North Carolina Department of Environmental Quality

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

November 9, 2015

Mr. Matthew Fajack
Vice Chancellor for Finance and Administration
University of North Carolina at Chapel Hill
302 South Building
Campus Box 1000
Chapel Hill, North Carolina 27599-1000

Dear Mr. Fajack:

SUBJECT: Air Quality Permit No. 03069T33
Facility ID: 6800043
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
Orange County
Fee Class: Title V

In accordance with your completed Air Quality Permit Application for minor modification of a Title V permit received on August 13, 2015 and application amendment received on October 19, 2015, we are forwarding herewith Air Quality Permit No. 03069T33 to the University of North Carolina at Chapel Hill, 302 South Building, CB#1000, Chapel Hill, North Carolina authorizing the construction and operation of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 2Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

These emission source(s) and/or control device(s) (ID No(s). ES-Gen-13) are listed as a minor modification per 15A NCAC 2Q .0515. The compliance certification as described in General Condition P is required. Unless otherwise notified by NC DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for this source shall become final on January 8, 2016. Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate this source under pursuant to 15A NCAC 2Q .0515(f).

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

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

in its entirety upon receipt of the request for a hearing unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.

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

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of GS 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 GS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in GS 143-215.114A and 143-215.114B.

The PSD minor source baseline dates for PM_{10}, NOx, and SO_2 have been triggered for Orange County. PM_{10} emissions are increased by 0.11 pounds per hour, NOx emissions are increased by 0.75 pounds per hour, and SO_2 emissions are decreased by 0.10 pounds per hour.

This Air Quality Permit shall be effective from November 9, 2015 to April 30, 2016, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Should you have any questions concerning this matter, please contact Ms. Judy Lee at (919) 707-8729 and at judy.lee@ncdenr.gov.

Sincerely,

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

Enclosure

c: Mr. Malachy Donohue
Heather Ceron, EPA Region 4 (Permit Only)
Raleigh Regional Office
Connie Horne (Cover Letter Only)
Central Files

ATTACHMENT
University of North Carolina at Chapel Hill

Insignificant Activities under 15A NCAC 2Q .0503(8)

ID No.	Source Description
IES-51	Sterilizers – Dental School
IES-53	Enclosed sorbent railcar dump pit, located in the Railcar Unloading Building (ID No. 020)
IES-SB-1	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-2	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-3	Water heater (0.300 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-4	Water heater (0.399 MMBtu/hr; natural gas-fired), located at Brooks Hall
IES-SB-5	Water heater (1.442 MMBtu/hr; natural gas-fired), located at Cheek Clark Building
IES-SB-7	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building
IES-SB-8	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building
IES-SB-9	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Henry Stadium
IES-SB-10	Water heater (0.750 MMBtu/hr; natural gas-fired), located at Henry Stadium
IES-SB-11	Water heater (0.450 MMBtu/hr; natural gas-fired), located at Hickerson House
IES-SB-12	Water heater (0.595 MMBtu/hr; natural gas-fired), located at Hill Commercial
IES-SB-13	Water heater (0.270 MMBtu/hr; natural gas-fired), located at Hill Annex
IES-SB-14	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Medical Research Building B
IES-SB-16	Water heater (0.900 MMBtu/hr; natural gas-fired), located at McCaskill Soccer
IES-SB-17	Water heater (0.900 MMBtu/hr; natural gas-fired), located at 135.5 East Franklin

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

ATTACHMENT
Table of Changes

The following changes were made to the University of North Carolina at Chapel Hill's Air Quality Permit No. 03069T32:

Old Page No.	New Page No.	Condition No.	Changes
All	All	Entire Permit	Revised dates, names, permit revision nos.
3	--	Section 1 Table	Removed hot water heater size to 1.05 million Btu per hour maximum heat input (ES-SB-15)
6	6	Section 1 Table	Added footnote for minor modification (pursuant to 2Q.0515) of (ES-Gen-13) replaced with newer/larger diesel-fired engine
6	6	Section 1 Table	Added footnote for NSPS IIII applicability for (ES-Gen-13)
8	--	Section 1 Table	Removed engine (ES-Gen-69)
9	9	Section 1 Table	Add footnote for minor modification (pursuant to 2Q.0515) of (ES-Gen-13) replaced with newer engine
31	31	Section 2.1 G. Source List	Change to Eighty-Two diesel-fired, compression ignition, emergency generators since existing (ES-Gen-13) replaced. Removed One propane-fired, spark ignition, emergency generators
31	--	Section 2.1 G. Table	Remove (ES-Gen-69)
33	--	Table 2.1 G.3-3	Add engine (ES-Gen-13) to table as a new RICE $\leq$ 500 hp
33	--	Table 2.1 G.3-3	Remove engine (ES-Gen-83) from table
37	37	Section 2.1 G.3.s-t	Add/update MACT ZZZZ requirements (ES-Gen-13)
38-40	--	Section 2.1 G.4	Remove NSPS JJJJ due to ES-Gen-13 no longer being Spark Ignition, now subject to NSPS IIII
45	--	Section 2.1 I.	Removed hot water heater size to 1.05 million Btu per hour maximum heat input (ES-SB-15)
55-64	52-62	Section 3	Updated General Conditions & Acronyms with most recent Version (3.7)

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

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date	Expiration Date
03069T33	03069T32	November 9, 2015	April 30, 2016

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 2D and 2Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 2Q, 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:	**University Of North Carolina at Chapel Hill**
Facility ID:	**6800043**
Facility Site Location: **City, County, State, Zip:**	**1120 Estes Drive Extension** **Chapel Hill, Orange County, North Carolina 27599-1650**
Mailing Address: **City, State, Zip:**	**Campus Box 1650** **Chapel Hill, North Carolina 27599-1650**
Application Number: **Complete Application Date:**	**6800043.15C** **October 19, 2015**
Primary SIC Code: **Division of Air Quality,** **Regional Office Address:**	**8221** **Raleigh Regional Office** **3800 Barrett Drive** **Raleigh, North Carolina 27609**

Permit issued this the 9th of November, 2015.

William D. Willets, P.E., Chief, Air 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)

SECTION 3: GENERAL PERMIT CONDITIONS

ATTACHMENTS

List of Acronyms

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:

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
		Boilers and Heaters		
10, 46, 47, 53	ES-001-Boiler #6[a, b] **NSPS, Subpart Db** **2D .1109** **Case by Case MACT**	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI) /torrified wood (non-CISWI)[a] -fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity	CD-004.2 CD-004.1	One bagfilter with 36,614 square feet of filter surface area Calcium carbonate injection system
10, 46, 47, 53	ES-002-Boiler #7[a, b] **NSPS, Subpart Db** **2D .1109** **Case by Case MACT**	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI) /torrified wood (non-CISWI)[a] -fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity	CD-005.2 CD-005.1	One bagfilter with 36,614 square feet of filter surface area Calcium carbonate injection system
19, 53	ES-003-Boiler #8 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 338 million Btu per hour heat input capacity	None	None
22	ES-004-Boiler #9 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity	None	None
22	ES-005-Boiler #10 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity	None	None
44	ES-SB-6 **2D .1109** **Case by Case MACT**	One natural gas-fired boiler; 2.52 million Btu per hour heat capacity	None	None
	One coal handling, conveying, crushing, and storage system consisting of: NSPS, Subpart Y			
26	ES-010.1 **NSPS Y**	One enclosed railcar dump pit	CD-018	Wet spray dust suppression systems (100 gal per min. injection rate in each hopper)
26	ES-010.2 **NSPS Y**	One enclosed railcar dump pit		
26	ES-010.3 **NSPS Y**	One enclosed railcar dump pit		
26	ES-1 **NSPS Y**	One coal silo	CD-011	One bagfilter with 533 square feet of filter surface area
26	ES-2 **NSPS Y**	One coal silo	CD-012	One bagfilter with 533 square feet of filter surface area

