



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

MICHAEL ABRACZINSKAS
Director

DRAFT

Mr. Tom Copolo
General Manager III
Duke Energy Progress, LLC
1700 Dunnaway Road
Roxboro, NC 27343

SUBJECT: Air Quality Permit No. 01001T58
Facility ID: 7300029
Duke Energy Progress, LLC - Roxboro Steam Electric Plant
Semora
Person County
Fee Class: Title V
PSD Class: Major

Dear Mr. Copolo:

In accordance with your completed Air Quality Permit Application for a Significant 501(b)(2) Part II modification of your Title V permit, we are forwarding, herewith, Air Quality Permit No. 01001T58 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 4. 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 143-215.108A and may subject the Permittee to civil or criminal penalties as described in NCGS 143-215.114A and 143-215.114B.



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

Person County has triggered increment tracking under PSD for PM-10 and SO₂. Any increment changes associated with this modification were addressed in the Part I permit application (No. 7300029.21A).

This Air Quality Permit shall be effective from DRAFT until September 30, 2023, 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 these changes, please contact Connie Horne, at (919) 707-8722 or Connie.Horne@ncdenr.gov.

Sincerely yours,

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

Enclosure

c: Brad Akers, EPA Region 4 (Permit and Review)
Raleigh Regional Office
Laserfiche

**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 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 to Air Permit No. 01001T57:*

Page No.	Section	Description of Changes
Cover Letter	---	Modified to reflect current permit number, issue and effective dates
All	Headers	Amended permit revision number
1-66	Entire permit, where applicable	Modified to reflect current permit number, issue and effective dates
8	Section 1	Removed footnote pertaining to the requirement to file a Title V Air Quality Permit Application on or before 12 months after commencing operation. This application satisfies that requirement.
52	2.2 D.1.a.iv	Corrected "Projected Actual Emissions" for PM and PM ₁₀
53	2.2 D.2.a	Removed "15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT". This requirement was satisfied with the submission of this application (.22A) received August 22, 2022.
56-57	Section 3	Moved Insignificant Activities list from Attachment to Section 3
58-66	Section 4	Updated General Conditions to version 6.0 (01/07/2022) and moved to Section 4.

* 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
01001T58	01001T57	DRAFT	September 30, 2023

NOTE: Per General Condition K, a permit application for the renewal of this Title V permit shall be submitted no later than March 31, 2023.

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 Progress, LLC – Roxboro Steam Electric Plant
Facility ID:	7300029
Primary SIC Code:	4911 / Electric Services
NAICS Code:	221112 / Fossil Fuel Electric Power Generation
Facility Site Location:	1700 Dunnaway Road
City, County, State, Zip:	Semora, Person County, NC 27343
Mailing Address:	1700 Dunnaway Road
City, State, Zip:	Semora, NC 27343
Application Number(s):	7300029.22A
Complete Application Date(s):	August 24, 2022
Division of Air Quality, Regional Office Address:	Raleigh Regional Office 3800 Barrett Drive, Suite 101 Raleigh, NC 27609

Permit issued this the XXth day of DRAFT

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

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- 2.2 Multiple Emission Source(s) Specific Limitations and Conditions (Including specific requirements, testing, monitoring, recordkeeping, and reporting requirements)
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- 2.4 Phase II Acid Rain Permit Requirements

SECTION 3: INSIGNIFICANT ACTIVITIES PER 15A NCAC 02Q .0503(8)

SECTION 4: GENERAL PERMIT CONDITIONS

ATTACHMENTS:

- 1. Phase II Acid Rain Permit Renewal Application and NO_x Averaging Plan, dated April 4, 2018
- 2. Phase II NO_x Compliance Plan, dated June 23, 2015

List of Acronyms

AOS	Alternative Operating Scenario
BACT	Best Available Control Technology
BAE	Baseline Actual Emissions
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CEDRI	Compliance and Emissions Data Reporting Interface
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
CSAPR	Cross-State Air Pollution Rule
DAQ	Division of Air Quality
DEQ	Department of Environmental Quality
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
GHGs	Greenhouse Gases
HAP	Hazardous Air Pollutant
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standard
NSR	New Source Review
OAH	Office of Administrative Hearings
PAE	Projected Actual Emissions
PAL	Plantwide Applicability Limitation
PM	Particulate Matter
PM_{2.5}	Particulate Matter with Nominal Aerodynamic Diameter of 2.5 Micrometers or Less
PM₁₀	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO₂	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	Tons Per Year
VOC	Volatile Organic Compound

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

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

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-Unit 1 MACT UUUUU	coal/No. 2 fuel oil ^a -fired electric utility boiler (4,722 million Btu per hour nominally rated heat input) equipped with low-NOx burner and alkaline-based fuel additive ^{b,c}	CD-SCR1 ^d CD-ESP1 CD-FGD1 ^e CD-INJ-Sorb1 (consisting of ES-SORB-17 and ES-SORB-19)	selective catalytic reduction system electrostatic precipitator (Environmental Elements cold-side model) wet scrubber sorbent injection system
ES-Unit 2 MACT UUUUU	coal/No. 2 fuel oil ^a -fired electric utility boiler (7,035 million Btu per hour nominally rated heat input) equipped with low-NOx burner and alkaline-based fuel additive ^{b,c}	CD-SCR2 ^d CD-ESP2 CD-FGD2 ^e CD-INJ-Sorb2 (consisting of ES-SORB-13 and ES-SORB-15)	selective catalytic reduction system electrostatic precipitator (Environmental Elements cold-side model) wet scrubber sorbent injection system
ES-Unit 3A and ES-Unit 3B MACT UUUUU	two coal/No. 2 fuel oil ^a -fired electric utility boilers (4,261 million Btu per hour nominally rated heat input each) equipped with low-NOx burners and alkaline-based fuel additive ^{b,c}	CD-SCR3a & CD-SCR3b ^d CD-ESP3a & CD-ESP3b CD-FGD3 ^e CD-INJ-Sorb3 (consisting of ES-SORB-9 and ES-SORB-11)	two selective catalytic reduction systems (one per boiler) two electrostatic precipitators (Lodge-Cottrell cold-side model; one per boiler) wet scrubber sorbent injection system
ES-Unit 4A and ES-Unit 4B NSPS D, MACT UUUUU	two coal/No. 2 fuel oil ^a -fired electric utility boilers (4,099 million Btu per hour nominally rated heat input each) equipped with low-NOx burners and alkaline-based fuel additive ^{b,c}	CD-SCR4a & CD-SCR4b ^d CD-ESP4a through CD-ESP4h CD-FGD4 ^e CD-INJ-Sorb4 (consisting of ES-SORB-5 and ES-SORB-7)	two selective catalytic reduction systems (one per boiler) eight electrostatic precipitators (Buell hot-side model; four per boiler) wet scrubber sorbent injection system
ES-FA Handling 1	Unit 1 dry flyash pneumatic transfer system including surge bin and filter separators	CD-BF14, CD-FS-1A, and CD-FS-1C	three bagfilters (one with 164 square feet of filter area and two with 727 square feet of filter area each)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-Surge Bin 3	Unit No. 3 dry flyash conveying system surge/transfer tank	CD-BF15	bin vent filter (515 square feet of filter area)
ES-FA Handling 3A ES-FA Handling 3B	Unit 3 dry flyash pneumatic transfer systems and filter separators	CD-FS-3A and CD-FS-3B	two bagfilters (727 square feet of filter area each)
ES-FA Handling 4A ES-FA Handling 4B ES-FA Handling 4C	Unit 4 dry flyash pneumatic transfer systems and filter separators	CD-FS-4A, CD-FS-4B, and CD-FS-4C	three bagfilters (727 square feet of filter area each)
ES-FA Silo 1	flyash conveying system storage and handling silo	CD-BF1 and CD-BF2	two bagfilters (2,450 square feet of filter area, each)
ES-FA Silo 2	flyash conveying system storage and handling silo	CD-BF3 and CD-BF4	two bagfilters (2,450 square feet of filter area, each)
ES-FA Silo 4	flyash conveying system storage and handling silo	CD-BF7 and CD-BF8	two bagfilters (2,450 square feet of filter area, each)
ES-FA Silo 5	flyash conveying system storage and handling silo No. 5	CD-BF9 and CD-BF10	two bagfilters (3,534 square feet of filter area each)
ES-S-1	No. 1 flyash conveying system storage and handling silo and load-out stations	CD-WS1 and CD-WS2	five wet flyash conditioners (minimum ten percent by weight water injection rate)
ES-S-4	No. 4 flyash conveying system storage and handling silo and load-out stations	CD-WS3, CD-WS4, and CD-WS5	
ES-S-5	No. 5 flyash conveying system storage and handling silo and load-out station	CD-WS6 and CD-WS7	two flyash mixer conditioners
ES-S-3L	electrostatic flyash separation system and mineral-rich product load-out silo	CD-BF23	bagfilter (680 square feet of filter area)
ES-EFSS1 ES-EFSS2	two electrostatic flyash separation systems and associated conveying systems	CD-BF24	bagfilter (1,554 square feet of filter area)
ES-Coal Silo 1 ES-Coal Silo 2 ES-Coal Silo 3 ES-Coal Silo 4 ES-Coal Silo 5 ES-Coal Silo 6 NSPS Y	six coal storage silos	NA	NA
ES-SVS1	stationary vacuum system for housekeeping	CD-BF26	bagfilter (integral to vacuum system)
ES-FA Silo 3	flyash conveying system storage and handling silo	CD-BF5 and CD-BF6	two bagfilters (2,450 square feet of filter area each)
ES-S-3L2	mineral-rich flyash loadout system (28 tons per hour nominal filling rate and 300 tons per hour nominal unloading rate)		

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-37A, ES-37B, ES-39A, ES-39B NSPS Y	four coal conveyors (375 tons per hour nominal rated capacity each)	NA	NA
ES-Coal Hopper NSPS Y	coal unloading hopper (4,800 tons per hour nominal rated capacity) with wet suppression	NA	NA
ES-Coal Conv 1 NSPS Y	925 feet long x 72 inches wide coal conveyor (4,800 tons per hour nominal rated capacity)	NA	NA
ES-Coal Conv 2 NSPS Y	425 feet long x 72 inches wide coal conveyor (4,800 tons per hour nominal rated capacity)	NA	NA
ES-LS Rail	limestone rail unloading station (2,200 tons per hour nominal rated capacity) with wet suppression	NA	NA
ES-LS Unload A ES-LS Unload B NSPS OOO	two limestone unloading hoppers	NA	NA
ES-LS Feeder 1 NSPS OOO	37 feet long x 72 inches wide belt feeder (2,200 tons per hour nominal rated capacity) with enclosed transfer	NA	NA
ES-LS Convey 2 NSPS OOO	471 feet long x 48 inches wide covered limestone conveyor (2,200 tons per hour nominal rated capacity) with telescopic chute for dust control while stockpiling	NA	NA
ES-LS Reclaim A ES-LS Reclaim B NSPS OOO	two limestone reclaim hoppers located under limestone stockpile with enclosed transfer	NA	NA
ES-LS Feeder 3A ES-LS Feeder 3B NSPS OOO	two 20 feet long x 36 inches wide belt feeders (480 tons per hour nominal rated capacity each) with enclosed transfer	NA	NA

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-LS Convey 4A NSPS OOO	610 feet long x 30 inches wide covered limestone conveyor (480 tons per hour nominal rated capacity) with enclosed transfer and head-end dust collection	CD-LB-BF-1	bagfilter (2,655 square feet of filter area) installed common to head-end transfer points of Conveyers 4A, 4B, 5, and 6, to tail-end transfer points of Conveyers 5, 6, 7, and to Limestone Silos A, B, and C
ES-LS Convey 4B NSPS OOO	610 feet long x 30 inches wide covered limestone conveyor (480 tons per hour nominal rated capacity) with enclosed transfer and head-end dust collection		
ES-LS Convey 5 NSPS OOO	42 feet long x 30 inches wide limestone conveyor (480 tons per hour nominal rated capacity) that feeds Limestone Silo A and has enclosed transfer dust collection		
ES-LS Convey 6 NSPS OOO	42 feet long x 30 inches wide limestone conveyor (480 tons per hour nominal rated capacity) that can feed either Limestone Silo C or Limestone Conveyor 7 and has enclosed transfer dust collection		
ES-LS Convey 7 NSPS OOO	198 feet long x 30 inches wide limestone conveyor (480 tons per hour nominal rated capacity) that feeds the Mayo Limestone Silo and has enclosed transfer dust collection	CD-LB-BF-1 CD-LB-BF-2	bagfilter (2,655 square feet of filter area) installed common to head-end transfer points of Conveyers 4A, 4B, 5, and 6, to tail-end transfer points of Conveyers 5, 6, 7, and to Limestone Silos A, B, and C bagfilter (641 square feet of filter area) installed common to Mayo Limestone Silo and head-end of Conveyor 7
ES-LS Silo A ES-LS Silo B ES-LS Silo C NSPS OOO	three limestone silos (572 tons/13,468 cubic feet storage capacity each)	CD-LB-BF-1	bagfilter (2,655 square feet of filter area) installed common to head-end transfer points of Conveyers 4A, 4B, 5, and 6, to tail-end transfer points of Conveyers 5, 6, 7, and to Limestone Silos A, B, and C
ES-LS Mayo Silo NSPS OOO	limestone silo storing material for Mayo plant (600 tons/14,117 cubic feet storage capacity)	CD-LB-BF-2	bagfilter (641 square feet of filter area) installed common to Mayo Limestone Silo and head-end of Conveyor 7
ES-Truck Spout NSPS OOO	truck loading spout from Mayo Limestone Silo	CD-LB-BF-3	bagfilter (480 square feet of filter area)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-LS Grinder 1 ES-LS Grinder 2 ES-LS Grinder 3 NSPS OOO	three wet limestone grinders (50 tons per hour nominal rated limestone capacity)	NA	NA
ES-SORB-5	stationary sorbent Silo 1 for Unit 4	CD-SORB-5	bagfilter (1.6:1 air-to-cloth ratio)
ES-SORB-7	Unit 4 Silo 1 pneumatic conveying equipment system (4,000 pounds per hour maximum capacity)	NA	NA
ES-SORB-9	stationary sorbent Silo 1 for Unit 3	CD-SORB-9	bagfilter (1.6:1 air-to-cloth ratio)
ES-SORB-11	Unit 3 Silo 1 pneumatic conveying equipment system (4,000 pounds per hour maximum capacity)	NA	NA
ES-SORB-13	stationary sorbent Silo 1 for Unit 2	CD-SORB-13	bagfilter (1.6:1 air-to-cloth ratio)
ES-SORB-15	Unit 2 Silo 1 pneumatic conveying equipment system (4,000 pounds per hour maximum capacity)	NA	NA
ES-SORB-17	stationary sorbent Silo 1 for Unit 1	CD-SORB-17	bagfilter (1.6:1 air-to-cloth ratio)
ES-SORB-19	Unit 1 Silo 1 pneumatic conveying equipment system (4,000 pounds per hour maximum capacity)	NA	NA
ES-WWTF Silo	wastewater treatment facility lime storage silo (5,600 cubic feet capacity)	CD-WWTF-Silo-BF	bin vent filter (295.2 square feet of filter area)
ES-WWTFBR	wastewater treatment facility (bio-reactor)	NA	NA
LAND	Wind erosion, generated ash unloading, relocated ash unloading, and off-specification gypsum unloading at the Ash Landfill (101 acres) ^f	NA	NA
EASHBASIN	Wind erosion and excavation of ash at the East Ash Basin	NA	NA
WASHBASIN	Wind erosion and excavation of ash at the West Ash Basin	NA	NA
ES-Haul Roads	Haul roads for generated and excavated ash to the Ash Landfill	NA	NA
COALPILE	Coal Storage Pile	NA	NA

^a Incidental spills of oil, antifreeze, etc. that might get on the coal from mobile equipment is allowed to be burned in these boilers.

