (ID No. ES-74), two heat external heat exchangers (ID Nos. ES-77 and ES-78), and Ball mill classifier (ID No. ES-84), shall not exceed 355 days each per any consecutive 12-month period.
- d. The unloading pile area (ID No. ES-F3) shall not exceed 0.33 acre.
- e. The ash basin (ID No. ES-F4) working (active) area shall not exceed 25 acres.
- f. The coal ash truck loads shall not exceed 17,200 per any consecutive 12-month period, each way, to and from the ash basin (ID No. ES-F4).
- g. The truck driving distance for coal ash-loads shall not exceed 1.1 mile each way, to and from ash basin (ID No. ES-F4).
- h. The operating hours for vibrating screeners 1 and 2 (ID Nos. ES-82A1 and ES-82A2) shall not exceed 3,120 and 2,340 per any consecutive 12-month period, respectively.
- i. The operating hours for vibrating screener engines 1 and 2 (ID Nos. ES-82B1 and ES-82B2) shall not exceed 3,120 and 2,340 per any consecutive 12-month period, respectively.
- j. The operating hours for tele-stackers 1 and 2, 3 and 4, and 5 and 6 (ID Nos. ES-82C1 through ES-82C6) shall not exceed 3,120 each, 2,340 each, and 1,560 each, per any consecutive 12-month period, respectively.
- k. The operating hours for tele-stacker engines 1 and 2, 3 and 4, and 5 and 6 (ID Nos. ES-82D1 through ES-82D6) shall not exceed 3,120 each, 2,340 each, and 1,560 each, per any consecutive 12-month period, respectively.

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

- l. The Permittee shall conduct periodic stack tests at least once every five years (not more than 61 months from the previous stack test) to reestablish the emission factor for particulate matter (pounds of particulate matter per ton of coal ash processed) for STAR® system (ID No. ES-74) for both natural gas and propane firing scenarios, in

accordance with the requirements in General Condition JJ. If the results of any required testing are above the limit given in Section 2.2 B.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

- m. The Permittee shall keep records (written or electronic format) on a monthly basis for actual coal ash processing rates in both million Btu/hr and tons for STAR® system (**ID No. ES-74**). The Permittee shall determine both average and maximum annual coal ash processing rates in million Btu/hr and tons, respectively, for each month of the consecutive 12-month period. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these required records are not maintained.
- n. The Permittee shall keep records (written or electronic format) of operating hours on a monthly basis and total the hours of operation for each of the consecutive 12-month period, separately for STAR® system (**ID No. ES-74**), two external heat exchangers (**ID Nos. ES-77 and ES-78**), and Ball mill classifier (**ID No. ES-84**). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these required records are not maintained.
- o. The Permittee shall calculate particulate emissions at the end of each month, for all sources listed in Section 2.2 B above, using the emissions factor developed in Section 2.2 B.1.1, as applicable, default emission rate specified below, and actual coal ash processing rate and equipment operating hours in Section 2.2 B.1.m and n above:

$$\begin{aligned} \text{PM emissions, ton/month} = & [(\text{coal ash processed in ES-74, ton/month}) \times (0.126 \text{ pound/ton}) + \\ & (\text{total hours of operation for ES-77 and ES-78, hour/month}) \times (6.86 \text{ pound/hour}) + \\ & (\text{hours of operation for ES-84, hour/month}) \times (0.78 \text{ pound/hour})] / (2,000 \text{ pound/ton}) + \\ & (0.41 \text{ ton/month})^* \end{aligned}$$

\* This is the default total emission rate for STAR® facility ancillary sources (ID Nos. ES-73, ES-75, ES-76, ES-79, ES-80, ES-81, ES-81A, ES-81B, ES-82A1, ES-82A2, ES-82B1, ES-82B2, ES-82C1 through ES-82C6, ES-82D1 through ES-82D6, ES-85, ES-86, and ES-F1 through ES-F6)

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these calculations are not performed and records are not maintained.

- p. The Permittee shall keep the records for amounts of particulate matter emissions for each of the sources listed in Section 2.2 B.1 (**ID Nos. ES-73 through ES-81, ES-81A and 81B, ES-82A1 and 82A2, ES-82B1 and 82B2, ES-82C1 through 82C6, ES-82D1 through 82D6, ES-84 through 86, and ES-F1 through F6**) above in a logbook (written or electronic format) and total their emissions for each consecutive 12-month period, using the emissions for the current month and the previous 11-months period. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these required records are not maintained.
- q. No monitoring or reporting shall be required for operating restrictions specified in Sections 2.2 B.1.d through k above.