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
26	ES-3.1 **NSPS Y**	One silo feed conveyor	CD-019	One bagfilter with 1598 square feet of filter surface area
26	ES-3.2 **NSPS Y**	One silo feed conveyor		
26	ES-3.3 **NSPS Y**	One silo feed conveyor		
26	ES-3.4 **NSPS Y**	One silo feed conveyor		
26	ES-3.5 **NSPS Y**	One silo feed conveyor		
26	ES-010A **NSPS Y**	One coal crusher building	CD-013	One bagfilter with 1330 square feet of filter surface area
One ash handling, storage, and loading system consisting of:				
28	ES-030	One ash storage silo equipped with dry loadout system	CD-031	One bagfilter with 577 square feet of filter surface area
28	ES-030A	Enclosed wet ash loadout system	CD-032	Water injection system (8.64 gal per min. injection rate)
Storage Tanks				
30	ES-T-001	One No. 2 fuel oil storage tank (500,000 gallons capacity)	None	None
30	ES-T-002	One No. 2 fuel oil storage tank (500,000 gallon capacity)	None	None
30	ES-T-003	One No. 2 fuel oil storage tank (184,200 gallon capacity) located at the Manning Drive Steam Plant	None	None
30	ES-T-004	One No. 2 fuel oil storage tank (184,200 gallon capacity) located at the Manning Drive Steam Plant	None	None
Emergency Generators and Fire Pumps				
31, 46, 49	ES-EG#1 **MACT ZZZZ**	One diesel-fired emergency generator (900 kW), located at the EPA Building	None	None
31, 46, 49	ES-EG#2 **MACT ZZZZ**	One diesel-fired emergency generator (1600 kW), located at the Thurston Bowles Building	None	None
31, 46, 49	ES-EG#3 **MACT ZZZZ**	One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building	None	None
31, 46, 49	ES-EG#4 **MACT ZZZZ**	One diesel-fired emergency generator (1000 kW) located at Taylor Hall	None	None
31, 46, 49	ES-EG#5 **MACT ZZZZ**	One diesel-fired emergency generator (910 kW) located at the Neuroscience Research Building	None	None
31, 46, 49	ES-EG#6 **MACT ZZZZ**	One diesel-fired emergency generator (1500 kW) located at the Medical Biomolecular Research Building	None	None
31, 46, 49	ES-EG#7 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,250 kW) located at the Michael Hooker Research Center	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
31, 46, 49	ES-EG#8 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (800 kW) located at Chapman Hall	None	None
31, 46, 49	ES-EG#9 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,000 kW) located at the Caudill Labs	None	None
31, 46, 49	ES-EG#10 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (800 kW) located at Bondurant Hall	None	None
31, 46, 49	ES-EG#11 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,750 kW) located at the Burnett-Womack Building	None	None
31, 46, 49	ES-EG#12 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,250 kW) located at the Mary Ellen Jones Building	None	None
31, 46, 49	ES-EG#13 **MACT ZZZZ*, NSPS IIII, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the Genetic Medicine Building	None	None
31, 46, 49	ES-EG#14 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (900 kW) located at the 440 West Franklin Building	None	None
31, 46, 49	ES-EG#15 **MACT ZZZZ *, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the Rams Head Center	None	None
31, 46, 49	ES-EG#16 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the ITS Building	None	None
31, 46, 49	ES-EG#17 **MACT ZZZZ*, NSP IIII**	One diesel-fired emergency generator (1000 kW) located at the Brinkhous-Bullitt Building	None	None
31, 46, 49	ES-EG#18 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (1000 kW) located at Venable Hall	None	None
31, 46, 49	ES-EG#19 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (2500 kW) located at the Imaging Research Building	None	None
31, 46, 49	ES-EG#20 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (2000 kW) located at the Genomic Science Building	None	None
31, 46, 49	ES-EG#21 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (1,350 kW) located at the Dental Research Building.	None	None
31, 46, 49	ES-Gen-1 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Ackland Art Museum	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
31, 46, 49	ES-Gen-2 **MACT ZZZZ*, NSPS IIII**	Emergency generator (450 kW, diesel-fired), located at Ambulatory Care Center	None	None
31, 46, 49	ES-Gen-3 **MACT ZZZZ**	Emergency generator (30 kW, diesel-fired), located at Avery Dorm	None	None
31, 46, 49	ES-Gen-4 **MACT ZZZZ**	Emergency generator (20 kW, diesel-fired) located at the Cheek/Clark Building	None	None
31, 46, 49	ES-Gen-7 **MACT ZZZZ**	Emergency generator (35 kW, diesel-fired), located at Security Services Building	None	None
31, 46, 49	ES-Gen-8 **MACT ZZZZ**	Emergency generator (350 kW, diesel-fired), located at Carmichael Dorm	None	None
31, 46, 49	ES-Gen-9 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at Carolina Inn	None	None
31, 46, 49	ES-Gen-10 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at the Center for Dramatic Art	None	None
31, 46, 49	ES-Gen-11 **MACT ZZZZ**	Emergency generator (230 kW, diesel-fired), located at Craige Dorm	None	None
31, 46, 49	ES-Gen-12 **MACT ZZZZ, NSPS IIII**	Emergency generator (150 kW, diesel-fired), located at Craige Parking Deck	None	None
31, 33, 37-40, 46	ES-Gen-13*** **MACT ZZZZ* NSPS IIII****	Emergency generator (300 kW, diesel-fired), located at the Davie Hall	None	None
31, 46, 49	ES-Gen-14 **MACT ZZZZ**	Emergency generator (210 kW, diesel-fired), located at the Davis Library	None	None
31, 46, 49	ES-Gen-15 **MACT ZZZZ**	Emergency generator (230 kW, diesel-fired), located at the Ehringhaus Dorm	None	None
31, 46, 49	ES-Gen-18 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Fetzer Gym	None	None
31, 46, 49	ES-Gen-19 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at Fordham Hall	None	None
31, 46, 49	ES-Gen-20 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Cardinal Deck	None	None
31, 46, 49	ES-Gen-21 **MACT ZZZZ**	Emergency generator (40 kW, natural gas-fired), located at the Old Dental School Building	None	None
31, 46, 49	ES-Gen-22 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at Hill Alumni Center	None	None
31, 46, 49	ES-Gen-23 **MACT ZZZZ**	Emergency generator (230 kW, diesel-fired), located at Hinton James Dorm	None	None