^b Alkaline-based fuel additive may be used on an as-needed basis not to exceed 4 pounds per ton of coal burned. Fuel additives shall not contain any toxic air pollutants listed in 15A NCAC 02Q .0711.

^c None of the mercury control devices or techniques shall use halogen containing compounds (for example, bromide).

^d For ozone season NOx control and compliance with the North Carolina Clean Smokestacks Act (SB 1078 - Air Quality/Electric Utilities Bill). Operated on an as needed basis.

^e For compliance with the North Carolina Clean Smokestacks Act (SB 1078 - Air Quality/Electric Utilities Bill) and the Phase II Acid Rain permit requirements. Operated on an as needed basis.

^f For flyash, bottom ash, gypsum, boiler slag, and other materials, as defined in the Solid Waste Management Facility Permit to Operate 7305- Indus-2012, Duke Energy Progress, LLC – Roxboro Steam Electric Plant.

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 Emission Source(s) and Control Device(s) Specific Limitations and Conditions

The emission source(s) and associated air pollution control device(s) and appurtenances 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. Boiler Units 1, 2, and 3:

- coal/No. 2 fuel oil-fired electric utility boiler equipped with low-NO_x burner and Mg(OH)₂ fuel additive (ID No. ES-Unit 1) and associated selective catalytic reduction system (ID No. CD-SCR1) installed in series with electrostatic precipitator (ID Nos. CD-ESP1), in series with a wet scrubber (ID No. CD-FGD1), and sorbent injection system (ID No. CD-INJ-Sorb1)
- coal/No. 2 fuel oil-fired electric utility boiler equipped with low-NO_x burner, Mg(OH)₂ fuel additive (ID No. ES-Unit 2) and associated selective catalytic reduction system (ID No. CD-SCR2) installed in series with electrostatic precipitator (ID No. CD-ESP2), in series with a wet scrubber (ID No. CD-FGD2), and sorbent injection system (ID No. CD-INJ-Sorb2)
- two coal/No. 2 fuel oil-fired electric utility boilers each equipped with low-NO_x burners, Mg(OH)₂ fuel additive (ID Nos. ES-Unit 3A and ES-Unit 3B) and associated selective catalytic reduction systems (ID Nos. CD-SCR3a and CD-SCR3b) installed in series with two electrostatic precipitators (ID Nos. CD-ESP3a and CD-ESP3b), in series with a wet scrubber (ID No. CD-FGD3), and sorbent injection system (ID No. CD-INJ-Sorb3)

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

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	0.547 pounds per million Btu heat input	15A NCAC 02D .0501(c)
	Phase II Acid Rain Permit Requirements (see Section 2.4)	15A NCAC 02Q .0402 (40 CFR Part 72)
	(Federally Enforceable Only) Cross State Air Pollution Rule Requirements (see Section 2.2 B.)	40 CFR Part 97, Subpart CCCCC
Nitrogen Oxides	See Section 2.1 A.1	15A NCAC 02D .0519
	1.066 pounds per million Btu heat input, or when burning oil: the limit given in Section 2.1 A.1, whichever is lower	15A NCAC 02D .0501(c)
	Phase II Acid Rain Permit Requirements (see Section 2.4)	15A NCAC 02Q .0402 (40 CFR Part 72)
	(Federally Enforceable Only) Cross State Air Pollution Rule Requirements (see Section 2.2 B)	40 CFR Part 97, Subparts AAAAA and BBBBB
Visible Emissions	40 percent opacity	15A NCAC 02D .0521
excess emissions/good operating and maintenance practices	as defined in specific conditions	15A NCAC 02D .0606
Hazardous Air Pollutants	See Section 2.2 B.2	15A NCAC 02D .1111 (40 CFR 63, Subpart UUUUU)

1. 15A NCAC 02D .0519: CONTROL OF NITROGEN OXIDES EMISSIONS

- a. Emissions of nitrogen oxides from these sources (**ID Nos. ES-Unit 1, ES-Unit 2, ES-Unit 3A, and ES-Unit 3B**) when burning coal and/or oil shall be calculated by the following equation:

$E = [(Ec)(Qc) + (Eo)(Qo)]/Qt$ where:

E = emission limit for combined burning of coal and oil or gas in pounds per million Btu heat input
Ec = 1.8 pounds per million Btu heat input for coal only
Eo = 0.8 pounds per million Btu heat input for oil or gas
Qc = coal heat input in Btu per hour
Qo = oil and gas heat input in Btu per hour
Qt = Qc + Qo

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.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0519.

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

- c. The Permittee shall ensure compliance with 15A NCAC 02D .0519 by determining nitrogen oxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with this emission standard shall be determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. For monitoring purposes, the following emission limits will apply:
- i. When only coal is burned, the emission limit shall be 1.8 pounds per million Btu heat input.
 - ii. When only oil or gas is burned, the emission limit shall be 0.8 pounds per million Btu heat input.
 - iii. When oil or gas is burned other than for startup and for periods greater than 24 hours, the emission limit shall be calculated in accordance with the equation in Section 2.1 A.1.a above.
- If any 24-hour block average exceeds the emission limit, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0519.
- d. The Permittee shall maintain records of monthly coal and oil consumption (written or electronic form) and shall submit such records within 30 days of a request by DAQ. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0519 if these records are not maintained.

Reporting [15A NCAC 02Q .508(f)]

- e. The Permittee shall submit the continuous emissions monitoring system data showing the 24-hour daily block values for periods of excess nitrogen oxide emissions 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.
- f. **CEMs Monitor Availability** - The Permittee shall submit the nitrogen oxide CEM systems monitor downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, 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.

2. 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. In order to comply with the National Ambient Air Quality Standards (NAAQS) for sulfur dioxide¹, emissions of sulfur dioxide from these sources (**ID Nos. ES-Unit 1, ES-Unit 2, ES-Unit 3A, and ES-Unit 3B**) shall not exceed **0.547 pounds per million Btu heat input** in accordance with the modeling analysis received May 16, 2007. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.
- c. In order to comply with the NAAQS for nitrogen dioxide², emissions of nitrogen oxides from these sources (**ID Nos. ES-Unit 1, ES-Unit 2, ES-Unit 3A, and ES-Unit 3B**) shall not exceed either **1.066 pounds per million Btu heat input** (in accordance with the modeling analysis received May 16, 2007) or the limit in Section 2.1 A.1.a above when burning oil, whichever is lower.

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

- d. 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 A.2.b or 2.1 A.2.c above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f) and 02D .0608]

- e. The Permittee shall ensure compliance with 15A NCAC 02D .0501(c) by determining sulfur dioxide and nitrogen oxides emissions in pounds per million Btu using continuous emissions monitoring (CEM) systems meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with sulfur dioxide and nitrogen oxides emission standards shall be determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any 24-hour block average exceeds the limits given in Sections 2.1 A.2.b or 2.1 A.2.c above or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

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

- f. The Permittee shall submit the continuous emissions monitoring data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.
- g. **CEMs Monitor Availability** - The Permittee shall submit sulfur dioxide and nitrogen oxides CEM systems monitor downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

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

- a. Visible emissions shall not be more than 40 percent opacity when averaged over a six-minute period except that six-minute periods averaging not more than 90 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 A.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 to demonstrate compliance with 15A NCAC 02D .0521 for these sources (**ID Nos. ES-Unit 1, ES-Unit 2, ES-Unit 3A, and ES-Unit 3B**).

¹ 61 Fed. Reg. 25566 (May 22, 1996)

² 61 Fed. Reg. 52852 (October 8, 1996)

- 4. Reserved.
- 5. Reserved.
- 6. Reserved.
- 7. **15A NCAC 02D .0606: SOURCES COVERED BY APPENDIX P OF 40 CFR PART 51 (CONTINUOUS OPACITY MONITORING, CONTINUOUS EMISSIONS MONITORING FOR SO₂, AND EXCESS EMISSIONS)**

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

- a. The alternative monitoring and recordkeeping procedure in this section (Section 2.1 A.7.a) applies as allowed by Paragraph 3.9 of Appendix P of 40 CFR Part 51. The Permittee shall install, certify, operate, and maintain a PM CEMS to monitor and record PM emissions according to the applicable Maximum Achievable Control Technology (MACT) standards in §63.10010(i) of 40 CFR Part 63 Subpart UUUUU, as specified in Section 2.2.B.2.dd. The quarterly excess emissions (EE) reports shall be used as an indication of good operation and maintenance of the electrostatic precipitators. These sources shall be deemed to be properly operated and maintained if the percentage of time the PM emissions, calculated on a one-hour average, greater than 0.030 pounds per million Btu heat input does not exceed 3.0 percent of the total operating time for any given calendar quarter, adjusted for monitor downtime (MD) as calculated below, except that Total Excess Emission Time contains all one-hour periods greater than 0.030 pounds per million Btu heat input. In addition, these sources shall be deemed to be properly operated and maintained if the %MD does not exceed 2 percent for any given calendar quarter as calculated below. The PM monitored value subject to the 0.030 pounds per million Btu limit shall have a 5% CO₂ diluent cap, or a 14% O₂ diluent cap, substituted in the emission rate calculation whenever the actual CO₂ concentration is lower than 5% or whenever the actual O₂ concentration is higher than 14%.

Calculations for %EE and %MD

Percent Excess Opacity Emission (%EE) Calculation:

$$\%EE = \frac{\text{Total Excess Emission Time}^*}{\text{Total Source Operating Time}^{***} - \text{Monitor Downtime}} \times 100$$

Percent Monitor Downtime (%MD) Calculation for COMS:

$$\%MD = \frac{\text{Total Monitor Downtime}^{**}}{\text{Total Source Operating Time}^{***}} \times 100$$

* Total Excess Emission Time contains any 6-minute period greater than 40% opacity including startup, shutdown, and malfunction.

** Total Monitor Downtime includes Quality Assurance (QA) activities unless exempted by regulation or defined in an agency approved QA Manual. The amount of exempt QA Time will be reported in the quarterly report as such.

- b. The Permittee shall use a continuous emissions monitoring system (CEMS) to monitor and record sulfur dioxide emissions. Continuous emissions monitoring and recordkeeping of sulfur dioxide emissions shall be performed as described in Paragraphs 2 and 3.1.1 through 3.1.5 of Appendix P of 40 CFR Part 51. The monitoring systems shall meet the minimum specifications described in Paragraphs 3.3 through 3.8 of Appendix P of 40 CFR Part 51. The quarterly excess emissions (EE) reports required under Appendix P of 40 CFR Part 51 shall be used as an indication of good operation and maintenance of the flue gas desulfurization scrubbers. These sources shall be deemed to be properly operated and maintained if sulfur dioxide emissions do not exceed the limit in Section 2.1 A.2.b, calculated on a 24-hour basis. Compliance with the sulfur dioxide emission standard is determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values are summed, and the sum is divided by 24. A minimum of four data points, equally spaced, is required to determine a valid hour value unless the continuous emission monitoring system is installed to meet

the provisions of 40 CFR Part 75. If a continuous emission monitoring system is installed to meet the provisions of 40 CFR Part 75, the minimum number of data points are determined by 40 CFR Part 75. In addition, the flue gas desulfurization scrubbers shall be deemed to be properly operated and maintained if the %MD does not exceed 2 percent for any given calendar quarter as calculated in Section 2.1 A.7.a above.

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

- c. The Permittee shall submit the excess emissions and monitor downtime reports as required under Appendix P of 40 CFR Part 51 postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September as shown below. Reporting shall be in accordance with Paragraphs 4 and 5.1 of Appendix P of 40 CFR Part 51.
 - i. Excess PM emissions are defined as any one-hour average greater than 0.03 pounds per million Btu heat input. The quarterly report shall include the number of hours each day and the percent of operating hours during the quarter with average PM emissions recorded by the PM CEMS greater than 0.030 pounds per million Btu.
 - ii. Excess sulfur dioxide emissions are defined as greater than the limit in Section 2.1 A.2.b calculated on a 24-hour block average basis. Reporting shall be in accordance with Paragraphs 4 and 5.1 of Appendix P of 40 CFR Part 51.
 - iii. All instances of deviations from the requirements of this permit must be clearly identified.

B. Boiler Unit 4:

Two coal/No. 2 fuel oil-fired electric utility boilers, each equipped with low-NOx burners, Mg(OH)₂ fuel additive (ID Nos. ES-Unit 4A and ES-Unit 4B) and associated selective catalytic reduction systems (ID Nos. CD-SCR4a and CD-SCR4b) installed in series with eight electrostatic precipitators (ID Nos. CD-ESP4a through CD-ESP4h) in series with a wet scrubber (ID No. CD-FGD4), and sorbent injection system (ID No. CD-INJ-Sorb4)

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

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	See Section 2.1 B.1.b	15A NCAC 02D .0524 (40 CFR Part 60 Subpart D)
	0.547 pounds per million Btu heat input	15A NCAC 02D .0501(c)
	Phase II Acid Rain Permit Requirements (see Section 2.4)	15A NCAC 02Q .0402 (40 CFR Part 72)
	(Federally Enforceable Only) Cross State Air Pollution Rule Requirements (see Section 2.2 B.1)	40 CFR Part 97, Subpart CCCCC
Nitrogen Oxides	See Section 2.1 B.1.b	15A NCAC 02D .0524 (40 CFR Part 60 Subpart D)
	Phase II Acid Rain Permit Requirements (see Section 2.4)	15A NCAC 02Q .0402 (40 CFR Part 72)
	(Federally Enforceable Only) Cross State Air Pollution Rule Requirements (see Section 2.2 B.1)	40 CFR Part 97, Subparts AAAAA and BBBB
Particulate Matter	0.03 pound per million Btu heat input	15A NCAC 02D .0524 (40 CFR Part 60 Subpart D)
Hazardous Air Pollutants	See Section 2.2 B.2	15A NCAC 02D .1111 (40 CFR 63, Subpart UUUUU)
Various	See Section 2.1 B.3	15A NCAC 02D .0530(u) [Projected Actual Emissions]

**1. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS
(40 CFR PART 60 SUBPART D)**

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 02D .0524, "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60, Subpart D "Standards of Performance for Fossil-Fuel-Fired Steam Generators", including Subpart A "General Provisions."
- b. The following emission limits shall not be exceeded:

Pollutant	Emission Limit (pounds per million Btu)
Sulfur Dioxide (SO ₂)	$\frac{y(0.80) + z(1.2)}{y + z}$ [40 CFR 60.43(a), (b)]
Nitrogen Oxides (expressed as NO ₂)	$\frac{y(0.30) + z(0.70)}{y + z}$ [§60.44(a), (b)]
Particulates	0.03 [§60.42(c), §60.42Da(a)]

y = percentage of total heat input derived from liquid fossil fuel
z = percentage of total heat input derived from solid fossil fuel

- c. Any use of the electrostatic precipitator high voltage control Energy Management System (EMS) feature requires a revision to this permit.