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

- r. The Permittee shall submit actual coal ash processing rates for STAR® system (**ID No. ES-74**), as required in Section 2.2 B.1.m above, and actual hours of operation for STAR® system (**ID No. ES-74**), two external heat exchangers (**ID Nos. ES-77 and ES-78**), as required in Section 2.2 B.1.n above, within 30 days of receipt of a written request by the DAQ.
- s. The Permittee shall submit a written report of the results of each performance test required in Section 2.2 B.1.1 above, as applicable, before the close of business on the 60th day following the completion of the performance test.
- t. The Permittee shall submit complete a permit application for including the particulate matter emissions factor for STAR® system (**ID No. ES-74**) in the air quality permit, established in Section 2.2 B.1.1 above, as applicable, before the close of business on the 60th day following the completion of the performance test.
- u. The Permittee shall submit a semiannual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities given in Sections 2.2 B.1.m through p above, 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 particulate matter emissions for the previous 17 months for each of the sources listed in Section 2.2.B above and their total emissions, 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.

**2.3 Insignificant Activities per 15A NCAC 02Q .0503(8)**

<b>Emission Source ID No.</b>	<b>Emission Source Description<sup>1,2</sup></b>
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 <b>GACT ZZZZ</b>	Propane-fired emergency generator for microwave towers (11 kilowatt 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 (2,500 gallons maximum capacity)
I-23	Satellite accumulation areas for storage of used-oil in drums
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
<b>CC Plant Activities Currently Installed and Operating</b>	
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	Used oil storage sheds
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 plus Totes (20,000 gallons maximum capacity)
I-88	Two CO2 Fire Protection System tanks (6 tons maximum capacity, each)
I-90	Oil/Water Separator System
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)

Emission Source ID No.	Emission Source Description <sup>1,2</sup>
I-107	Lubricating Oil Dispensing System (twelve 330 gallon containers)
I-108	Gasoline storage tank (300 gallons maximum capacity)
I-109	Diesel storage tank (264 gallons maximum capacity) for the ash basin dewatering pump (ES-86)
I-110	Diesel storage tank in the #1 ash pond area (2,000 gallons maximum capacity)
I-111	Diesel storage tank in Ash Beneficiation area (1,000 gallons maximum capacity)
I-112	Laboratory chemical vent hood
I-113	Two spare transformers (602 gallons maximum capacity each, of mineral oil)
I-114	Various small (less than 500 gallon capacity each) mineral oil-filled transformers throughout the site

<sup>1</sup> Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement (Federal or State) or that the Permittee is exempted from demonstrating compliance with any applicable requirement.

<sup>2</sup> 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."

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## 2.4 Phase II Acid Rain Permit Requirements

ORIS code: 2720

Effective: Same as TV permit, TBD

### 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<sub>2</sub> Allowance Allocations and NO<sub>x</sub> Requirements for each affected unit

ES-11 (11C)	SO <sub>2</sub> allowances	SO <sub>2</sub> allowances are not allocated by U.S. EPA for new units under 40 CFR part 72.
ES-12 (12C)	NO <sub>x</sub> limit	Does not apply for gas or oil-fired units.

### C. Acid Rain Permit Application and Phase II NO<sub>x</sub> 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:

## 2.5 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 AAAAAA "TR NO<sub>x</sub> Annual Trading Program" and Subpart CCCCCC "TR SO<sub>2</sub> Group 1 Trading Program".

## SECTION 3- GENERAL CONDITIONS (version 6.0, 01/07/2022)

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(s) 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 be 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 by 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. Title V 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 [15A NCAC 02Q .0508(f)]  
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
  - b. 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 [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]**

1. "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.)

2. 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.
3. 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).

**I.B. Reporting Requirements for Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

1. "Permit 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.
2. Pursuant to 15A NCAC 02Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) quarterly by notifying the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 02D .0535. 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.C. 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 Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all terms and conditions in the permit (including emissions limitations, standards, or work practices), except for conditions identified as being State-enforceable Only. 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;
4. the method(s) used for determining the compliance status of the source during the certification period;
5. each deviation and take it into account in the compliance certification; and
6. as possible exceptions to compliance, any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (CAM) occurred.

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 be 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)(3)]

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(d)]

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 service, repair, and maintain such equipment according to the 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. **National Emission Standards Asbestos – 40 CFR Part 61, Subpart M** [15A NCAC 02D .1110]

The Permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities.

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, .1110, or .1111 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 for emission sources subject to Rules .0524, .1110, or .1111, the Permittee shall provide and submit all notifications, conduct all testing, and submit all test reports in accordance with the requirements of 15A NCAC 02D .0524, .1110, or .1111, as applicable. Otherwise, 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 15A NCAC 02D .2600 if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
  - b. The Director may authorize the DAQ to conduct independent tests of any source subject to a rule in 15A NCAC 02D 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 15A NCAC 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(b)(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(c)(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 (Air Permitting Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI) in writing at least seven days before the change is made.
  - a. The written notification shall include:
    - i. a description of the change at the facility;
    - 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.
  - b. 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 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.

DRAFT

ATTACHMENT

Acid Rain Permit Application

(five pages, signed October 20, 2020)

DRAFT