31, 46, 49	ES-Gen-24 **MACT ZZZZ**	Emergency generator (80 kW, diesel-fired), located at Kenan Center	None	None
31, 46, 49	ES-Gen-25 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Kenan Field (North)	None	None
31, 46, 49	ES-Gen-26 **MACT ZZZZ**	Emergency generator (30 kW, diesel-fired), located at the Kenan Field (North-new)	None	None
31, 46, 49	ES-Gen-27 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Kenan Field (South)	None	None
31, 46, 49	ES-Gen-28 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at Kenan Football Center	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
31, 46, 49	ES-Gen-29 **MACT ZZZZ**	Emergency generator (45 kW, diesel-fired), located at the Kenan Chemistry Lab	None	None
31, 46, 49	ES-Gen-30 **MACT ZZZZ**	Emergency generator (535 kW, diesel-fired), located at the Lineberger Building Addition	None	None
31, 46, 49	ES-Gen-31 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the McGavran Greenberg Building	None	None
31, 46, 49	ES-Gen-32 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at the MacNider Hall	None	None
31, 46, 49	ES-Gen-33 **MACT ZZZZ**	Emergency generator (175 kW, diesel-fired), located at the McColl Building	None	None
31, 46, 49	ES-Gen-35 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at the Morehead Chemistry Lab	None	None
31, 46, 49	ES-Gen-36 **MACT ZZZZ**	Emergency generator (30 kW, natural gas-fired), located at the Morehead Planetarium	None	None
31, 46, 49	ES-Gen-37 **MACT ZZZZ**	Emergency generator (230 kW, diesel-fired), located at Morrison Dorm	None	None
31, 46, 49	ES-Gen-38 **MACT ZZZZ**	Emergency generator (400 kW, diesel-fired), located at the North Side Chiller	None	None
31, 46, 49	ES-Gen-39 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at Parker Dorm	None	None
31, 46, 49	ES-Gen-40 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at Phillips Hall	None	None
31, 46, 49	ES-Gen-41 **MACT ZZZZ**	Emergency generator (20 kW, diesel-fired), located at Security Services Building	None	None
31, 46, 49	ES-Gen-42 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at the Dean Smith Center	None	None
31, 46, 49	ES-Gen-43 **MACT ZZZZ*, NSPS IIII**	Emergency generator (125 kW, diesel-fired), located at the Medical Research Building B	None	None
31, 46, 49	ES-Gen-44 **MACT ZZZZ**	Emergency generator (275 kW, diesel-fired), located at Tarrson Hall	None	None
31, 46, 49	ES-Gen-45 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Tate-Turner-Kuralt Building	None	None
31, 46, 49	ES-Gen-46 **MACT ZZZZ**	Emergency generator (260 kW, diesel-fired), located at Taylor Student Health Services	None	None
31, 46, 49	ES-Gen-47 **MACT ZZZZ**	Emergency generator (50 kW, diesel-fired), located at Van Hecke-Wettach Hall	None	None
31, 46, 49	ES-Gen-48 **MACT ZZZZ*, NSPS IIII**	Emergency generator (500 kW, diesel-fired), located at Kenan Stadium	None	None
31, 46, 49	ES-Gen-49 **MACT ZZZZ, NSPS IIII**	Emergency generator (230 kW, diesel-fired), located at the Wilson Library Stacks	None	None
31, 46, 49	ES-Gen-50 **MACT ZZZZ**	Emergency generator (600 kW, diesel-fired), located at Beard Hall	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
31, 46, 49	ES-Gen-57 **MACT ZZZZ**	Emergency generator (600 kW, diesel-fired), located at the Bioinformatics Building	None	None
31, 46, 49	ES-Gen-58 **MACT ZZZZ**	Emergency generator (154 kW, diesel-fired), located at the Carrington Building	None	None
31, 46, 49	ES-Gen-59 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at the Glaxo Building	None	None
31, 46, 49	ES-Gen-60 **MACT ZZZZ**	Emergency generator (148 kW, diesel-fired), located at the Health Sciences Library	None	None
31, 46, 49	ES-Gen-61 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at the Knapp Building	None	None
31, 46, 49	ES-Gen-62 **MACT ZZZZ**	Emergency generator (300 kW, diesel-fired), located at the RB House Library	None	None
31, 46, 49	ES-Gen-67 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at Memorial Hall	None	None
31, 46, 49	ES-Gen-68 **MACT ZZZZ**	Emergency generator (105 kW, diesel-fired), located at the Dogwood Deck	None	None
31, 46, 49	ES-Gen-71 **MACT ZZZZ*, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Global Education Building	None	None
31, 46, 49	ES-Gen-72 **MACT ZZZZ*, NSPS IIII**	Emergency generator (30 kW, diesel-fired), located at the Hamilton Hall	None	None
31, 46, 49	ES-Gen-74 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the Joyner, Alexander Dorms	None	None
31, 46, 49	ES-Gen-75 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the McIver, Kenan, Alderman Dorms	None	None
31, 46, 49	ES-Gen-76 **MACT ZZZZ***	Emergency generator (500 kW, diesel-fired), located at the Northeast Chiller	None	None
31, 46, 49	ES-Gen-77 **MACT ZZZZ***	Emergency generator (100 kW, diesel-fired), located at the Jackson Circle Parking Deck	None	None
31, 46, 49	ES-Gen-79 **MACT ZZZZ*, NSPS IIII**	Emergency generator (400 kW, diesel-fired), located at the Carmichael Auditorium	None	None
31, 46, 49	ES-Gen-80 **MACT ZZZZ*, NSPS IIII**	Emergency generator (350 kW, diesel-fired), located at the Hinton James Dorm	None	None
31, 46, 49	ES-Gen-81 **MACT ZZZZ*, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Physicians Office Building	None	None
31, 46, 49	ES-Gen-84 **MACT ZZZZ*, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Bell Tower Parking Deck	None	None
31, 46, 49	ES-FP-1 **MACT ZZZZ*, NSPS IIII**	Fire water pump (77 Hp, diesel-fired), located at Kenan Stadium	None	None
31, 46, 49	ES-FP-2 **MACT ZZZZ**	Fire water pump (110 Hp, diesel-fired), located at McColl Building	None	None
31, 46, 49	ES-FP-3 **MACT ZZZZ**	Fire water pump (110 Hp, diesel-fired), located at Davis Library	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Non-emergency generators (operated 8,760 hours per year)				
39, 46	ES-006 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One No. 2 fuel oil-fired, compression ignition, generator (2,000 kW) located at the Cogeneration Facility	None	None
39, 46	ES-007 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One No. 2 fuel oil-fired, compression ignition, generator (2,000 kW) located at the Cogeneration Facility	None	None