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

- d. 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 B.1.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.
- e. Once per calendar year, the Permittee shall conduct a stack test for particulate matter in accordance with either Method 5 at a sample temperature of $320^{\circ} \pm 25^{\circ}$ F as described in §63.10010(i)(1) or Method 5B of Appendix A of 40 CFR Part 60. In the event that a boiler exceeds 80 percent of its particulate emission limit during the stack test, the Permittee shall schedule and conduct another stack test within 6 months. Upon demonstration that the source is operating under 80 percent of its particulate limit, as shown by three consecutive semiannual stack tests, the source may resume annual stack tests. If the result of any stack test is greater than the limit given in Section 2.1 B.1.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- f.
 - i. The Permittee shall install, maintain, and operate a PM CEMS. [40 CFR 60.42(c)]
 - ii. The Permittee shall install, maintain, and operate a CEMS for measuring sulfur dioxide emissions, nitrogen oxide emissions, and either oxygen or carbon dioxide, as per the requirements of 40 CFR Part 75. [§60.45(a)]
- g. Compliance with SO₂ and NO_x emission limits of Section 2.1 B.1.b above, shall be determined by averaging hourly continuous emission monitoring system values over any three-hour (rolling) period. The three-hour average shall be the arithmetic average of three contiguous one-hour periods of sulfur dioxide or nitrogen oxides as measured by the continuous emission monitoring system. Missing data shall not be filled nor shall the data be bias adjusted in accordance with 40 CFR Part 75. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any three-hour average exceeds emission limits of Section 2.1 B.2.b above (except during periods of startup, shutdown and malfunction) or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524. [§60.8 and §60.45]
- h. Compliance with the particulate limit in Section 2.1 B.1.b shall be determined using the PM CEMS.
 - i. Each PM CEMS shall be installed, evaluated, operated, and maintained according to the requirements in §60.49Da(v). For affected facilities using a PM CEMS, a COMS is not required. [§60.45(b)(5), §60.48Da(p)(2)]
 - ii. When demonstrating compliance, the PM emission rate shall be determined based on a 24-hour daily (block) average of the hourly arithmetic average emissions concentrations using the CEMS outlet data each boiler operating day, except for data obtained during startup, shutdown, and malfunction. Averages are only calculated for boiler operating days that have valid data for at least 18 hours of unit operation during which the standard applies. Instead, all of the valid hourly emission rates of the operating day(s) not meeting the minimum 18 hours valid data daily average requirement are averaged with all of the valid hourly emission rates of the next boiler operating day with 18 hours or more of valid PM CEMS data to determine compliance. The 24-hour block arithmetic average emission concentration shall be calculated using EPA Reference Method 19 of Appendix A of 40 CFR Part 60, section 4.1. [§60.48Da(f), (p)(4)]
 - iii. At a minimum, valid PM CEMS hourly averages shall be obtained for 75 percent of all operating hours on a 30-day rolling average basis. Valid PM CEMS hourly averages shall be obtained for 90 percent of all operating hours on a 30-day rolling average basis. At least two data points per hour shall be used to calculate each 1-hour arithmetic average. [§60.48Da(p)(5)]
 - iv. The 1-hour arithmetic averages of PM CEMS data shall be expressed in pounds per million Btu and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of Subpart A of 40 CFR Part 60. [§60.48Da(p)(6)]
 - v. All valid PM CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph iii above are not met. [§60.48Da(p)(7)]
 - vi. When PM emissions data are not obtained because of PM CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the DAQ or EPA Reference Method 19 of Appendix A of 40 CFR Part 60 to provide, as necessary, valid emissions data for a minimum of 90 percent of all operating hours per 30-day rolling average.

If the results of the 24-hour daily arithmetic average PM CEMS concentration exceeds the limit in Section 2.1 B.1.b or any of the above requirements are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- i. The Permittee shall submit excess emissions and monitoring system performance reports for sulfur dioxide, nitrogen oxide and PM. The reports shall be postmarked by the 30th day following the end of each calendar year quarter and shall include, at a minimum, the information required in 40 CFR 60.7(c), as follows:
 - i. Sulfur Dioxide - Report all three-hour periods of **excess emissions** (pounds per million Btu) during the reporting period including periods exempted during startup, shutdown and malfunction. Monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period shall be included.
 - ii. Nitrogen Oxides - Report all three-hour periods of **excess emissions** (pounds per million Btu) during the reporting period including periods exempted during startup, shutdown and malfunction. Monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period shall be included.
 - iii. PM –
 - (A) Report all 24-hour daily (block) average **excess emissions** (pounds per million Btu) using the PM CEMS outlet data, including periods exempted during startup, shutdown, and malfunction;
 - (B) Within 15 days of a written request, report **all** PM CEMS hourly averages (in written or electronic form) to show, at a minimum, that valid PM CEMS hourly averages have been obtained for 90 percent (only 75 percent is required prior to January 1, 2012) of all operating hours on a 30-day rolling average basis; and
- j. The results of any stack test shall be reported within 30 days, and the test report shall be submitted within 60 days after the test.
- k. All instances of deviations from the requirements of this permit must be clearly identified.

2. 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. In order to comply with the NAAQS for sulfur dioxide³, emissions of sulfur dioxide from these sources shall not exceed **0.547 pounds per million Btu heat input**, in accordance with the modeling analysis received May 16, 2007. 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)]

- c. 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 B.2.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f) and 02D .0608]

- d. The Permittee shall ensure compliance with 15A NCAC 02D .0501(c) by determining sulfur dioxide emissions in pounds per million Btu using continuous emissions monitoring (CEM) systems meeting the requirements of 40 CFR Part 75 except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with sulfur dioxide emission standards shall be determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any 24-hour block average exceeds the limits given in Section 2.1 B.2.b above or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

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

- e. The Permittee shall submit the continuous emissions monitoring data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the

³ 61 Fed. Reg. 25566 (May 22, 1996)

preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

- f. CEMs Monitor Availability - The Permittee shall submit sulfur dioxide and nitrogen oxides CEM systems monitor downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

**3. 15A NCAC 02D .0530(u): PREVENTION OF SIGNIFICANT DETERIORATION
(Use of Projected Actual Emissions)**

- a. The Permittee has used projected actual emissions (submitted in the .18B permit application), as below, to avoid applicability of prevention of significant deterioration requirements for a project consisting of replacement of existing low NOx burners for coal firing on Unit 4 boilers (**ID Nos. ES-Unit 4A and ES-Unit 4B**).

Pollutant	Projected Actual Emissions* (tons per year)
PM	28.6
PM ₁₀	44.7
PM _{2.5}	39.0
SO ₂	390.4**
NO _x	427.0**
VOC	6.6
CO	428.1
Lead	0.0082
Sulfuric Acid Mist	25.1
GHG as CO _{2e}	560,565.9

* The projected actual emissions are not enforceable limitations. Maximum annualized value for period 2019 through 2023.
** Maximum annualized value, Fuel and Operations Forecast Model output for period 2019 through 2023.

In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, record keeping and reporting requirements in Section 2.1 B.3.b and 2.1 B.3.c below.

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

- b. No testing shall be required.

Monitoring/Recordkeeping [15A NCAC 02D .0530(u), 15A NCAC 02Q .0508(f)]

- c. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall maintain records of annual emissions related to the Low-NOx burner replacement project. The records shall be maintained for five years following the completion of this project.
 - i. The replacement project was completed in CY2018.
 - ii. The last year of recordkeeping will be CY2023.

Reporting [15A NCAC 02D .0530(u), 15A NCAC 02Q .0508(f)]

- d. The Permittee shall submit a report of the records required by Paragraph 2.1 B.3.c above. The report shall be postmarked within 60 days after the end of each year where recordkeeping was required by Paragraph 2.1 B.3.c.

C.

- **Unit 1 dry flyash pneumatic transfer system including surge bin and filter separators (ID No. ES-FA Handling 1) and associated bagfilters (ID Nos. CD-BF14, CD-FS-1A and CD-FS-1B)**
- **Unit 3 dry flyash pneumatic transfer systems and filter separators (ID Nos. ES-FA Handling 3A and ES-FA Handling 3B), and associated bagfilters ID Nos. CD-FS-3A and CD-FS-3B)**
- **Unit No. 3 dry flyash conveying system surge/transfer tank (ID No. ES-Surge Bin 3), and associated bagfilter (ID No. CD-BF15)**
- **Unit 4 dry flyash pneumatic transfer systems and filter separators (ID Nos. ES-FA Handling 4A, ES-FA Handling 4B and ES-FA Handling 4C), and associated bagfilters CD-FS-4A, CD-FS-4B and CD-FS-4C)**
- **three flyash conveying system storage and handling silos (ID Nos. ES-FA Silo 1, ES-FA Silo 2, and ES-FA Silo 4), and associated bagfilters (ID Nos. CD-BF1, CD-BF2, CD-BF3, CD-BF4, CD-BF7, and CD-BF8)**
- **one flyash conveying system storage and handling silo (ID No. ES-FA Silo 5) and associated bagfilters (ID Nos. CD-BF9 and CD-BF10)**
- **electrostatic flyash separation system consisting of one mineral-rich product load-out silo (ID No. ES-S-3L) and two electrostatic flyash separation and conveying systems (ID Nos. ES-EFSS1 and ES-EFSS2), and associated bagfilters (ID Nos. CD-BF23 and CD-BF24)**
- **stationary vacuum system for housekeeping (ID No. ES-SVS1) and integral bagfilter (ID No. CD-BF26)**
- **flyash conveying system storage and handling silo (ID No. ES-FA Silo 3) and one mineral-rich flyash loadout system (ID No. ES-S-3L2), and associated bagfilters (ID Nos. CD-BF5 and CD-BF6)**

Note: Operation of each existing Units 1, 3 and 4 dry flyash conveying system may continue until new systems are fully operational.

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/hr, or $E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons/hr where: E = allowable emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	See Section 2.2 A.1 State-only requirement	15A NCAC 02D .1100

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

- a. Emissions of particulate matter from these sources (**ID Nos. ES-FA Handling 1, ES-FA Handling 3A through ES-FA Handling 3C, ES-FA Handling 4A through ES-FA Handling 4C, ES-FA Silo1 through ES-FA Silo5, ES-S-3L, ES-EFSS1, ES-EFSS2, ES-SVS1, and ES-S-3L2**) shall not exceed an allowable emission rate as calculated by the following equation:

$$\begin{array}{ll} \text{for } P \leq 30 \text{ tons/h} & E = 4.10 \times P^{0.67} \\ \text{for } P > 30 \text{ tons/hr} & E = 55.0 \times P^{0.11} - 40 \end{array} \quad \text{or}$$

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 Section 2.1 C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

- c. Particulate matter emissions from the Unit 1 dry fly ash pneumatic transfer system including surge bin and filter separators (**ID No. ES-FA Handling 1**), Unit 3 dry fly ash pneumatic transfer systems and filter separators (**ID Nos. ES-FA Handling 3A and ES-FA Handling 3B**), Unit No. 3 dry flyash conveying system surge/transfer tank (**ID No. ES-Surge Bin 3**), Unit 4 dry fly ash pneumatic transfer systems and filter separators (**ID Nos. ES-FA Handling 4A, ES-FA Handling 4B and ES-FA Handling 4C**), three flyash conveying system storage and handling silos (**ID Nos. ES-FA Silo 1, ES-FA Silo 2, and ES-FA Silo 4**), one flyash conveying system storage and handling silo (**ID No. ES-FA Silo 5**), one electrostatic flyash separation system consisting of one mineral-rich product load-out silo (**ID No. ES-S-3L**) and two electrostatic flyash separation and conveying systems (**ID No. ES-EFSS1 and ES-EFSS2**), one stationary vacuum system for housekeeping (**ID Nos. ES-SVS1**), one flyash conveying system storage and handling silo (**ID No. ES-FA Silo 3**), and one mineral-rich flyash loadout system (**ID No. ES-S-3L2**) shall be controlled by the bagfilters (**ID Nos. CD-BF14, CD-FS-1A, CD-FS-1B, CD-FS-3A, CD-FS-3B, CD-BF15, CD-FS-4A, CD-FS-4B, CD-FS-4C, CD-BF1 through CD-BF10, CD-BF23, CD-BF24 and CD-BF26**), as described above. To ensure that optimum control efficiency is maintained, the Permittee shall perform inspections and maintenance as recommended by the manufacturer implemented in the plant's Work Management System. 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:
- i. a monthly visual inspection of the system ductwork and material collection unit for leaks; and
 - ii. 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.

- d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on the bagfilters; 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 the bagfilters within 30 days of a written request by the DAQ.
- f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities in Paragraphs 2.1 C.1.c and 2.1 C.1.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 .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from these sources (**ID Nos. ES-FA Handling 1, ES-FA Handling 3A through ES-FA Handling 3B, ES-Surge Bin 3, ES-FA Handling 4A through ES-FA Handling 4C, ES-FA Silo1 through ES-FA Silo5, ES-S-3L, ES-EFSS1, ES-EFSS2, ES-SVS1, and ES-S-3L2**) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) 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 C.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. i. To ensure compliance, once a month the Permittee shall observe the emission points of these sources (**ID Nos. ES-FA Handling 3A through ES-FA Handling 3B, ES-Surge Bin 3, ES-FA Handling 4A through ES-FA Handling 4C, ES-FA Silo1 through ES-FA Silo5, ES-S-3L, ES-EFSS1, ES-EFSS2, ES-SVS1, and ES-S-3L2**) for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish "normal" for these sources in the first 30 days following the of beginning operation. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- (A) immediately shutdown the source and repair the malfunction, or
 - (B) 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 C.2.a above.
- ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if:
- (A) the source is not immediately shutdown and repaired per 2.1 C.2.c.i.(A) above;
 - (B) the demonstration in 2.1 C.2.c.i.(B) above cannot be made;
 - (C) the monthly observations are not conducted per 2.1 C.2.c.i above; or
 - (D) "normal" is not established for per 2.1 C.2.c.i above.