*** MACT Subpart ZZZZ (new classification)**
**** NSPS Subpart IIII (new classification)**
*** These emission source(s) and/or control device(s) **(ID No(s). ES-Gen-13)** are listed as a minor modification per 15A NCAC 2Q .0515. The compliance certification as described in General Condition P is required. Unless otherwise notified by NC DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for this source shall become final on January 8, 2016. Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate this source under pursuant to 15A NCAC 2Q .0515(f).

a. As per the application and for the purpose of NC Toxics applicability, the Permittee is allowed to only combust unadulterated wood/wood pellets and torrified wood generated from unadulterated wood with no process additives, up to 20% of heat input rate of each boiler.
b. As per the application and for the purpose of CISWI NSPS applicability, the Permittee is allowed to only combust wood and torrified wood that is not "solid waste".

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 - Emission Source(s) and Control Devices(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 testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. Two coal/natural gas/No. 2 fuel oil/wood (non-CISWI)[a]/torrified wood (non-CISWI)[a]-fired, circulating fluidized combustion boilers (323.17 million Btu per hour heat input capacity each, ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7, NSPS-Subpart Db) with associated bagfilters (ID Nos. CD-004 and 005)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E_c = [(0.276)(Q_w) + (0.174)(Q_o)]/Q_t$ E_c = emission limit (lbs/million Btu); Q_w = actual wood heat input; Q_o = actual heat input other than wood heat input; and $Q_t = Q_w + Q_o$	15A NCAC 2D .0503
Particulate matter	**Coal alone or in combination with No. 2 fuel, wood, or torrified wood:** 0.051 lbs/million Btu heat input each boiler **Wood and/or Torrified Wood alone or in combination with No. 2 fuel or natural gas:** 0.10 lbs/million Btu heat input each boiler	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.43b (a)(1) and (c)
Particulate matter	Operation standards See Multiple Emission Section 2.2.D	15A NCAC 2D .0614 Compliance Assurance Monitoring
Sulfur dioxide	Firing of coal and fuel oil, alone or in combination 0.2 lbs sulfur dioxide per million Btu heat input -or- Sulfur dioxide emissions shall not be in excess of ten percent of the potential sulfur dioxide emission rate (90 percent reduction) and shall not contain sulfur dioxide in excess of the rate calculated by the following formula $E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$ E_s = sulfur dioxide emission limit (lbs/million Btu) K_a = 1.20 lbs/million Btu K_b = 0.80 lbs/million Btu H_a = heat input from the combustion of coal H_b = heat input from the combustion of oil	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.42b(a)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 2D .0516
Sulfur dioxide	See Multiple Emissions Section 2.2.B	15A NCAC 2D .0501(e)
Sulfur dioxide	See Multiple Emissions Section 2.2.C	15A NCAC 2D .0614 Compliance Assurance Monitoring
Nitrogen dioxide	**Coal-firing only** 0.60 lbs/million Btu heat input	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.44b(a)

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	**Natural gas/No. 2 fuel oil-firing only** 0.10 lbs/million Btu heat input	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db, §60.44b(a)
Nitrogen dioxide	**Combined fuel firing** $E_n = \frac{[(EL_{go}\ H_{go}) + (EL_c\ H_c)]}{H_{go} + H_c}$ E_n = nitrogen oxides emission limit (lbs/million Btu) EL_{go} = 0.10 lbs/million Btu H_{go} = heat input from the combustion of natural gas or distillate fuel (lbs/million Btu) EL_c = 0.60 lbs/million Btu H_c = heat input from the combustion of coal	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db, §60.44b (b)
Nitrogen dioxide	See Multiple Emissions Section 2.2.F	15A NCAC 2D .2400 **(CAIR)**
Hazardous air pollutants	**From coal firing:** • Filterable PM: 0.08 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • Hydrogen Chloride-Equivalent (HCl): 435.5 lbs/hr • CO: 133 ppmvd, corrected to 7% O_2 **From No. 2 fuel oil firing:** • Filterable PM: 0.014 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2 **From wood or torrified wood firing:** • Filterable PM: 0.39 lbs/MMBtu • Mercury (Hg): 5.0e-06 lbs/MMBtu • Hydrogen Chloride-Equivalent (HCl): 435.5 lbs/hr • CO: 834 ppmvd, corrected to 7% O_2	15A NCAC 2D .1109 *[CAA § 112(j)]*
Nitrogen oxides	See Specific Condition 2.1 A.5.	15A NCAC 2D .0530(u)

1. **15A NCAC 2D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emissions of particulate matter from these boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0503 and 15A NCAC 2D .0504]

$$Ec = [(0.276)(Qw) + (0.174)(Qo)]/Qt$$

Where;
Ec = emission limit for combined firing (pound per mmBtu);
Qw = actual wood heat input (including torrified wood);
Qo = actual heat input other than wood heat input; and
Qt = Qw + Qo

Testing [NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [NCAC 2Q .0508(f)]

c. To assure compliance, the Permittee shall follow the NSPS monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 A. 2. f through e. In addition to any other recordkeeping required by 40 CFR 60.48b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas fired during **each month.** The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if the monitoring or record keeping requirements in this Section 2.1 A.1.c are not complied with or these records are not kept.

d. The Permittee shall submit a summary report of the fuel records 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 2D .0524: NSPS 40 CFR PART 60 SUBPART Db

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 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Db, including Subpart A General Provisions. [15A NCAC 2D .0524]

Emission Limitations [15A NCAC 2D .0524]

b. **Particulate Matter** - The maximum particulate emissions from the firing of coal alone or in combination with No. 2 fuel oil, wood and/or torrified wood shall not exceed **0.051 pounds per million Btu heat input.**
The maximum particulate emissions from the firing of wood and/or torrified wood alone or in combination with No. 2 fuel oil and/or natural gas shall not exceed **0.10 pounds per million Btu heat input.**

c. **Sulfur Dioxide** - The maximum sulfur dioxide emissions from the firing of coal and fuel oil, alone or in combination with wood and/or torrified shall not be in excess of **0.2 pounds per million Btu heat input *or*** ten percent of the potential sulfur dioxide emission rate (ninety percent reduction) and shall not contain sulfur dioxide in excess of the rate calculated by the following formula:

$$E_s = \frac{(K_a\ H_a + K_b\ H_b)}{(H_a + H_b)}$$

E_s = sulfur dioxide emission limit (lbs/million Btu heat input)
K_a = 1.20 lbs/million Btu heat input
K_b = 0.80 lbs/million Btu heat input
H_a = heat input from the combustion of coal in million Btu
H_b = heat input from the combustion of oil in million Btu

d. **Nitrogen Dioxide -**
   i. The maximum nitrogen dioxide emissions when firing coal shall not exceed **0.60 pounds per million Btu heat input** for boilers with a low heat release rate.
   ii. The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed **0.10 pounds per million Btu heat input** for boilers with a low heat release rate.
   iii. When firing combined fuels in boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7), compliance is achieved in accordance with the formula listed in 40 CFR 60.44b (b).

e. **Opacity** - When firing coal, No. 2 fuel oil, or natural gas, each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

f. A continuous emissions monitor for sulfur dioxide, nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60, Appendix B "Performance Specifications", and Appendix F "Quality Assurance Procedures." The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the monitoring requirements in this Section 2.1 A.2.f. are not complied with.

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

g. In addition to any other recordkeeping required by 40 CFR 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each day** when firing coal or No. 2 fuel oil. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

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

h. In addition to any other reporting required by 40 CFR 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
   i. Any excess emission reports as measured by the continuous emission monitoring systems (CEMS) and continuous opacity monitoring systems (COMS), by January 30, April 30, July 30, and October 30 of each calendar year for the preceding three-month period. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
   ii. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from each boiler (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) shall not exceed **2.3 pounds per million Btu heat input**. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 A.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

c. In addition to any other recordkeeping required by 40 CFR 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas fired during **each month** in boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the fuel records 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.

4. 15A NCAC 2D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 22, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 23, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)**:

Pollutant	Emission Limits For Each Fuel Fired In Boilers #6 and #7[2]			
	Coal	Wood/Torrified Wood	No. 2 Fuel Oil	Natural Gas
Filterable PM	0.08 lb/MMBtu	0.39 lb/MMBtu	0.014 lb/MMBtu	
Mercury (Hg):	**3.0e-06 lb/MMBtu**	**5.0e-06 lb/MMBtu**	**3.0e-06 lb/MMBtu**	
Hydrogen Chloride-equivalent (HCl)[1]:	**435.5 lbs/hr**	**435.5 lbs/hr**		
Carbon Monoxide (CO): 30-day average corrected to 7% oxygen	**133 ppmvd,**	**834 ppmvd,**	**30 ppmvd,**	**66 ppmvd,**

1. HCl-equivalent is defined by the following equation:

$$E = E_{HCl} + E_{Cl2}*(RfC_{HCl}/RfC_{Cl2})$$

Where:
E = HCl-equivalent emission rate (in lbs/hr);
E_{HCl} = Hydrogen chloride emission rate (in lbs/hr);
E_{Cl2} = Chlorine emission rate (in lbs/hr);
RfC_{HCl} = Reference concentration for HCl (20 $\mu g/m^3$); and
RfC_{Cl2} = Reference concentration for Cl_2 (0.20 $\mu g/m^3$)

2. Weighted Emission Limit Based on Heat Input of Fuel
When two or more fuels are fired in the boiler and each represent at least 10% of the heat input to the boiler, the emission limit shall be proportional to heat input of each fuel. For example, the CO emission limitation, in ppmvd, corrected to 7% O_2, measured on a 30-day average, is calculated as follows:

$$E_{CO} = [(834)(W) + (133)(C) + 30(DFO) + 66(NG)]/(W + C + DFO + NG)$$

Where:
E_{CO} = CO emission limitation in ppmvd, corrected to 7% oxygen
W = heat input of wood and torrified wood in million Btus per hour;
C = heat input of coal in million Btus per hour,
DFO = heat input of distillate No. 2 fuel oil in million Btu per hour; and
NG = heat input of natural gas in million Btus per hour.

c. The emissions limitations for a specific fuel type in Section 2.1. A.4.b. above shall only apply when the Permittee fires at least 10% of that fuel in the boiler on a 12-month rolling average heat input basis. If the Permittee fires less than 10% of a specific fuel in the boiler, the respective emissions limitations and the associated testing, monitoring, and recordkeeping for that particular fuel shall not apply. However, the Permittee shall retain records of the fuels fired in the boiler in accordance with Section 2.1.A.4.u. below. **The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Operating Standards

d. To assure compliance with the filterable PM and mercury limitations, while firing coal/wood the exhaust from the boiler stack shall not be greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

e. To assure compliance with the mercury and HCl-equivalent limitations while firing coal, the Permittee shall maintain the sorbent injection rate at or above the operating limit (on a lbs coal (and/or wood)/lbs sorbent injection basis) set in accordance with Section 2.1.A.4.g. below.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the Permittee does not maintain the sorbent injection rate (in lbs coal(and/or wood) fired/lb sorbent injection) at or above the operating limit (on a lbs coal(and/or wood)/lbs sorbent injection basis) set in accordance with Section 2.1.A.4.g. below.

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

f. No testing is required to demonstrate compliance with the emissions limitations associated with the firing of natural gas and No. 2 fuel oil.

g. Initial Testing Requirement. The Permittee shall conduct an initial compliance test while firing coal within 180 days of the initial compliance date, unless the NC DAQ – SSCB approves a previously conducted performance test as an equivalent compliance demonstration. Testing shall be performed in accordance with General Condition JJ found in Section 3. In addition, the tests shall be consistent with the following test methods, unless otherwise approved by the NC DAQ – SSCB:
The Permittee shall be deemed in non-compliance with 15A NCAC 2D .1109 if the required initial test is not conducted, or if the results of the emissions test exceed the limits in Section 2.1.A.4.b. above.

h. The Permittee shall establish the minimum sorbent injection rate (in lbs coal (and/or wood) fired/lb sorbent injection) during the initial performance test. During the test, the Permittee shall collect sorbent injection rate data every 15 minutes during the entire period of the performance test. The average sorbent injection rate shall be determined for each individual test run in the 3-run test by computing the average of all 15-minute readings taken during each test run.
   i. Except as provided in ii. below, the Permittee shall submit an application for a permit modification within 60 days of approval of the stack test to incorporate the minimum sorbent injection rate into the permit. This modification may be made by administrative amendment.
   ii. If the SSCB approves a prior performance test to establish the sorbent injection rate, the Permittee shall submit an application for a permit modification prior to the initial compliance date for this standard. This modification may be made by administrative amendment.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the minimum sorbent injection rate (in lbs coal(and/or wood) fired/lb sorbent injection) during the initial performance test is not established or the requirements in this Section 2.1 A.4. h. are not complied with.

i. Annual Testing. The Permittee must conduct all applicable performance tests on an annual basis, unless it meets the requirements listed in i. through iii. below. Annual performance tests, if required, must be completed between 11 and 13 months after the previous performance test.
   i. The Permittee may conduct performance tests less often for a given pollutant if the performance tests *for at least 3 consecutive years show the emission rate is less than or equal to 80 percent of the* allowable emission limit. In this case, the Permittee need not conduct a performance test for that pollutant for the next 2 years, but must conduct a performance test during each third year and no more than 36 months after the previous performance test.
   ii. If the affected boiler or process heater continues to remain at or below 80 percent of the allowable emission rate, the Permittee may conduct performance tests every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.
   iii. If a performance test shows emissions at greater than 80% of the allowable limit, the Permittee must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.

The Permittee must report the results of performance test within 60 days after the completion of the performance tests or fuel analyses. This report should also verify that the operating limits for the affected sources have not changed or provide documentation of revised operating parameters.

The Permittee shall be deemed in non-compliance with 15A NCAC 2D .1109 if the required annual tests are not conducted, or if the results of any tests exceed the limits in Section 2.1.A.4.b. above.

j. **Site-Specific Monitoring Plan** [15A NCAC 2Q .0508(f)]
The Permittee must develop a site-specific monitoring plan for each required continuous monitoring system (CMS). The plan shall be submitted to the NC DAQ-SSCB at least 60 days before the initial performance evaluation of the CMS. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the Permittee does not develop a site-specific monitoring plan for each CEM.

Monitoring [15A NCAC 2Q .0508(f)] **For limits associated with Coal and Wood-Firing Only.**

k. The Permittee must install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide and oxygen according to the procedures listed in i. through viii. below. The carbon monoxide and oxygen shall be monitored at the same location at the outlet of the boilers.
   i. The CEMS must be installed, operated, and maintained according to the applicable procedures under Performance Specification (PS) 3 or 4A of 40 CFR 60, Appendix B, and according to the site-specific monitoring plan required in Section 2.1.A.4.j. above.
   ii. Conduct a performance evaluation of each CEMS according to the requirements in 40 CFR 63.8 and according to PS 4A of 40 CFR 60, Appendix B.
   iii. The CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.
   iv. The CEMS data must be reduced as specified in 40 CFR 63.8(g)(2).
   v. The Permittee must calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.
   vi. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.
   vii. For purposes of calculating data averages, the Permittee may not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the boiler or process heater is operating at less than 50 percent of its rated capacity. The Permittee must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.
   viii. A 30-day rolling average emission rate above the applicable emission limitation shall constitute a violation of the standard.

l. The Permittee may install, operate, and maintain an oxygen analyzer system as defined in 40 CFR 63.7575, in lieu of the requirements to install, operate, and maintain a CEMS for carbon monoxide and oxygen in Section 2.1 A.4.k. above.