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

- d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - iii. the results of any corrective actions performed.
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

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

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping in Paragraphs 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.

3. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

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

- a. The Permittee shall notify the Regional Office in writing of the date of beginning operation of these sources (**ID Nos. ID Nos. ES-FA Handling 1, ES-FA Handling 3A, ES-FA Handling 3B, ES-Surge Bin 3, ES-FA Handling 4A, ES-FA Handling 4B, ES-FA Handling 4C and ES-FA Silo 5**) and associated air pollution control devices (**ID Nos. CD-FS-1A, CD-FS-1B, CD-FS-3A, CD-FS-3B, CD-FS-3C, CD-FS-4A, CD-FS-4B, CD-FS-4C, CD-BF9 and CD-BF10**), postmarked on or before 30 days after such date.

D.

- **No. 1 flyash conveying system storage and handling silo, and load-out stations (ID No. ES-S-1) and associated wet flyash conditioners (ID Nos. CD-WS1 and CD-WS2)**
- **No. 4 flyash conveying system storage and handling silo, and load-out stations (ID No. ES-S-4) and associated wet flyash conditioners (ID Nos. CD-WS3, CD-WS4 and CD-WS5)**
- **No. 5 flyash conveying system storage and handling silo, and load-out station (ID No. ES-S-5) and associated flyash mixer conditioners (ID Nos. CD-WS6 and CD-WS7)**

Note: Operation of the No. 5 flyash conveying system may continue until the new system is fully operational.

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/hr, or $E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons/hr where: E = allowable emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	See Section 2.2 A.1 State-only requirement	15A NCAC 02D .1100

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

- a. Emissions of particulate matter from these sources (**ID Nos. ES-S-1, ES-S-4, and ES-S-5**) shall not exceed an allowable emission rate as calculated by the following equation:

$$\begin{array}{ll} \text{for } P \leq 30 \text{ tons/h} & E = 4.10 \times P^{0.67} \quad \text{or} \\ \text{for } P > 30 \text{ tons/hr} & E = 55.0 \times P^{0.11} - 40 \end{array}$$

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 Section 2.1 D.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 emissions from these sources.

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

- a. Visible emissions from these sources (**ID Nos. ES-S-1, ES-S-4, and ES-S-5**) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) 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 D.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. i. To ensure compliance, once a month the Permittee shall observe the emission points of these sources (**ID Nos.**

ES-S-1, ES-S-4, and ES-S-5) for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish “normal” for these sources in the first 30 days following the of beginning operation. If visible emissions from these sources are observed to be above normal, the Permittee shall either:

- (A) immediately shutdown the source and repair the malfunction, or
 - (B) 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 D.2.a above.
- ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if:
- (A) the source is not immediately shutdown and repaired per 2.1 D.2.c.i.(A) above;
 - (B) the demonstration in 2.1 D.2.c.i.(B) above cannot be made;
 - (C) the monthly observations are not conducted per 2.1 D.2.c.i above; or
 - (D) “normal” is not established for per 2.1 D.2.c.i above.

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

- d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - iii. the results of any corrective actions performed.
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

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

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping in Paragraphs 2.1 D.2.c and 2.1 D. 2.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.

3. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

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

- a. The Permittee shall notify the Regional Office in writing of the date of beginning operation of this source (**ID No. ID No. ES-S-5**) and associated air pollution control devices (**ID Nos. CD-WS6 and CD-WS7**), postmarked on or before 30 days after such date.

E.

- **Six coal storage silos (ID Nos. ES-Coal Silo 1 through ES-Coal Silo 6)**
- **Four coal conveyors (ID Nos. ES-37A, ES-37B, ES-39A, and ES-39B)**

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/hr, or $E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons/hr where: E = allowable emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0524 (40 CFR Part 60 Subpart Y)
Toxic Air Pollutants	See Section 2.2 A.1 State-only requirement	15A NCAC 02D .1100

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

- a. Emissions of particulate matter from these sources (**ID Nos. ES-Coal Silo 1 through ES-Coal Silo 6, ES-37A, ES-37B, ES-39A, and ES-39B**) shall not exceed an allowable emission rate as calculated by the following equation:

$$\begin{array}{ll} \text{for } P \leq 30 \text{ tons/hr} & E = 4.10 \times P^{0.67} \quad \text{or} \\ \text{for } P > 30 \text{ tons/hr} & E = 55.0 \times P^{0.11} - 40 \end{array}$$

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 Section 2.1 E.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.
- d. No reporting is required for particulate emissions from these sources (**ID Nos. ES-Coal Silo 1 through ES-Coal Silo 6, ES-37A, ES-37B, ES-39A, and ES-39B**).

2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART Y)

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 02D .0524, "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60, Subpart Y "Standards of Performance for Coal Preparation and Processing Plants", including Subpart A "General Provisions."
- b. On or after the date on which the performance test required to be conducted under 40 CFR 60.8 is completed, visible emissions shall not be 20 percent opacity or greater except during periods of startup, shutdown and malfunction.

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

- c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.2.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- d. i. To ensure compliance, once a month the Permittee shall observe the emission points of these sources (**ID Nos. ES-S-1, ES-S-4, and ES-S-5**) for any visible emissions above normal. The monthly observation must be made for each month 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:
 - (A) immediately shutdown the source and repair the malfunction, or
 - (B) 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 E.2.a above.
- ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if:
 - (A) the source is not immediately shutdown and repaired per 2.1 E.2.d.i.(A) above;
 - (B) the demonstration in 2.1 E.2.d.i.(B) above cannot be made;
 - (C) the monthly observations are not conducted per 2.1 E.2.d.i above; or

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

- e. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - i. the date and time of each recorded action;
 - ii. the results of each 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 .0524 if these records are not maintained.

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

- f. The Permittee shall submit a summary report of the monitoring and recordkeeping in Paragraphs 2.1 E.2.c and 2.1 E.2.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.

F. coal unloading hopper (ID No. ES-Coal Hopper) with wet suppression and two coal conveyors (ID Nos. ES-Coal Convey 1 and ES-Coal Convey 2)

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

Pollutant	Limits/Standards	Applicable Regulation
Visible Emissions	20 percent opacity	15A NCAC 02D .0524 (40 CFR Part 60 Subpart Y)
Toxic Air Pollutants	See Section 2.2 A.1 State-only requirement	15A NCAC 02D .1100

1. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART Y)

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 02D .0524, "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60, Subpart Y "Standards of Performance for Coal Preparation and Processing Plants", including Subpart A "General Provisions."
- b. Visible emissions from these sources (**ID No. ES-Coal Hopper, ES-Coal Convey 1, and ES-Coal Convey 2**) shall not be 20 percent opacity or greater.

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

- c. 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 Paragraph 2.1 F.1.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- d. No monitoring/recordkeeping/reporting is required for visible emissions from these sources (**ID No. ES-Coal Hopper, ES-Coal Convey 1, and ES-Coal Convey 2**).

G. limestone rail unloading station (ID No. LS Rail) with wet suppression

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	ambient air quality standards	15A NCAC 02D .0510
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	See Section 2.2 A.1 State-only requirement	15A NCAC 02D .1100

1. 15A NCAC 02D .0510: PARTICULATES FROM SAND, GRAVEL, OR CRUSHED STONE OPERATIONS

- a. The Permittee shall not cause, allow, or permit any material to be produced, handled, transported or stockpiled without taking measures to reduce to a minimum any particulate matter from becoming airborne to prevent exceeding the ambient air quality standards beyond the property line for particulate matter, both PM10 and total suspended particulates.
- b. Fugitive non-process dust emissions shall be controlled by 15A NCAC 02D .0540.
- c. The Permittee shall control emissions from conveyors, screens, and transfer points, such that the applicable opacity standards in Sections 2.1 G.2.a below are not exceeded.

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

- d. 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 G.2 below, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0510.

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

- e. The monitoring required in Section 2.1 G.2.c below shall satisfy this requirement.

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

- a. Visible emissions from this source (**ID No. LS Rail**) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) 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 limits given in Section 2.1 G.2.a, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. i. To ensure compliance, once a month the Permittee shall observe the emission points of this source (**ID No. LS Rail**) for any visible emissions above normal. The monthly observation must be made for each month 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:
 - (A) immediately shutdown the source and repair the malfunction, or
 - (B) 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.
- ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if:
 - (A) the source is not immediately shut down and repaired per 2.1 G.2.c.i.(A) above;
 - (B) the demonstration in 2.1 G.2.c.i.(B) above cannot be made; or
 - (C) the monthly observations are not conducted per 2.1 G.2.c.i above;

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

- d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - i. the date and time of each recorded action;

- ii. the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
- iii. the results of any corrective actions performed.

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

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

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping in Paragraphs 2.1 G.2.c and 2.1 G.2.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. Limestone Handling Equipment with Fugitive Emissions:

- **Two limestone unloading hoppers (ID Nos. ES-LS Unload A and ES-LS Unload B),**
- **Three limestone belt feeders (ID Nos. ES-LS Feeder 1, ES-LS Feeder 3A, and ES-LS Feeder 3B),**
- **Two limestone reclaim hoppers (ID Nos. ES-LS Reclaim A and ES-LS Reclaim B),**
- **Three limestone conveyors (ID Nos. ES-LS Convey 2, ES-LS Convey 4A [tail-end transfer only], and ES-LS Convey 4B [tail-end transfer only]), and**
- **Three wet limestone grinders (ID Nos. ES-LS Grinder 1, ES-LS Grinder 2, and ES-LS Grinder 3)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	ambient air quality standards	15A NCAC 02D .0510
Visible Emissions	10 percent opacity	15A NCAC 02D .0524 (40 CFR Part 60 Subpart OOO)
Toxic Air Pollutants	See Section 2.2.A.1 State-only requirement	15A NCAC 02D .1100

1. 15A NCAC 02D .0510: PARTICULATES FROM SAND, GRAVEL, OR CRUSHED STONE OPERATIONS

- a. The Permittee shall not cause, allow, or permit any material to be produced, handled, transported or stockpiled without taking measures to reduce to a minimum any particulate matter from becoming airborne to prevent exceeding the ambient air quality standards beyond the property line for particulate matter, both PM10 and total suspended particulates.
- b. Fugitive non-process dust emissions shall be controlled by 15A NCAC 02D .0540.
- c. The Permittee shall control emissions from conveyors, screens, and transfer points, such that the applicable opacity standard in Section 2.1 H.2.b below is not exceeded.

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

- d. 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.b below, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0510.

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

- e. The Permittee shall comply with the visible emission monitoring and recordkeeping requirements in Sections 2.1 H.2.d and 2.1 H.2.e. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0510 if the Permittee does not comply with the monitoring and recordkeeping requirements.

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

- f. The Permittee shall comply with the reporting requirements in Section 2.1 H.2.f.

2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART OOO)

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart OOO "Standards of Performance for Nonmetallic Mineral Processing Plants", including Subpart A "General Provisions."

Emission Limitations [40 CFR 60.672(b)]

- b. Fugitive visible emissions from these sources shall not be more than 10 percent opacity.

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

- c. 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.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- d. i. To ensure compliance, once a month the Permittee shall observe the emission points of these sources (**ID Nos. ES-LS Unload A and ES-LS Unload B, ES-LS Feeder 1, ES-LS Feeder 3A, and ES-LS Feeder 3B, ES-LS Reclaim A and ES-LS Reclaim B, ES-LS Convey 2, ES-LS Convey 4A, and ES-LS Convey 4B, and ES-LS Grinder 1 through ES-LS Grinder 3**) for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish “normal” for these sources in the first 30 days following the of beginning operation. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- (A) immediately shutdown the source and repair the malfunction, or
 - (B) 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 H.2.b above.
- ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if:
- (A) the source is not immediately shut down and repaired per 2.1 H.2.d.i.(A) above;
 - (B) the demonstration in 2.1 H.2.d.i.(B) above cannot be made;
 - (C) the monthly observations are not conducted per 2.1 H.2.d.i above; or
 - (D) “normal” is not established for per 2.1 H.2.d.i above.

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

- e. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each 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 .0524 if these records are not maintained.

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

- f. The Permittee shall submit a summary report of the monitoring and recordkeeping in Paragraphs 2.1 H.2.d and 2.1 H.2.e above by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

I. Limestone Handling Equipment with Stack Emissions:

- **Five limestone conveyors (ID Nos. ES-LS Convey 4A [head-end transfer only], ES-LS Convey 4B [head-end transfer only], ES-LS Convey 5, ES-LS Convey 6, and ES-LS Convey 7), and three limestone silos (ID Nos. ES-LS Silo A, ES-LS Silo B, and ES-LS Silo C) with associated bagfilter (ID No. CD-LB-BF-1),**
- **One limestone silo (ID No. ES-LS Mayo Silo) with associated bagfilter (ID No. CD-LB-BF-2), and**
- **One truck loading spout (ID No. ES-Truck Spout) with associated bagfilter (ID No. CD-LB-BF-3)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	ambient air quality standards	15A NCAC 02D .0510
	0.022 gr/dscf	15A NCAC 02D .0524 (40 CFR Part 60 Subpart OOO)
Visible Emissions	7 percent opacity	15A NCAC 02D .0524 (40 CFR Part 60 Subpart OOO)
Toxic Air Pollutants	See Section 2.2 A.1 State-only requirement	15A NCAC 02D .1100

1. 15A NCAC 02D .0510: PARTICULATES FROM SAND, GRAVEL, OR CRUSHED STONE OPERATIONS

- a. The Permittee shall not cause, allow, or permit any material to be produced, handled, transported or stockpiled without taking measures to reduce to a minimum any particulate matter from becoming airborne to prevent exceeding the ambient air quality standards beyond the property line for particulate matter, both PM10 and total suspended particulates.
- b. Fugitive non-process dust emissions shall be controlled by 15A NCAC 02D .0540.
- c. The Permittee shall control emissions from conveyors, screens, and transfer points, such that the applicable opacity standard in Section 2.1 I.2.c below is not exceeded.

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

- d. 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 I.2.b or 2.1 I.2.c below, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0510.

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

- e. The Permittee shall comply with the monitoring and recordkeeping requirements in Section 2.1 I.2.f through 2.1 I.2.j, below. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0510 if these monitoring and recordkeeping requirements are not satisfied.

2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART OOO)

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart OOO "Standards of Performance for Nonmetallic Mineral Processing Plants", including Subpart A "General Provisions."

Emission Limitations [40 CFR 60.672(a)]

- b. Emissions of particulate matter from these sources shall not exceed 0.022 grains per standard dry cubic foot.
- c. Visible emissions from these sources shall not be more than 7 percent opacity.

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

- d. i. The Permittee has completed the initial compliance demonstration (test reference numbers 2007-186ST and 2009-157ST).
- ii. If additional 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 I.2.b or 2.1 I.2.c above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- e. Particulate matter emissions from the five limestone conveyors (**ID Nos. ES-LS Convey 4A [head-end transfer only], ES-LS Convey 4B [head-end transfer only], ES-LS Convey 5, ES-LS Convey 6, and ES-LS Convey 7**), four limestone bins silos (**ID Nos. ES-LS Silo A, ES-LS Silo B, ES-LS Silo C, and ES-LS Mayo Silo**), and one truck loading spout (**ID No. ES-Truck Spout**) shall be controlled by the bagfilters (**ID No. CD-LB-BF-1, CD-LB-BF-2, and CD-LB-BF-3**) as described above. To ensure that optimum control efficiency is maintained, the Permittee shall perform inspections and maintenance as recommended by the manufacturer implemented in the plant's Work Management System. 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:

- i. a monthly visual inspection of the system ductwork and material collection unit for leaks; and
- ii. 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 .0524 if the ductwork and bagfilters are not inspected and maintained.

- f. i. To ensure compliance, once a month the Permittee shall observe the emission points of these sources (**ID Nos. ES-LS Convey 4A [head-end transfer only], ES-LS Convey 4B [head-end transfer only], ES-LS Convey 5, ES-LS Convey 6, and ES-LS Convey 7, ES-LS Silo A, ES-LS Silo B, ES-LS Silo C, and ES-LS Mayo Silo, and ES-Truck Spout**) for any visible emissions above normal. The monthly observation must be made for each month 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:
 - (A) immediately shutdown the source and repair the malfunction, or
 - (B) 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 I.2.c above.
- ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0524 if:
 - (A) the source is not immediately shut down and repaired per 2.1 I.2.f.i.(A) above;
 - (B) the demonstration in 2.1 I.2.f.i.(B) above cannot be made; or
 - (C) the monthly observations are not conducted per 2.1 I.2.f.i above.

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

- g. The results of inspection, maintenance, and monitoring in Sections 2.1 I.2.e and 2.1 I.2.f 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 the bagfilters;
- iv. the results of any 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;
- v. the results of any corrective actions performed; and
- vi. any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

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

- h. The Permittee shall submit a summary report of the monitoring and recordkeeping in Paragraphs 2.1 I.2.e through 2.1 I.2.g above by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.
- i. In addition to any other notification requirements to the Environmental Protection Agency (EPA), for the limestone conveyor (**ID No. ES-LS Convey 7**) with associated bagfilter (**ID No. CD-LB-BF-1**), limestone silo (**ID No. ES-LS Mayo Silo**) with associated bagfilter (**ID No. CD-LB-BF-2**); and truck loading spout (**ID No. ES-Truck Spout**)

with associated bagfilter (**ID No. CD-LB-BF-3**), the Permittee is required to NOTIFY the Regional Supervisor, DAQ, in WRITING, of the following:

- i. the date construction (40 CFR 60.7) or reconstruction (40 CFR 60.15) of an affected facility is commenced, postmarked on or before 30 days after such date; and
- ii. the actual date of initial start-up of an affected facility, postmarked within 15 days after such date.

J.

- **Stationary sorbent Silo 1 for Unit 4 (ID No. ES-SORB-5) and associated bagfilter (ID No. CD-SORB-5), and Unit 4 Silo 1 pneumatic conveying equipment system (ID No. ES-SORB-7)**
- **Stationary sorbent Silo 1 for Unit 3 (ID No. ES-SORB-9) and associated bagfilter (ID No. CD-SORB-9), and Unit 3 Silo 1 pneumatic conveying equipment system (ID No. ES-SORB-11)**
- **Stationary sorbent Silo 1 for Unit 2 (ID No. ES-SORB-13) and associated bagfilter (ID No. CD-SORB-13), and Unit 2 Silo 1 pneumatic conveying equipment system (ID No. ES-SORB-15)**
- **Stationary sorbent Silo 1 for Unit 1 (ID No. ES-SORB-17) and associated bagfilter (ID No. CD-SORB-17), and Unit 1 Silo 1 pneumatic conveying equipment system (ID No. ES-SORB-19)**

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/hr, or $E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons/hr where: E = allowable emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521

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

- a. Emissions of particulate matter from these sources (ID Nos. ES-SORB-5, ES-SORB-7, ES-SORB-9, ES-SORB-11, ES-SORB-13, ES-SORB-15, ES-SORB-17, and ES-SORB-19) shall not exceed an allowable emission rate as calculated by the following equation:

$$\begin{array}{ll} \text{for } P \leq 30 \text{ tons/h} & E = 4.10 \times P^{0.67} \\ \text{for } P > 30 \text{ tons/hr} & E = 55.0 \times P^{0.11} - 40 \end{array} \quad \text{or}$$

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 Section 2.1 J.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 these sources (ID Nos. ES-SORB-5, ES-SORB-7, ES-SORB-9, ES-SORB-11, ES-SORB-13, ES-SORB-15, ES-SORB-17, and ES-SORB-19) shall be controlled by the bagfilters (ID Nos. CD-SORB-5, CD-SORB-9, CD-SORB-13, and CD-SORB-17) as described in Section 1. To ensure that optimum control efficiency is maintained, the Permittee shall perform inspections and maintenance as recommended by the manufacturer implemented in the plant's Work Management System. 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 must include the following:
- i. an annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters' structural integrity; and

ii. a monthly visual inspection of the system ductwork, and material collection unit for leaks.

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

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

- d. The results of inspection and maintenance shall be maintained in a log book (written or electronic form) on site and made available to an authorized representative upon request. The log book shall record the following:
- i. the date and time of actions recorded;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on the bagfilter; 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 the bagfilter within 30 days of a written request by the DAQ.
- f. The Permittee shall submit a summary report of monitoring and recordkeeping activities in Paragraphs 2.1 J.1.c and 2.1 J.1.d above by January 30 and July 30 of each calendar year for the preceding six-month period. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Visible emissions from these sources (**ID Nos. ES-SORB-5, ES-SORB-7, ES-SORB-9, ES-SORB-11, ES-SORB-13, ES-SORB-15, ES-SORB-17, and ES-SORB-19**) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) 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 J.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. i. To ensure compliance, once a month the Permittee shall observe the emission points of these sources (**ID Nos. ES-SORB-5, ES-SORB-7, ES-SORB-9, ES-SORB-11, ES-SORB-13, ES-SORB-15, ES-SORB-17, and ES-SORB-19**) for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish "normal" for these sources in the first 30 days following the of beginning operation. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- (A) immediately shutdown the source and repair the malfunction, or
 - (B) 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 J.2.a above.
- ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if:
- (A) the source is not immediately shut down and repaired per 2.1 J.2.c.i.(A) above;
 - (B) the demonstration in 2.1 J.2.c.i.(B) above cannot be made;
 - (C) the monthly observations are not conducted per 2.1 J.2.c.i above; or
 - (D) "normal" is not established for per 2.1 J.2.c.i above.

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

- d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - iii. the results of any corrective actions performed.
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

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

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping in Paragraphs 2.1 J.2.c and 2.1 J.2.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.

K. Wastewater treatment facility lime storage silo (ID No. ES-WWTF Silo) with associated bin vent filter (ID No. CD-WWTF-Silo-BF)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	ambient air quality standards	15A NCAC 02D .0510
Visible Emissions	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	15A NCAC 02D .0521
Toxic Air Pollutants	See Section 2.2.A.1.b State-only requirement	15A NCAC 02D .1100

1. 15A NCAC 02D .0510: PARTICULATES FROM SAND, GRAVEL, OR CRUSHED STONE OPERATIONS

- a. The Permittee shall not cause, allow, or permit any material to be produced, handled, transported or stockpiled without taking measures to reduce to a minimum any particulate matter from becoming airborne to prevent exceeding the ambient air quality standards beyond the property line for particulate matter, both PM10 and total suspended particulates.
- b. Fugitive non-process dust emissions shall be controlled by 15A NCAC 02D .0540.
- c. The Permittee shall control emissions from conveyors, screens, and transfer points, such that the applicable opacity standards in Section 2.1.K.2.a below are not exceeded.

Testing [15A NCAC 02D .2601]

- d. 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.K.2 below, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0510.

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

- e. Particulate matter emissions from this source (ID No. ES-WWTF Silo) shall be controlled by the associated bin vent filter (ID No. CD-WWTF-Silo-BF). 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:
 - i. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
 - ii. An annual (for each 12-month period following the initial inspection) internal inspection of the bin vent filter’s structural integrity.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0510 if the ductwork and bin vent filter are not inspected and maintained.

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

- f. The results of inspection and maintenance in Section 2.1.K.1.e 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 the bin vent filter; and
 - iv. Any variance from manufacturer’s recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0510 if these records are not maintained.

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

- g. The Permittee shall submit a summary report of the monitoring and recordkeeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Visible emissions from this source shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) 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 02D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 02D .2601 and General Condition JJ. If the results of this test are above the limits given in Section 2.1.K.2.a, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. To assure compliance, once a month the Permittee shall observe the emission points of this source (ID No. ES-WWTF Silo) for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following start-up of the sources. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) immediately shutdown the source and repair the malfunction, (b) be deemed to be in noncompliance with 15A NCAC 02D .0521 or (c) demonstrate that the percent opacity from the emission points of the emission sources in accordance with 15A NCAC 02D .2601 for 30 minutes is below the limit given in Section 2.1.K.2.a above. If the demonstration in (c) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.

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

- d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - i. the date and time of each recorded action;
 - ii. the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - iii. the results of any corrective actions performed.

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

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

- e. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.2 Multiple Emission Sources

A. Facility Wide Toxics Demonstration

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

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	Emissions rates modeled to demonstrate compliance with acceptable ambient levels. State-enforceable Only See Section 2.2 A.1.a	15A NCAC 02D .1100

State-enforceable Only

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

- a. Pursuant to 15A NCAC 02D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

Permit Source ID	Source Description	Toxic Air Pollutant	Emissions Limit	
			(lb/yr)	(lb/day)
ES-WWTFBR	Wastewater treatment facility (bio-reactor)	HYDROGEN SULFIDE		5.41E+01
ES-FA Silo 4	Flyash conveying system storage and handling silo	ARSENIC	2.35E+00	
		BERYLLIUM	5.26E+00	
		CADMIUM	4.02E+00	
		CHROMIUM VI		1.68E-01
		MANGANESE		4.29E+00
		MERCURY		8.92E-04
		NICKEL		1.63E+00
ES-FA Silo 3, ES-S-3L2	Flyash conveying system storage and handling silo, mineral-rich flyash loadout system	ARSENIC	2.35E+00	
		BERYLLIUM	5.26E+00	
		CADMIUM	4.02E+00	
		CHROMIUM VI		1.68E-01
		MANGANESE		4.29E+00
		MERCURY		8.92E-04
		NICKEL		1.63E+00
ES-FA Silo 2	Flyash conveying system storage and handling silo, electrostatic flyash separation system and mineral-rich product load-out silo	ARSENIC	2.35E+00	
		BERYLLIUM	5.26E+00	
		CADMIUM	4.02E+00	
		CHROMIUM VI		1.68E-01
		MANGANESE		4.29E+00
		MERCURY		8.92E-04
		NICKEL		1.63E+00
ES FA-Silo 1	Flyash conveying system storage and handling silo	ARSENIC	2.35E+00	
		BERYLLIUM	5.26E+00	
		CADMIUM	4.02E+00	

Permit Source ID	Source Description	Toxic Air Pollutant	Emissions Limit	
			(lb/yr)	(lb/day)
		CHROMIUM VI		1.68E-01
		MANGANESE		4.29E+00
		MERCURY		8.92E-04
		NICKEL		1.63E+00
ES-LS Convey 4A, 4B, 5, 6, 7 and ES-LS Silo A,B,C + Mayo Silo + Truck Spout	Five limestone conveyors, four limestone silos, truck loading spout	ARSENIC	1.09E-01	
		BERYLLIUM	1.21E-01	
		CADMIUM	1.43E+00	
		CHROMIUM VI		
		MANGANESE		2.72E+00
		MERCURY		1.86E-04
		NICKEL		1.01E-01
ES-EFSS1, 2	Two electrostatic flyash separation systems and associated conveying systems	ARSENIC	1.59E+00	
		BERYLLIUM	3.56E+00	
		CADMIUM	2.72E+00	
		CHROMIUM VI		1.14E-01
		MANGANESE		2.90E+00
		MERCURY		6.04E-04
		NICKEL		1.10E+00
ES-S-3L	Electrostatic flyash separation system and mineral-rich product load-out silo	ARSENIC	1.59E+00	
		BERYLLIUM	3.56E+00	
		CADMIUM	2.72E+00	
		CHROMIUM VI		1.14E-01
		MANGANESE		2.90E+00
		MERCURY		6.04E-04
		NICKEL		1.10E+00
ES-Coal Conv 2	4,800 tph coal conveyor	ARSENIC	5.24E-02	
		BERYLLIUM	1.40E-01	
		CADMIUM	9.63E-02	
		CHROMIUM VI		
		MANGANESE		6.64E-02
		MERCURY		2.14E-04
		NICKEL		4.51E-02
ES-Coal Conv 1	4,800 tph coal conveyor	ARSENIC	5.24E-02	
		BERYLLIUM	1.40E-01	
		CADMIUM	9.63E-02	
		CHROMIUM VI		
		MANGANESE		6.64E-02
		MERCURY		2.14E-04
		NICKEL		4.51E-02
ES-37A	375 tph coal conveyor	ARSENIC	5.24E-02	

Permit Source ID	Source Description	Toxic Air Pollutant	Emissions Limit	
			(lb/yr)	(lb/day)
		BERYLLIUM	1.40E-01	
		CADMIUM	9.63E-02	
		CHROMIUM VI		
		MANGANESE		6.64E-02
		MERCURY		2.14E-04
		NICKEL		4.51E-02
ES-37B	375 tph coal conveyor	ARSENIC	5.24E-02	
		BERYLLIUM	1.40E-01	
		CADMIUM	9.63E-02	
		CHROMIUM VI		
		MANGANESE		6.64E-02
		MERCURY		2.14E-04
		NICKEL		4.51E-02
ES-39A	375 tph coal conveyor	ARSENIC	4.53E-01	
		BERYLLIUM	1.21E+00	
		CADMIUM	8.32E-01	
		CHROMIUM VI		
		MANGANESE		5.74E-01
		MERCURY		1.85E-03
		NICKEL		3.89E-01
ES-39B	375 tph coal conveyor	ARSENIC	4.53E-01	
		BERYLLIUM	1.21E+00	
		CADMIUM	8.32E-01	
		CHROMIUM VI		
		MANGANESE		5.74E-01
		MERCURY		1.85E-03
		NICKEL		3.89E-01
ES-Coal Hopper	4,800 tph coal unloading hopper	ARSENIC	4.53E-01	
		BERYLLIUM	1.21E+00	
		CADMIUM	8.32E-01	
		CHROMIUM VI		
		MANGANESE		5.74E-01
		MERCURY		1.85E-03
		NICKEL		3.89E-01
ES-LS Rail	2,200 tph limestone rail unloading station	ARSENIC	1.53E-02	
		BERYLLIUM	1.69E-02	
		CADMIUM	2.00E-01	
		CHROMIUM VI		
		MANGANESE		3.81E-01
		MERCURY		2.61E-05