m. The Permittee must install, operate, certify and maintain the continuous opacity monitoring system (COMS) according to the procedures listed below.
   i. The COMS must be installed, operated, and maintained according to PS 1 of 40 CFR 60, Appendix B.
   ii. Conduct a performance evaluation of the COMS according to the requirements in 40 CFR 63.8 and according to PS 1 of 40 CFR 60, Appendix B.
   iii. As specified in 40 CFR 63.8(c)(4)(i), the COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
   iv. The COMS data must be reduced as specified in 40 CFR 63.8(g)(2).
   v. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.
   vi. *Include in the site-specific monitoring plan, required pursuant to Section 2.1.A.4.j. above,* procedures and acceptance criteria for operating and maintaining the COMS according to the requirements in 40 CFR 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.
   vii. Operate and maintain the COMS according to the requirements in the monitoring plan and the requirements of 40 CFR 63.8(e). Identify periods the COMS is out-of-control including any periods

that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

viii. Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.

n. The Permittee must install, operate, and maintain continuous parameter monitoring systems (CPMS) to monitor sorbent injection rate at the limestone injections systems according to the procedures listed below.
   i. Locate the devices in a position that provide a representative measurement of the total sorbent injection rate.
   ii. Install and calibrate the devices in accordance with manufacturer's procedures and specifications.
   iii. At least annually, calibrate the device in accordance with the manufacturer's procedures and specifications.
   iv. The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. A valid hour of data must have a minimum of four successive cycles of operation.
   v. Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), conduct all monitoring in continuous operation at all times that the affected unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
   vi. For purposes of calculating data averages, the Permittee may not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. The Permittee must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.
   vii. Determine the 3-hour block average of all recorded readings, except as provided in paragraph vi. above.
   viii. Record the results of each inspection, calibration, and validation check.
   ix. Operation below the established minimum operating limits on a 3-hour average basis shall constitute a violation of established operating limits.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the monitoring requirements in Sections 2.1 A.4. k. through n. above are not complied with.

Boiler Inspection and Maintenance [15A NCAC 2Q .0508(f)]
For No. 2 Fuel Oil and Natural Gas-Firing Only

o. If less than 10% coal and less than 10% wood or torrified wood is fired in a boiler on a 12-month average heat input basis and the Permittee has not performed the monitoring in Section 2.1. A.4 k. through n. above, the Permittee shall perform an annual inspection of the boiler and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burners, and clean or replace any components of the burners as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
   iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the boilers are not inspected or the tune-up is not performed or the requirements of this Section 2.1 A.4.o. are not complied with.

p. The results of any required annual burner 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 of each recorded action;
ii. The results of each inspection; and,
iii. The results of any maintenance performed on the boilers.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the required boiler inspection and maintenance records are not maintained.

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

q. Maintain copy of each notification and report required by this standard, including all documentation supporting any Notification of Compliance Status.
r. Maintain records of performance tests or other compliance demonstrations, CMS performance evaluations, and opacity observations.
s. For each required CEMS, CPMS, and COMS, maintain the following records:
   i. All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);
   ii. A record of each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);
   iii. All CMS calibration checks; and,
   iv. All adjustments and maintenance performed on CMS;
   Maintain records of all monitoring data and calculated averages for applicable operating limits, including opacity, carbon monoxide, and sorbent injection rate used to demonstrate compliance with the standard.
t. For each affected source, maintain records of monthly fuel use by each affected source, including the type(s) of fuel fired and amount(s) used.
u. If the Permittee limits the firing of a specific fuel to less than 10% on 12-month average heat input basis, he shall create and retain the following records at least once per calendar month:
   i. Record the fuel use by each affected source, including the type(s) of fuel and amount(s) used, during the previous calendar month; and,
   ii. Calculate the 12-month average heat input from each fuel for each affected source during the previous 12-month period.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the records in Sections 2.1 A.4. q. through u. above are not maintained.

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

v. Notification of Compliance Status. The Permittee must submit a Notification of Compliance Status that meets the requirements of 40 CFR 63.9(h)(2)(ii) before the close of business on the 60th day following the completion of the final required performance test and/or other initial compliance demonstration. The Notification of Compliance Status report must contain the following information, as applicable:
   i. A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.
   ii. *Summary of the results of all performance tests, fuel analyses, and calculations conducted to* demonstrate initial compliance including all established operating limits.
   iii. Identification of whether the facility is complying with the PM emission limit or the alternative TSM emission limit.
   iv. Identification of whether the facility demonstrated compliance with each applicable emission limit through performance testing or fuel analysis.
   v. Identification of whether the facility plans to demonstrate compliance by emissions averaging.
   vi. A certification signed by the Responsible Official that the facility has met all applicable emission limits and work practice standards.
   vii. A summary of the CO emissions monitoring data and the maximum CO emission levels recorded during the performance test to show that the facility has met any applicable work practice standard.
   viii. If the affected source fires only gaseous fuel and/or distillate fuel oil, include a certification of such that is signed by the Responsible Official.
w. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each

calendar year for the preceding six-month period between January and June. The first summary report shall be required on **July 30, 2013**. The report shall include the following:

i. Company name and address;
ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
iii. Date of report and beginning and ending dates of the reporting period;
iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
v. A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable;
vi. A signed statement indicating that no new types of fuel were fired in the affected sources;
vii. Identification of any startup, shutdown, or malfunction events that were reported in accordance with 15A NCAC 2D .0535;
viii. If there are no deviations with this standard, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period;
ix. If there were no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CMSs were out of control during the reporting period; and,
x. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 2D .0530(u): PREVENTION OF SIGNIFICANT DETERIORATION

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements for a project consisting of burning mixture of wood and coal (up to 20% wood/terrified wood and up to 80% coal, both on a heat input basis) in each boiler (ID Nos. ES-001 - Boiler #6 and ES-002 - Boiler #7).
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 A.5.b. through d. below.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

Monitoring/Recordkeeping [15A NCAC 2D .0530(u)]

c. The Permittee shall maintain records of actual emissions of NOx in tons per year on a calendar year basis for five years following the resumption of regular operations after commencement of burning mixture of wood/torrified wood and coal (up to 20% wood/terrified wood and up to 80% coal, both on a heat input basis) in each boiler (ID Nos. ES-001 - Boiler #6 and ES-002 - Boiler #7).
The Permittee shall make the information, documented and maintained in this Section 2.1 A.5.c., available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530(u) if these records are not *maintained*.

Reporting [15A NCAC 2D .0530(u)]

d. The Permittee shall submit a report for NOx emissions to the Director within 60 days after the end of each calendar year during which the records in Section 2.1 A.5.c. must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

The reported actual emissions for each of the five calendar years for NOx will be compared to the projected actual emission as included below:

Pollutant	Projected Actual Emissions* Tons per Year
NOx	599.1

* 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.