Permit Source ID	Source Description	Toxic Air Pollutant	Emissions Limit	
			(lb/yr)	(lb/day)
		NICKEL		1.41E-02
ES-SVS1	Stationary vacuum system for housekeeping	ARSENIC	7.75E-02	
		BERYLLIUM	1.73E-01	
		CADMIUM	1.33E-01	
		CHROMIUM VI		5.55E-03
		MANGANESE		1.41E-01
		MERCURY		2.94E-05
		NICKEL		5.37E-02
ES-LS Unload A, B, ES-LS Feeder 1, ES-LS Convey 2, ES-LS Reclaim A, B, ES-LS Feeder 3A, 3B	Two limestone unloading hoppers, three feeders, one limestone conveyor, two limestone reclaim hoppers,	ARSENIC	7.64E-02	
		BERYLLIUM	8.47E-02	
		CADMIUM	1.00E+00	
		CHROMIUM VI		
		MANGANESE		1.91E+00
		MERCURY		1.30E-04
		NICKEL		7.07E-02
ES-FA Silo 5	Flyash conveying system storage and handling silo No. 5	ARSENIC	2.35E+00	
		BERYLLIUM	5.26E+00	
		CADMIUM	4.02E+00	
		CHROMIUM VI		1.68E-01
		MANGANESE		4.29E+00
		MERCURY		8.92E-04
		NICKEL		1.63E+00
ES-FA Handling 4A	Unit 4 dry flyash pneumatic transfer systems and filter separators	ARSENIC	1.58E-01	
		BERYLLIUM	3.53E-01	
		CADMIUM	2.70E-01	
		CHROMIUM VI		1.13E-02
		MANGANESE		2.88E-01
		MERCURY		6.00E-05
		NICKEL		1.09E-01
ES-FA Handling 4B	Unit 4 dry flyash pneumatic transfer systems and filter separators	ARSENIC	1.58E-01	
		BERYLLIUM	3.53E-01	
		CADMIUM	2.70E-01	
		CHROMIUM VI		1.13E-02
		MANGANESE		2.88E-01
		MERCURY		6.00E-05
		NICKEL		1.09E-01
ES-FA Handling 4C	Unit 4 dry flyash pneumatic transfer systems and filter separators	ARSENIC	1.58E-01	
		BERYLLIUM	3.53E-01	
		CADMIUM	2.70E-01	
		CHROMIUM VI		1.13E-02

Permit Source ID	Source Description	Toxic Air Pollutant	Emissions Limit	
			(lb/yr)	(lb/day)
		MANGANESE		2.88E-01
		MERCURY		6.00E-05
		NICKEL		1.09E-01
ES-FA Handling 3A	Unit 3 dry flyash pneumatic transfer systems and filter separators	ARSENIC	1.45E-01	
		BERYLLIUM	3.24E-01	
		CADMIUM	2.48E-01	
		CHROMIUM VI		1.04E-02
		MANGANESE		2.64E-01
		MERCURY		5.50E-05
		NICKEL		1.00E-01
ES-FA Handling 3B	Unit 3 dry flyash pneumatic transfer systems and filter separators	ARSENIC	1.45E-01	
		BERYLLIUM	3.24E-01	
		CADMIUM	2.48E-01	
		CHROMIUM VI		1.04E-02
		MANGANESE		2.64E-01
		MERCURY		5.50E-05
		NICKEL		1.00E-01
ES-Surge Bin 3	Unit 3 dry flyash pneumatic transfer systems and filter separators	ARSENIC	1.45E-01	
		BERYLLIUM	3.24E-01	
		CADMIUM	2.48E-01	
		CHROMIUM VI		1.04E-02
		MANGANESE		2.64E-01
		MERCURY		5.50E-05
		NICKEL		1.00E-01
ES-FA Handling 1	Unit 1 dry flyash pneumatic transfer system, Unit 1 surge bin	ARSENIC	1.67E+00	
		BERYLLIUM	3.74E+00	
		CADMIUM	2.86E+00	
		CHROMIUM VI		1.20E-01
		MANGANESE		3.05E+00
		MERCURY		6.34E-04
		NICKEL		1.16E+00
ES-WWTF Silo	Wastewater treatment facility lime storage silo	ARSENIC	2.24E-03	
		BERYLLIUM	2.48E-03	
		CADMIUM	2.93E-02	
		CHROMIUM VI		
		MANGANESE		5.57E-02
		MERCURY		3.81E-06
		NICKEL		2.07E-03
E-S-1, 4, 5	Load out 4, Load out 1, Load out 2, Load out 5	ARSENIC	2.30E-02	
		BERYLLIUM	5.13E-02	

Permit Source ID	Source Description	Toxic Air Pollutant	Emissions Limit	
			(lb/yr)	(lb/day)
		CADMIUM	3.93E-02	
		CHROMIUM VI		4.30E-03
		MANGANESE		1.09E-01
		MERCURY		2.28E-05
		NICKEL		4.16E-02
IS-FGDC	FGD Filter Cake Loadout, Unloading of Generated FGD Filter Cake at the Ash Landfill	ARSENIC	1.62E-04	
		BERYLLIUM		
		CADMIUM	2.57E-03	
		CHROMIUM VI		
		MANGANESE		7.09E-03
		MERCURY		3.80E-06
IS-38, 40, 41, 44, 45, 46, 48, 49	East Gypsum Sources, West Gypsum Sources	ARSENIC	2.36E-02	
		BERYLLIUM		
		CADMIUM	3.74E-01	
		CHROMIUM VI		
		MANGANESE		1.03E+00
		MERCURY		5.53E-04
		NICKEL		1.50E-02
COALPILE	Coal Pile - Active Area and Inactive Area	ARSENIC	2.58E+01	
		BERYLLIUM	6.90E+01	
		CADMIUM	4.75E+01	
		CHROMIUM VI		
		MANGANESE		3.27E+01
		MERCURY		1.05E-01
		NICKEL		2.22E+01
IS-LSSP	Limestone Storage Pile - Active Area and Inactive Area	ARSENIC	3.99E+00	
		BERYLLIUM	4.42E+00	
		CADMIUM	5.23E+01	
		CHROMIUM VI		
		MANGANESE		9.94E+01
		MERCURY		6.80E-03
		NICKEL		3.69E+00
IS-45, 46	Gypsum Pile - Active Area and Inactive Area	ARSENIC	1.24E+01	
		BERYLLIUM		
		CADMIUM	1.97E+02	
		CHROMIUM VI		
		MANGANESE		5.42E+02
		MERCURY		2.91E-01
		NICKEL		7.89E+00

Permit Source ID	Source Description	Toxic Air Pollutant	Emissions Limit	
			(lb/yr)	(lb/day)
EASHBASIN	East Ash Basin - Excavation, Active Area, and Inactive Area	ARSENIC	2.15E+02	
		BERYLLIUM	4.80E+02	
		CADMIUM	3.67E+02	
		CHROMIUM VI		1.54E+01
		MANGANESE		3.92E+02
		MERCURY		8.16E-02
		NICKEL		1.49E+02
WASHBASIN	West Ash Basin - Excavation, Active Area, and Inactive Area	ARSENIC	3.93E+02	
		BERYLLIUM	8.79E+02	
		CADMIUM	6.73E+02	
		CHROMIUM VI		2.82E+01
		MANGANESE		7.18E+02
		MERCURY		1.49E-01
		NICKEL		2.73E+02
LAND	Ash Landfill - Unloading of Generated Ash, Off-Spec Gypsum, and Relocated Ash, Active Area, and Inactive Area	ARSENIC	2.75E+02	
		BERYLLIUM	6.15E+02	
		CADMIUM	4.70E+02	
		CHROMIUM VI		1.97E+01
		MANGANESE		5.01E+02
		MERCURY		1.04E-01
		NICKEL		1.91E+02

- b. The Permittee has submitted a toxic air pollutant dispersion modeling analysis dated January 21, 2021 for the facility’s toxic air pollutant emissions as listed in the above table. The modeling analysis was reviewed and approved by the AQAB on March 23, 2021. Placement of the emission sources, configuration of the emission points, and operation 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 memo.

Monitoring/Recordkeeping/Reporting

- c. No monitoring, recordkeeping, or reporting shall apply to any emission sources included in Section 2.2 A.1.a above.

B. Electric generating units:

- **ES-Unit 1,**
- **ES-Unit 2,**
- **ES-Unit 3A,**
- **ES-Unit 3B,**
- **ES-Unit 4A, and**
- **ES-Unit 4B**

Federal-Enforceable Only

1. Cross State Air Pollution Rule (CSAPR) Requirements

- a. For the electric utility boilers (**ID Nos. ES-Unit 1, ES-Unit 2, ES-Unit 3A, ES-Unit 3B, ES-Unit 4A, and ES-Unit 4B**), the Permittee shall comply with all applicable requirements of 40 CFR Part 97, Subpart AAAAA "TR NOx Annual Trading Program", Subpart BBBB "TR NOx Ozone Season Trading Program", and Subpart CCCCC "TR SO₂ Group 1 Trading Program".

2. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR PART 63 SUBPART UUUUU)

- a. The Permittee shall comply with all applicable provisions, including the requirements for emission limitations, work practice standards, operating limits, testing and initial compliance, continuous compliance, monitoring, recordkeeping, notification, and reporting, contained in Environmental Management Commission Standard 15A NCAC 02D .1111 Maximum Achievable Control Technology (MACT) as promulgated in the most current version of 40 CFR Part 63 Subpart UUUUU, "National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units" and Subpart A General Provisions.

Emission Limitations and Work Practice Standards [15A NCAC 02Q .0508(b)]

- b. The Permittee shall:
 - i. limit the emissions of filterable particulate matter (PM) to 3.0E-2 pounds per million Btu (lb/MMBtu);
 - ii. limit the emissions of hydrogen chloride (HCl) to 2.0E-3 lb/MMBtu; and
 - iii. limit the emissions of mercury (Hg) to 1.3E-02 pounds per gigawatt-hour (lb/GWh).
[40 CFR 63.9991(a)(1) and Table 2 to Subpart UUUUU]
- c.
 - i. As an alternative to meeting the requirements of §63.9991(a)(1) for filterable PM, SO₂, HF, HCl, non-Hg HAP metals, or Hg on an EGU-specific basis as described in paragraph a above, the Permittee may choose to demonstrate compliance by using emissions averaging as described in §63.10009(a)(2) among existing EGUs in the same subcategory. If this option is selected for mercury, the Permittee shall limit the concentration of mercury to 1.0 lb/TBtu or 1.1E-2 lb/GWh. [§63.9991(a)(1), §63.10009 and §63.10022]
 - ii. As an alternative to the emission limit in Sections 2.2 B.2.b.i through 2.2 B.2.b.iii, the Permittee may comply with the relevant emission limits in paragraphs 2.2 B.2.c.ii.(A) through 2.2 B.2.c.ii.(C) below provided that the Permittee complies with the requirements of Section 2.2 B.2.c.iii:
 - (A) As an alternative to the emission limit in Section 2.2 B.2.b.i, the Permittee may:
 - (I) limit the emissions of filterable particulate matter (PM) to 3.0E 1 pounds per megawatt-hour (lb/MWh); or
 - (II) limit the emissions of total non-Hg HAP metals to 5.0E-5 lb/MMBtu; or
 - (III) limit the emissions of total non-Hg HAP metals to 5.0E-1 lb/GWh; or
 - (IV) limit the emissions of individual HAP metals to the amounts listed in Table 2 to 40 CFR Part 63, Subpart UUUUU.
 - (B) As an alternative to the emission limit in Section 2.2 B.2.b.ii, the Permittee may:
 - (I) limit the emissions of HCl to 2.0E-2 lb/MWh; or
 - (II) limit the emissions of sulfur dioxide (SO₂) to 2.0E-1 lb/MMBtu; or
 - (III) limit the emissions of SO₂ to 1.5E0 lb/MWh.
 - (C) As an alternative to the emission limit in Section 2.2 B.2.b.iii, the Permittee may limit the emissions of mercury to 1.2 pounds per trillion Btu (lb/TBtu).
[§63.9991(a)(1) and Table 2 to Subpart UUUUU]

- iii. The Permittee may demonstrate compliance with the emission limits in Section 2.2 B.2.c.ii, provided that:
 - (A) The Permittee shall submit a request that identifies for each EGU or EGU emissions averaging group involved in the proposed switch both the current and proposed emission limit;
 - (B) The above request arrives to the Administrator at least 30 calendar days prior to the date that the switch is proposed to occur;
 - (C) The request demonstrates through performance stack test results completed within 30 days prior to the submission, compliance for each EGU or EGU emissions averaging group with both the mass per heat input and mass per gross output limits;
 - (D) The Permittee revises and submits all other applicable plans, e.g., monitoring and emissions averaging, with the request; and
 - (E) The Permittee maintains records of all information regarding the choice of emission limits.

[§63.10030(e)(7)(iii)]

d. During periods of startup of an EGU:

- i. The Permittee has chosen to comply using the following work practice standards, by choosing to comply using paragraph (1) of the definition of “startup” in §63.10042, defined as follows.

Startup means either the first-ever firing of fuel in a boiler for the purpose of producing electricity, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on site use). Any fraction of an hour in which startup occurs constitutes a full hour of startup.

The Permittee shall operate all continuous monitoring systems (CMS) during startup, except during periods of bypass of the main stack as provided in §63.10010(a)(4). For startup of a unit, clean fuels must be used as defined in §63.10042 for ignition. Once the unit converts to firing coal, the Permittee shall engage all of the applicable control technologies except the SCR. The Permittee shall start the SCR system appropriately to comply with relevant standards applicable during normal operation. The Permittee shall comply with all applicable emissions limits at all times except for periods that meet the applicable definitions of startup and shutdown in Subpart UUUUU. The Permittee shall keep records during startup periods.