B. One natural gas/No. 2 fuel oil-fired boiler (338 million Btu per hour heat input capacity, ID No. ES-003-Boiler #8, NSPS-Subpart Db)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	**Natural gas or No. 2 fuel oil firing** 0.174 lbs/million Btu heat input	15A NCAC 2D .0503
Sulfur dioxide	**No. 2 fuel oil-firing only** Burn low sulfur fuel 0.5 percent sulfur content by weight or less	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.42b (j)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.43b (f) and (g)
Nitrogen dioxide	0.20 lbs/million Btu heat input	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db§60.44b (a)(1)
Nitrogen dioxide	See Multiple Emissions Section 2.2	15A NCAC 2D .2400 **(CAIR)**
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Filterable PM: 0.014 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2	15A NCAC 2D .1109 *[CAA § 112(j)]*

1. 15A NCAC 2D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS - *NATURAL GAS OR NO. 2 FUEL OIL FIRING*

a. Emissions of particulate matter from the combustion of natural gas or No. 2 fuel oil, that are discharged from this boiler (ID No. ES-003-Boiler #8) into the atmosphere shall not exceed **0.174 pounds per million Btu heat input**.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 B. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

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

c. In addition to any other recordkeeping required by 40 CFR §60.48b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas and No. 2 fuel oil fired during **each month** in boiler (ID No. ES-003-Boiler #8). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the fuel records 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 2D .0524: NSPS 40 CFR PART 60 SUBPART Db - *WHEN FIRING NO. 2 FUEL OIL***
   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 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Db, including Subpart A "General Provisions."[15A NCAC 2D .0524]

   Emission Limitations [15A NCAC 2D .0524]
   b. **Sulfur Dioxide** - The maximum sulfur content of No. 2 fuel oil fired in boiler (ID No. ES-003-Boiler #8) shall not exceed **0.5 sulfur percent by weight.**
   c. **Nitrogen Dioxide** - The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed **0.20 pounds per million Btu heat input** for boilers with a high heat release rate.
   d. **Opacity** - When firing No. 2 fuel oil, or natural gas, this boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than **20 percent opacity** (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

   Monitoring [15A NCAC 2Q .0508(f)]
   e. A continuous emissions monitor for nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and Appendix F "Quality Assurance Procedures." The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the monitoring requirements in this Section 2.1 B.2.e. are not complied with.

   Recordkeeping [15A NCAC 2Q .0508(f)]
   f. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each month** when firing No. 2 fuel oil. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

   Reporting [15A NCAC 2Q .0508(f)]
   g. In addition to any other reporting required by 40 CFR § 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
      i. any excess opacity emission reports as measured by the continuous emission monitor (CEM) by January 30, April 30, July 30, and October 30 of each calendar year for the preceding three-month period. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
      ii. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. **15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**
   a. Emissions of sulfur dioxide from boiler (ID No. ES-003-Boiler #8) shall not exceed **2.3 pounds per million Btu heat input when firing natural gas.** Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

   Testing [15A NCAC 2Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 B. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

   Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]
   c. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amount of natural gas fired during **each month** in boiler (ID No. ES-003-Boiler #8). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the fuel records 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.

4. 15A NCAC 2D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 22, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 23, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boiler **(ID No. ES-003-Boiler #8)**:
   i. From No. 2 fuel oil firing:
      (A) Filterable PM: 0.014 lbs/MMBtu
      (B) Mercury (Hg): 3.0e-06 lbs/MMBtu
      (C) Carbon Monoxide (CO): 30 ppmvd, corrected to 7% oxygen
   ii. From natural gas firing:
      (A) Carbon Monoxide (CO): 66 ppmvd, corrected to 7% oxygen

   The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date.

Boiler Inspection and Maintenance [15A NCAC 2Q .0508(f)]

c. The Permittee shall perform an annual inspection of the boiler and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burners, and clean or replace any components of the burners as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
   iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the boiler is not inspected or tune-up is not performed or the requirements of this Section 2.1 B.4.c. are not complied with.

d. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the required boiler inspection and maintenance records are not maintained.

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

e. To assure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in the affected boiler during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained or if the boiler fires a fuel other than natural gas or No. 2 fuel oil.

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

f. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The first summary report shall be required on **July 30, 2013**. The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
   vi. All instances of deviations from the requirements of this permit must be clearly identified.

C. Two natural gas/No. 2 fuel oil-fired boilers (249 million Btu per hour heat input capacity each, ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10, NSPS-Subpart Db) located at the Manning Drive Steam Plant

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	**Natural gas or No. 2 fuel oil firing** 0.164 lbs/million Btu heat input	15A NCAC 2D .0503
Sulfur dioxide	**No. 2 fuel oil-firing only** Burn low sulfur fuel 0.3 percent sulfur content by weight or less	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.42b (j)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db, §60.43b(f) and (g)
Nitrogen dioxide	0.20 lbs/million Btu heat input	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db, §60.44b (a)(1)
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Filterable PM: 0.014 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2	15A NCAC 2D .1109 *[CAA § 112(j)]*

1. 15A NCAC 2D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS - *NATURAL GAS OR NO. 2 FUEL OIL FIRING*

a. Emissions of particulate matter from the combustion of natural gas or No. 2 fuel oil that are discharged from boilers (ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10) into the atmosphere shall not exceed **0.164 pounds per million Btu heat input**. [15A NCAC 2D .0503(a)]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 C. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

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

c. No monitoring, recordkeeping, or reporting is required for particulate emissions from the firing of natural gas or No. 2 fuel oil in any boiler.

2. **15A NCAC 2D .0524: NSPS 40 CFR PART 60 SUBPART Db - *WHEN FIRING NO. 2 FUEL OIL* (For boilers installed after February 28, 2005)**
   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 2D .0524 "New Source Performance Standards" (NSPS) as promulgated in 40 CFR Part 60 Subpart Db, including Subpart A General Provisions.

   Emission Limitations [15A NCAC 2D .0524]
   b. **Sulfur Dioxide** - The maximum sulfur content of No. 2 fuel oil fired in each boiler (ID No. ES-004-Boiler #9 or ES-005-Boiler#10) shall not exceed **0.3 sulfur percent by weight.**

   c. **Nitrogen Dioxide** - The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed **0.20 pounds per million Btu heat input** for boilers with a high heat release rate.

   d. **Particulate** – Boilers (ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10) will burn fuel oil that contains no more than 0.3 weight percent sulfur, or will burn natural gas that does not have a PM standard under §60.43b, and these boilers do not use a post-combustion technology to reduce SO_2 or PM emissions. Therefore, these boilers are not subject to the PM limits under §60.43b(h)(1).

   e. **Opacity** - When firing No. 2 fuel oil, or natural gas, each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than **20 percent opacity** (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

   Monitoring [15A NCAC 2Q .0508(f)]
   f. A continuous emissions monitor for nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and Appendix F "Quality Assurance Procedures."

   The owner or operator of an affected facility who elects to demonstrate that the affected facility combust only very low sulfur oil under §60.42b (j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b.
   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the monitoring requirements in this Section 2.1 A.3.f. are not complied with.

   Recordkeeping [15A NCAC 2Q .0508(f)]
   g. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each month** when firing No. 2 fuel oil. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

   Reporting [15A NCAC 2Q .0508(f)]
   h. In addition to any other reporting required by 40 CFR § 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
      i. Any excess opacity emission reports as measured by the continuous emission monitor (CEM), by *January 30, and July 30 each calendar year for the preceding **six-month period**. If there are no* excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
      ii. The owner or operator of an affected facility who elects to demonstrate that the affected facility combust only very low sulfur oil under §60.42b (j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b.

iii. The owner or operator of each affected facility subject to the sulfur dioxide, particulate matter, and/or nitrogen oxides emissions limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

iv. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES -When firing Natural Gas-

a. Emissions of sulfur dioxide from boiler (ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10) shall not exceed **2.3 pounds per million Btu heat input**. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 C. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of natural gas.

4. 15A NCAC 2D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 22, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 23, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boilers **(ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10)**:

i. From No. 2 fuel oil firing:
(A) Filterable PM: 0.014 lbs/MMBtu
(B) Mercury (Hg): 3.0e-06 lbs/MMBtu
(C) Carbon Monoxide (CO): 30 ppmvd, corrected to 7% oxygen

ii. From natural gas firing:
(A) Carbon Monoxide (CO): 66 ppmvd, corrected to 7% oxygen

The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date.