- ii. If the Permittee chooses to use just one set of sorbent traps to demonstrate compliance with the applicable Hg emission limit, the Permittee shall comply with the limit at all times; otherwise, the Permittee shall comply with the applicable emission limit at all times except for startup and shutdown periods.
- iii. The Permittee shall collect monitoring data during startup periods, as specified in §63.10020(a) and (e). The Permittee shall keep records during startup periods, as provided in §§63.10032 and 63.10021(h). The Permittee shall provide reports concerning activities and startup periods, as specified in §63.10011(g) and §63.10021(h) and (i). All periods of bypass of the main stack shall be reported as deviations as provided in §63.10010(a)(4)(ii).

[§63.9991(a)(1) and Table 3 to Subpart UUUUU]

e. During periods of shutdown of an EGU:

Shutdown means the period in which cessation of operation of an EGU is initiated for any purpose. Shutdown begins when the EGU no longer generates electricity or makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes or when no coal, liquid oil, syngas, or solid oil-derived fuel is being fired in the EGU, whichever is earlier. Shutdown ends when the EGU no longer generates electricity or makes useful thermal energy (such as steam or heat) for industrial, commercial, heating, or cooling purposes, and no fuel is being fired in the EGU. Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown.

- i. The Permittee shall operate all CMS during shutdown, except during periods of bypass of the main stack as provided in §63.10010(a)(4). The Permittee shall also collect appropriate data and shall calculate the pollutant emission rate for each hour of shutdown for those pollutants for which a CMS is used. While firing coal during shutdown, the Permittee shall vent emissions to the main stack(s) and operate all applicable control devices and continue to operate those control devices after the cessation of coal being fed into the EGU and for as long as possible thereafter considering operational and safety concerns as provided for bypass of the main stack in §63.10010(a)(4). In any case, the permittee shall operate the controls when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than Subpart UUUUU and that require operation of the control devices. All periods of bypass of the main stack shall be reported as deviations as provided in §63.10010(a)(4)(ii).

- ii. If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel shall be one or a combination of the clean fuels defined in §63.10042 and shall be used to the maximum extent possible taking into account considerations such as not compromising boiler or control device integrity.
- iii. The Permittee shall comply with all applicable emission limits at all times except during startup periods and shutdown periods at which time the Permittee shall meet the work practice standards. The Permittee shall collect monitoring data during shutdown periods, as specified in §63.10020(a). The Permittee shall keep records during shutdown periods, as provided in §§63.10032 and 63.10021(h). The Permittee shall provide reports concerning activities and shutdown periods, as specified in §§63.10011(g), 63.10021(i), and 63.10031. [§63.9991(a)(1), §63.10042, and Table 3 to Subpart UUUUU]

General Compliance Requirements [15A NCAC 02Q .0508(f)]

- f. The Permittee shall comply with the General Provisions as applicable pursuant to Table 9 to Subpart UUUUU. [40 CFR 63.10040]
- g. The Permittee shall be in compliance with the emission limits and operating limits in Subpart UUUUU. These limits shall apply at all times except during periods of startup and shutdown; however, for coal-fired EGUs, the Permittee shall be required to meet the work practice requirements in Table 3 to Subpart UUUUU during periods of startup or shutdown. [§63.10000(a)]
- h. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPA Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [§63.10000(b)]
- i. For coal-fired units, initial performance testing is required for all pollutants for the affected EGUs to demonstrate compliance with the applicable emission limits. [§63.10000(c)(1)]
- j. The Permittee shall demonstrate compliance with the filterable particulate matter (PM) emission limit through an initial performance test and shall monitor continuous performance through use of a PM continuous emissions monitoring system (PM CEMS). [§63.10000(c)(1)(iv)]
- k. The Permittee shall demonstrate initial and continuous compliance by conducting an initial and periodic quarterly performance stack test for HCl. [§63.10000(c)(1)(v)]
- l. The Permittee shall demonstrate initial and continuous compliance through use of a Hg CEMS or a sorbent trap monitoring system in accordance with Appendix A to the Subpart. [§63.10000(c)(1)(vi)]
- m. As part of demonstration of continuous compliance, the Permittee shall perform periodic tune-ups of the affected EGUs, according to §63.10021(e). [§63.10000(e)]
- n. On or before the date an EGU is subject to Subpart UUUUU, the Permittee shall install, certify, operate, maintain, and quality-assure each monitoring system necessary for demonstrating compliance with the work practice standards for PM during startup periods and shutdown periods. The Permittee shall collect, record, report, and maintain data obtained from these monitoring systems during startup periods and shutdown periods. [§63.10000(l)]
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the general compliance requirements in Sections 2.2 B.2.f through 2.2 B.2.n above are not met.

Continuous Compliance Requirements [15A NCAC 02Q .0508(f)]

- o. The Permittee shall monitor and collect data according to §63.10020. [§63.10020(a)]
- p. The Permittee shall operate the monitoring system and collect data at all required intervals at all times that the affected EGU is operating, except for periods of monitoring system malfunctions or out-of-control periods (see §63.8(c)(7)), and required monitoring system quality assurance or quality control activities, including, as applicable, calibration checks and required zero and span adjustments. The Permittee is required to affect monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable. [§63.10020(b)]
- q. Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments, failure to collect required data is a deviation from the monitoring requirements. [§63.10020(d)]
- r. The Permittee shall demonstrate continuous compliance with each emissions limit, operating limit, and work practice standard in Tables 2 and 3 to Subpart UUUUU that applies to the affected EGU, according to the monitoring specified in Table 7 to Subpart UUUUU and paragraphs (b) through (g) of §63.10021(a). [§63.10021(a)]

- s. Except as otherwise provided in §63.10020(c), if the Permittee uses a CEMS to measure SO₂, PM, HCl, HF, or Hg emissions, or uses a sorbent trap monitoring system to measure Hg emissions, the Permittee shall demonstrate continuous compliance by using all quality-assured hourly data recorded by the CEMS (or sorbent trap monitoring system) and the other required monitoring systems (e.g., flow rate, CO₂, O₂, or moisture systems) to calculate the arithmetic average emissions rate in units of the standard on a continuous 30-boiler operating day (or, if alternate emissions averaging is used for Hg, 90-boiler operating day) rolling average basis, updated at the end of each new boiler operating day. The Permittee shall use Equation 8 to Subpart UUUUU to determine the 30- (or, if applicable, 90-) boiler operating day rolling average.

$$\text{Boiler operating day average} = \frac{\sum_{i=1}^n Her_i}{n} \quad (\text{Eq. 8})$$

Where:

Her_i is the hourly emissions rate for hour i and n is the number of hourly emissions rate values collected over 30- (or, if applicable, 90-) boiler operating days.

[§63.10021(b)]

- t. The Permittee shall conduct periodic performance tune-ups of the EGUs, as specified in paragraphs (e)(1) through (9) of §63.10021. The Permittee shall perform an inspection of the burner at least once every 36 calendar months unless the EGU employs neural network combustion optimization during normal operations in which case an inspection of the burner and combustion controls shall be performed at least once every 48 calendar months. If the EGU is offline when a deadline to perform the tune-up passes, the tune-up work practice requirements shall be performed within 30 days after the re-start of the affected unit. [§63.10021(e)]
- u. The Permittee shall follow the startup or shutdown requirements as given in Table 3 to the Subpart for each coal-fired EGU and comply with all applicable requirements in §63.10011(g). [§§63.10005(j), 63.10011(g) and §63.10021(h)]
- v. The Permittee shall determine the fuel whose combustion produces the least uncontrolled emissions, taking safety considerations into account, *i.e.*, the cleanest fuel, either natural gas or distillate oil, that is available on site or accessible nearby for use during periods of startup or shutdown. The cleanest fuel, either natural gas or distillate oil, for use during periods of startup or shutdown determination may take safety considerations into account. [§§63.10011(f)(1) and (2)]
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the continuous compliance requirements in Sections 2.2 B.2.o through 2.2 B.2.v above are not met.

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

- w. For an affected unit that exhausts to the atmosphere through a single, dedicated stack, the Permittee shall either install the required CEMS and sorbent trap monitoring systems in the stack or at a location in the ductwork downstream of all emissions control devices, where the pollutant and diluents concentrations are representative of the emissions that exit to the atmosphere. [§63.10010(a)(1)]
- x. If the Permittee uses an oxygen (O₂) or carbon dioxide (CO₂) CEMS to convert measured pollutant concentrations to the units of the applicable emissions limit, the O₂ or CO₂ concentrations shall be monitored at a location that represents emissions to the atmosphere, *i.e.*, at the outlet of the EGU, downstream of all emission control devices. The Permittee shall install, certify, maintain, and operate the CEMS according to 40 CFR Part 75. Use only quality-assured O₂ or CO₂ data in the emissions calculations; do not use Part 75 substitute data values. [§63.10010(b)]
- y. If the Permittee is required to use a stack gas flow rate monitor, either for routine operation of a sorbent trap monitoring system or to convert pollutant concentrations to units of an electrical output-based emission standard in Table 2 to Subpart UUUUU, the Permittee shall install, certify, operate, and maintain the monitoring system and conduct on-going quality-assurance testing of the system according to 40 CFR Part 75. The Permittee shall use only unadjusted, quality-assured flow rate data in the emissions calculations. The Permittee shall not apply bias adjustment factors to the flow rate data and do not use substitute flow rate data in the calculations. [§63.10010(c)]
- z. If the Permittee is required to make corrections for stack gas moisture content when converting pollutant concentrations to the units of an emission standard in Table 2 to Subpart UUUUU, the Permittee shall install, certify, operate, and maintain a moisture monitoring system in accordance with 40 CFR Part 75. Alternatively, for coal-fired units, the Permittee may use appropriate fuel-specific default moisture values from §75.11(b) to estimate the moisture content of the stack gas. If the Permittee installs and operates a moisture monitoring system, the Permittee shall not use substitute moisture data in the emissions calculations. [§63.10010(d)]
- aa. The Permittee shall conduct all applicable periodic HCl emissions tests according to Table 5 to Subpart UUUUU and §63.10007 at least quarterly, except as otherwise provided in §63.10021(d)(1). [§63.10006(d)]

- bb. The Permittee shall use a Hg CEMS or a sorbent trap monitoring system. The Permittee shall install, certify, operate, maintain and quality-assure the data from the monitoring system in accordance with Appendix A to Subpart UUUUU and as specified in §63.10010(g). [§63.10010(g)]
- cc. The Permittee shall install, certify, operate, and maintain a PM CEMS and record the output of the PM CEMS as specified in paragraphs (i)(1) through (5) of §63.10010 (shown below). The compliance limit shall be expressed as a 30-boiler operating day rolling average of the applicable numerical emissions limit value in Table 2 to Subpart UUUUU.
 - i. Install and certify the PM CEMS according to the procedures and requirements in Performance Specification 11—Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix B to 40 CFR Part 60, using Method 5 at Appendix A-3 to 40 CFR Part 60 and ensuring that the front half filter temperature shall be $160^{\circ} \pm 14^{\circ} \text{C}$ ($320^{\circ} \pm 25^{\circ} \text{F}$). The reportable measurement output from the PM CEMS must be expressed in units of the applicable emissions limit (e.g., lb/MMBtu, lb/MWh).
 - ii. Operate and maintain the PM CEMS according to the procedures and requirements in Procedure 2—Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix F to 40 CFR Part 60.
 - (A) Conduct the relative response audit (RRA) for the PM CEMS at least once annually (once per 12-month period).
 - (B) Conduct the relative correlation audit (RCA) for the PM CEMS at least once every 3 (calendar) years.
 - iii. Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in §63.10010(i).
 - iv. Calculate the arithmetic 30-boiler operating day rolling average of all of the hourly average PM CEMS output data collected during all nonexempt boiler operating hours.
 - v. Collect data using the PM CEMS at all times the process unit is operating and at the intervals specified in §63.10010(a), except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities.
 - (A) Use all the data collected during all boiler operating hours in assessing the compliance with the operating limit except:
 - (I) Any data collected during periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities that temporarily interrupt the measurement of emissions (e.g., calibrations, certain audits). Report any monitoring system malfunctions or out of control periods in the annual deviation reports. Report any monitoring system quality assurance or quality control activities per the requirements of §63.10031(b);
 - (II) Any data collected during periods when the monitoring system is out of control as specified in the site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods. Report any such periods in the annual deviation report;
 - (III) Any data recorded during periods of startup or shutdown.
 - (B) Record and make available upon request results of PM CEMS system performance audits, dates and duration of periods when the PM CEMS is out of control to completion of the corrective actions necessary to return the PM CEMS to operation consistent with the site-specific monitoring plan.

[§63.10010(i)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the monitoring requirements in Sections 2.2 B.2.w through 2.2 B.2.cc above are not met.

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

- dd. The Permittee shall keep records of the following:
 - i. Records required under appendix A and/or appendix B to Subpart UUUUU for continuous monitoring of Hg emissions.
 - ii. Each notification and report that is submitted to comply with Subpart UUUUU, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that was submitted, according to the requirements in §63.10(b)(2)(xiv).
 - iii. Records of performance stack tests, fuel analyses, or other compliance demonstrations and performance evaluations, as required in §63.10(b)(2)(viii). [§63.10032(a)]
- ee. For each CEMS, the Permittee shall keep records as follows:
 - i. Records described in §63.10(b)(2)(vi) through (xi).
 - ii. Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3).
 - iii. Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i).

- iv. Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period. [§63.10032(b)]
- ff. For each EGU subject to an emission limit, the Permittee shall keep records of monthly fuel use by each EGU, including the type(s) of fuel and amount(s) used. [§63.10032(d)(1)]
- gg. If the Permittee elects to average emissions consistent with §63.10009 for any constituent, the Permittee must additionally keep a copy of the emissions averaging implementation plan required in §63.10009(f) and(j), all calculations required under §63.10009, including daily records of heat input or steam generation, as applicable, and monitoring records consistent with §63.10022. [§63.10032(e)]
- hh. If the Permittee chooses to rely on paragraph (1) of the definition of “startup” in §63.10042 for any EGU, records must be kept of the occurrence and duration of each startup or shutdown. [§63.10032(f)(1)]
- ii. The Permittee shall keep records of the occurrence and duration of each malfunction of an operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment. [§63.10032(g)]
- jj. The Permittee shall keep records of actions taken during periods of malfunction to minimize emissions in accordance with §63.10000(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [§63.10032(h)]
- kk. The Permittee shall keep records of the type(s) and amount(s) of fuel used during each startup or shutdown. [§63.10032(i)]
- ll. The Permittee shall keep records in a form suitable and readily available for expeditious review, according to §63.10(b)(1). The Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee shall keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records off site for the remaining 3 years. [§63.10033(a) through (c)]
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the recordkeeping requirements in Sections 2.2 B.2.dd through 2.2 B.2.ll above are not met.

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

- mm. The Permittee shall submit the reports required under §63.10031 and, if applicable, the reports required under appendices A and B to the Subpart. The electronic reports required by appendices A and B to the Subpart shall be sent to the Administrator electronically in a format prescribed by the Administrator, as provided in §63.10031. CEMS data (except for PM CEMS and any approved alternative monitoring using a HAP metals CEMS) shall be submitted using EPA's Emissions Collection and Monitoring Plan System (ECMPS) Client Tool. Other data, including PM CEMS data, HAP metals CEMS data, and CEMS performance test detail reports, shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool, the Compliance and Emissions Data Reporting Interface, or alternate electronic file format, all as provided for under §63.10031. [§63.10021(f)]
- nn. The Permittee shall report each instance in which the Permittee did not meet an applicable emissions limit or operating limit in Tables 1 through 4 to 40 CFR 63 Subpart UUUUU or failed to conduct a required tune-up. These instances are deemed violations from the requirements of 40 CFR 63 Subpart UUUUU and shall be reported according to §63.10031. [§63.10021(g)]
- oo. The Permittee shall submit all of the notifications in §§63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h), as applicable, by the dates specified, or according to an agreed upon schedule by NCDAQ [§63.9(i)(2)]. [§63.10030(a)]
- pp. When the Permittee is required to conduct a performance test, the Permittee shall submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin. [§63.10030(d)]
- qq. The Permittee shall submit each report in Table 8 to 40 CFR 63 Subpart UUUUU, as applicable. If the Permittee is required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, the Permittee shall also submit the electronic reports required under appendix A and/or appendix B to the Subpart, at the specified frequency. [§63.10031(a)]
- rr. The Permittee shall submit each report in Table 8 to 40 CFR 63 Subpart UUUUU, as applicable 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. [§63.10031(b)]
- ss. The compliance report shall contain the following:
 - i. The information required by the summary report located in 63.10(e)(3)(vi).
 - ii. The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by EPA or the basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure.

- iii. Indicate whether the Permittee burned new types of fuel during the reporting period. If the Permittee did burn new types of fuel the Permittee must include the date of the performance test where that fuel was in use.
- iv. Include the date of the most recent tune-up for each EGU. The date of the tune-up is the date the tune-up provisions specified in §63.10021(e)(6) and (7) were completed.
- v. A certification.
- vi. If there is a deviation from any emission limit, work practice standard, or operating limit, the Permittee must also submit a brief description of the deviation, the duration of the deviation, emissions point identification, and the cause of the deviation.
- vii. For each excess emissions occurring at an affected source where the Permittee is using a CMS to comply with that emission limit or operating limit, the Permittee shall include the information required in §63.10(e)(3)(v) in the compliance report specified in §63.10031(c). [§63.10031(c) and §63.10031(d)]
- tt. Each affected source that has obtained a Title V operating permit pursuant to 40 CFR Part 70 or Part 71 shall report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 8 of Subpart UUUUU along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. Submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority. [§63.10031(e)]
- uu. On or after July 1, 2018, within 60 days after the date of completing each performance test, the Permittee shall submit the performance test reports required by the Subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov>). The Permittee shall comply with all applicable requirements in §63.10031(f). [§63.10031(f)]
- vv. If the Permittee had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. [§63.10031(g)]

C. Sources Covered Under the Risk Management Plan

1. 15A NCAC 02D .2100: RISK MANAGEMENT PROGRAM

- a. The Permittee is subject to Section 112(r) of the Clean Air Act and shall comply with all applicable requirements in 15A NCAC 02D .2100 “Risk Management Program,” as promulgated in 40 CFR Part 68.

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

- b. The Permittee submitted an update to the Risk Management Plan (RMP) to EPA pursuant to 40 CFR 68.150 on December 12, 2016.
- c. The Permittee shall revise and update the RMP submitted under 40 CFR 68.150 no later than December 12, 2021, and at least every five years after that date or most recent update as required by 40 CFR 68.190(b)(2) through (b)(7), whichever is later.
- d. When the Permittee submits the Annual Compliance Certification required by General Condition P, the Permittee shall include a statement that the facility is in compliance with all requirements of 15A NCAC 02D .2100, including the registration and submission of the risk management plan.

D.

- **Wind erosion, generated ash unloading, relocated ash unloading, and off-specification gypsum unloading at the Ash Landfill (ID No. LAND)**
- **Wind erosion and excavation of ash at the East Ash Basin (ID No. EASHBASIN)**
- **Wind erosion and excavation of ash at the West Ash Basin (ID No. WASHBASIN)**
- **Haul roads for generated and excavated ash to the Ash Landfill (ID No. ES-Haul Roads)**
- **Transfer and unloading of FGD filter cake at Ash (ID No. IS-FGDC)**
- **one diesel-fired emergency generator for emergency power at the Expanded Landfill (ID No. IS-LANDGEN)**

THIS CONDITION IS NOT SHIELDED PURSUANT TO 15A NCAC 02Q .0512(a).

1. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

a. **Monitoring/Recordkeeping/Reporting**

The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements, pursuant to Application 7300029.21A, for the ash basin closure project shown below. The Permittee shall perform the following:

- i. The Permittee shall maintain records of annual emissions in tons per year, on a calendar year basis related to the ash basin closure project, for five years following first placement of ash in the Expanded Landfill after the change is made.
- ii. The Permittee shall submit a report to the director within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).
- iii. The Permittee shall make the information documented and maintained under this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).
- iv. The reported actual emissions (post-construction emissions) for each of the five calendar years will be compared to the projected actual emissions (pre-construction projection) as included below:

Regulated NSR Pollutant	Projected Actual Emissions* (tons per year)
PM	25.71
PM ₁₀	11.85

* The projected actual emissions are not enforceable limitations. If the reported actual emissions exceed the projected actual emissions, the Permittee shall include in its annual report an explanation as to why actual emissions exceeded the projected actual emissions. These projected actual emissions include total post project emissions (including projected actual emissions for existing sources and potential to emit emissions for new sources) as used in the application.

2.3 Permit Shield for Nonapplicable Requirements

This condition is to clarify that issuance of this permit provides no shield from the Act, or regulations promulgated thereunder, including state regulations, pertaining to requirements of the New Source Performance Standards or major or minor new source preconstruction review requirements. The permit may be subject to reopening to include a compliance plan and schedule addressing any past or ongoing noncompliance with those provisions for any affected emission units. [40 CFR 70.6(c)(3), 70.6(f) and 70.7(f)]

The Permittee is shielded from the following non-applicable requirements as of the date of issuance of this permit based on information furnished with all previous applications. This shield does not apply to future modifications or changes in the method of operation: [15A NCAC 02Q .0512(a)(1)(B)]

- A. 15A NCAC 02D .0537 "Control of Mercury Emissions" is not applicable to the boilers because it does not apply to fuel combustion sources.

2.4 Phase II Acid Rain Permit Requirements

ORIS code: 2712

Effective: October 6, 2018 until September 30, 2023

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, the 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. SO₂ Allowance Allocations and NO_x Requirements for each affected unit

a. SO₂ allowances:

SO ₂ allowances (tons), per Tables 2, 3, or 4 of 40 CFR Part 73						
Unit	2010	2011	2012	2013	2014	2015 and onwards
Boiler No. 1	11,108*	11,108*	11,108*	11,108*	11,108*	*
Boiler No. 2	19,676*	19,676*	19,676*	19,676*	19,676*	*
Boiler No. 3A	8,902*	8,902*	8,902*	8,902*	8,902*	*
Boiler No. 3B	8,902*	8,902*	8,902*	8,902*	8,902*	*
Boiler No. 4A	10,425*	10,425*	10,425*	10,425*	10,425*	*
Boiler No. 4B	10,425*	10,425*	10,425*	10,425*	10,425*	*

* The number of allowances allocated to Phase II-affected units by U.S. EPA may change under 40 CFR Part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO₂ allowance allocations identified in this permit (See 40 CFR 72.84).

b. NO_x limits:

- i. Pursuant to 40 CFR 76.11, the Division of Air Quality approves a NO_x emissions averaging plan for these units. Under the plan, the actual Btu-weighted annual average NO_x emission rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NO_x emission rate for the same units had they each been operated, during the same period of time, in compliance with the individual applicable emission limitations under 40 CFR 76.5, 76.6, or 76.7, except that for any early election units, the applicable emission limitations shall be under 40 CFR 76.7. If the designated representative demonstrates that the requirement of the prior sentence (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous emission limitation (ACEL) and annual heat input limit. In addition to the described NO_x compliance plan, this unit shall comply with all other applicable requirements of 40 CFR part 76, including the duty to reapply for a NO_x compliance plan and requirements covering excess emissions.
- ii. If the designated representative cannot make the above demonstration (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) for a year under the plan and if a unit fails to meet the annual average alternative contemporaneous emission limitation listed in the table below, or has an annual heat input less than the amount listed in the table below, then excess emissions of nitrogen oxides occur during the year at this unit. A penalty for excess emissions will be assessed in accordance with 40 CFR 77.6.

Unit	ACEL (lb / MMBtu)	Annual Heat Input Limit (MMBtu / yr)
Boiler No. 1	0.250	10,341,180
Boiler No. 2	0.250	15,794,280
Boiler No. 3A	0.250	9,331,590
Boiler No. 3B	0.250	9,331,590
Boiler No. 4A	0.250	9,855,000
Boiler No. 4B	0.250	9,855,000

C. Comments, Notes and Justifications - None.

D. Phase II Permit Application and Phase II NO_x Compliance Plan (attached)

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

Acid Rain Permit Renewal Application dated April 4, 2018
Phase II NO_x Compliance Plan and Averaging Plan dated June 23, 2015

SECTION 3 - INSIGNIFICANT ACTIVITIES PER 15A NCAC 02Q .0503(8)

Emission Source ID No.	Emission Source Description ^{1,2}
IS-1	No. 2 fuel oil tank; 100,000 gallons
IS-2	No. 2 fuel oil tank; 500,000 gallons
IS-3	Lube oil storage tank; 8,000 gallons for U1 turbine lube oil
IS-4	Lube oil storage tank; 8,000 gallons for U2 turbine lube oil
IS-5	Two lube oil storage tanks; 9,000 gallons each for U3&4 turbine lube oil
IS-6	Bulk lube oil tank; 7,500 gallons at U3&4
IS-7	Batch lube oil tank; 12,000 gallons at U1&2
IS-8	Batch lube oil tank; 15,500 gallons at U3&4
IS-9	Gasoline tank; 1,500 gallons (Dozer shed)
IS-10	One kerosene tank; 250 gallons (Dozer shed)
IS-12	Two kerosene tanks; 1,000 gallons each for fuel oil farm\U3&4
IS-13	Ethylene glycol tank; 6,000 gallons
IS-14	Diesel tank; 250 gallons for IC turbine
IS-15	Diesel tank; 1,000 gallons (Bottom Ash off-road diesel)
IS-16	Diesel tank; 2,000 gallons (Charah shop off-road diesel)
IS-17	Ethylene glycol tank; 265 gallons (Dozer shed)
IS-18	Hydraulic oil storage tank; 500 gallons (Dozer shed)
IS-19	Engine oil storage tank; 500 gallons (Dozer shed)
IS-20	Assorted lube oil storage tanks; 55 to 265 gallons each
IS-21	Two used oil waste separator tanks; 1,000 gallons each
IS-22	Used oil portable tank; 285 gallons
IS-24	Two used oil portable tanks; 300 gallons each
IS-25	Fuel oil storage tank; 280 gallons for emergency fire pump at plant intake
IS-26	IC turbine lube oil reservoir; 1,800 gallons
IS-30	Four cooling towers that do not use chromate chemicals
IS-37	Gypsum conveyor 1A
IS-38	Gypsum emergency conveyor
IS-39	Gypsum conveyor 1B
IS-40	Emergency gypsum pile
IS-41	Mayo gypsum rotary feeder
IS-42	Mayo gypsum conveyor
IS-43	Gypsum conveyor 2
IS-44	Gypsum conveyor 3 (includes 3a and 3b)
IS-45	Off-specification gypsum pile
IS-46	On-specification gypsum pile
IS-47	Gypsum conveyor 4
IS-48	Landfill gypsum loading hopper

Emission Source ID No.	Emission Source Description ^{1,2}
IS-49	Landfill gypsum reclaim belt feeder
IS-50	Diesel tank; 10,500 off road diesel (Dozer shed)
IS-51	Unleaded gasoline tank, 500 gallons (Charah Shop)
IS-52	Diesel tank; 2,000 gallons (Charah Shop on-road diesel)
IS-53	Diesel Tank; 1,000 gallons (Charah Gypsum pad off-road diesel)
IS-54	Used oil shop tank; 125 gallons (Dozer shed)
IS-55	Fuel oil storage tank; 300 gallons for emergency fire pump at U3 cooling tower
IS-56	Portable fuel oil tank; 500 gallons at plant equipment shed
IS-57	Used oil tank; 500 gallons (Dozer shed)
IS-58	Portable kerosene tank; 280 gallons at fuel oil farm
IS-59	Diesel tank; 1,000 gallons at fuel oil farm (on-road diesel)
IS-60	Portable kerosene tank; 270 gallons at U4
IS-61 (MACT ZZZZ, NSPS III)	Leachate tank backup diesel-fired engine (150 kilowatts)
IES-FWP2 (MACT ZZZZ, NSPS III)	one diesel-fired emergency fire water pump (175 horsepower)
IES-31 (MACT ZZZZ)	one No. 2 fuel oil-fired emergency fire water pump (287 horsepower)
IES-32A (MACT ZZZZ)	one propane-fired, spark ignition emergency generator (34 kilowatts)
IES-32B (MACT ZZZZ)	one propane-fired, spark ignition emergency generator (34 kilowatts)
IS-62	Sodium Carbonate addition to Bottom Ash Tank
IS-HCl	Wastewater treatment facility hydrochloric acid storage tank (10,000 gallon capacity) with HCl scrubber
IS-SA	Sodium carbonate (soda ash) addition to bottom ash
IS-FGDC	Transfer and Unloading of FGD Filter Cake at Ash Landfill
IS-LSSP	Limestone Storage Pile (4 acres)
IS-LANDEGEN (MACT ZZZZ, NSPS III)	one diesel-fired emergency generator for emergency power at the Expanded Landfill (300 kilowatts)

¹ 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.

² When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 02D .1100 "Control of Toxic Air Pollutants" or 02Q .0711 "Emission Rates Requiring a Permit."

SECTION 4 - 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.

Attachment 1 to Air Quality Permit 01001T58
Duke Energy Progress, LLC - Roxboro Steam Electric Plant

Phase II Acid Rain Permit Renewal Application and NO_x Averaging Plan

(Dated April 4, 2018)
(Eight pages)

Attachment 2 to Air Quality Permit 01001T58
Duke Energy Progress, LLC - Roxboro Steam Electric Plant

Phase II Acid Rain Permit NO_x Compliance Plan

(Dated June 23, 2015)
(Two pages)