Boiler Inspection and Maintenance [15A NCAC 2Q .0508(f)]

c. The Permittee shall perform an annual inspection of the boilers and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

i. Inspect the burners, and clean or replace any components of the burners as necessary;

ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,

iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.

iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the boilers are not inspected or tune-up is not performed or requirements of this Section 2.1 C.4.c. are not complied with.

d. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the required boiler inspection and maintenance records are not maintained.

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

e. To assure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in the affected boilers during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained or if either boilers fires a fuel other than natural gas or No. 2 fuel oil.

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

f. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The first summary report shall be required on **July 30, 2013**. The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
   vi. All instances of deviations from the requirements of this permit must be clearly identified.

D. One coal handling, conveying, crushing, and storage system [NSPS] consisting of:

* **Three enclosed railcar dump pits (ID Nos. ES-010.1, 010.2, & 010.3) with associated wet dust suppression systems (100 gallons per minute water injection rate in each hopper, ID No. CD-018),**
* **One coal silo (ID No. ES-1) with associated bagfilter (533 square feet of filter surface area, ID No. CD-011),**
* **One coal silo (ID No. ES-2) with associated bagfilter (533 square feet of filter surface area, ID No. CD-012),**
* **One coal crusher building (ID No. ES-010A) with associated bagfilter (1330 square feet of filter surface area, ID No. CD-013), and**
* **Five silo feed conveyors (ID Nos. ES-3.1, 3.2, 3.3, 3.4, & 3.5) with associated bagfilter (1598 square feet of filter surface area, ID No. CD-019)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate emissions	$E = 4.10 \times P^{0.67}$ $P < 30$ tpy; $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy Where: E = allowable particulate emission rate (lbs/hr) P= process weight rate in tons/hr	15A NCAC 2D .0515
Visible emissions	20 percent opacity	15A NCAC 2D .0524 **40 CFR Part 60, Subpart Y**

1. **15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**
   a. Emissions of particulate matter from the coal handling, conveying, crushing, and storage system shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \qquad P < 30 \text{ tpy; and}$$
$$E = 55.0 \times P^{0.11} - 40 \qquad P \geq 30 \text{ tpy}$$

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

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

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

   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided by the equation in Section 2.1 D. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

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

   c. Particulate matter emissions from the coal handling, conveying, crushing, and storage system shall be controlled by a bagfilters (ID Nos. CD-011, 012, and 013). To assure compliance, the Permittee shall perform the following inspections and maintenance activities:
      i. a **monthly** external visual inspection of the system ductwork and material collection unit for leaks; and
      ii. an **annual** internal inspection of the bagfilter's structural integrity to be performed.

      The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and bagfilters are not inspected and maintained.

   d. The records of inspection and maintenance shall be maintained in a logbook, updated on a monthly basis (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 findings of each inspection; and
      iii. the records of any maintenance performed on the bagfilter.

      The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

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

   e. The Permittee shall submit the records of any maintenance performed on the bagfilters within 30 days of receipt of a written request by the DAQ.
   f. The Permittee shall submit a summary report of 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 2D .0524: 40 CFR PART 60, SUBPART Y - CONTROL OF VISIBLE EMISSIONS**
   a. Visible emissions from the coal handling, conveying, crushing, and storage system shall not be more than **20 percent opacity** when in operation.

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

   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 D. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

c. The Permittee may operate the three enclosed railcar dump pits (ID No. 010) without concurrent operation of the wet spray dust suppression system (100 gallons per minute water injection rate, ID No. 018) during times when the received coal contains sufficient moisture to prevent visible emissions from exceeding **20 percent opacity**. During unloading operations when the wet suppression system is not in use, a currently certified visible emissions observer (EPA Method 9) shall observe the building vent emissions and record observations in a logbook (written or electronic format). The water sprays shall be turned on when any one opacity reading exceeds twenty percent. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the monitoring requirements in this Section 2.1 D. 2.c. are not complied with.

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

d. The records of the monitoring shall be maintained in a logbook, updated on a monthly basis (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 findings 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 records of any corrective actions performed.

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

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

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

E. One ash handling, storage, and loading system consisting of:

* **One ash storage silo equipped with dry loadout system (ID No. ES-030) and associated bagfilter (ID No. CD-031)**
* **One wet loadout system (ID No. ES-030A) with water injection system (ID No. CD-032)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate emissions	$E = 4.10 \times P^{0.67}$ $P < 30$ tpy; $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy Where: E = allowable particulate emission rate in lbs/hr P = process weight rate in tons/hr	15A NCAC 2D .0515
Visible emissions	20 percent opacity	15A NCAC 2D .0521

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from the ash handling, storage, and loading system shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad P < 30 \text{ tpy; and}$$
$$E = 55.0 \times P^{0.11} - 40 \quad P \geq 30 \text{ tpy}$$

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

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

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 E. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

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

c. Particulate matter emissions from the ash storage silo shall be controlled by a bagfilter (ID No. CD-031). To assure compliance, the Permittee shall perform inspections and maintenance consisting of routine bag cleaning and replacement and pulse air system check, as recommended by the manufacturer. In addition to the manufacturer's recommendations, the inspection and maintenance requirement shall include the following:
   i. a **monthly** external visual inspection of the system ductwork and material collection unit for leaks; and
   ii. an **annual** internal inspection of the bagfilters' structural integrity to be performed during the period of seasonal down time.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and bagfilters are not inspected and maintained.

d. The records of inspection and maintenance shall be maintained in a logbook, updated on a monthly basis (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 findings of each inspection; and
   iii. the records of any maintenance performed on the bagfilters.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

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

e. The Permittee shall submit the records of any maintenance performed on the bagfilters within 30 days of receipt of a written request by the DAQ.
f. The Permittee shall submit a summary report of 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.

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

a. Visible emissions from the ash handling, storage, and loading system shall not be more than **20 percent opacity** when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

c. To assure compliance, **once a day when the system is in operation,** the Permittee shall observe the emission points of this source for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission sources is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from this source

are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2610 (Method 9) is below the limit given in Section 2.1 E. 2. a. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

d. The records of the monitoring shall be maintained in a logbook , updated on a monthly basis (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 findings 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 records of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

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

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

F. Four No. 2 fuel oil storage tanks (two with 500,000 gallon capacity each, ID Nos. ES-T-001 & T-002, and two with 184,200 gallon capacity each, ID Nos. ES-T-003 & T-004)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile organic compounds	No applicable requirements	None

G. Eighty-two diesel-fired, compression ignition, emergency generators; Three natural gas-fired, spark ignition, emergency generators; and Three No. 2 fuel oil-fired fire water pumps

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	See Multiple Emissions Section 2.2 A.	15A NCAC 2D .0501(c)
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity each	15A NCAC 2D .0521
Multiple pollutants	See Multiple Emissions Section 2.2 E. (ID Nos. ES-Gen-2, ES-EG#13, ES-EG-#17 to ES-EG-#20, ES-Gen#21, ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, ES-Gen-71, ES-Gen-72, ES-Gen-79 to ES-Gen-81, ES-Gen-84, and ES-FP-1)	15A NCAC 2D .0524 [40 CFR Part 60, Subpart IIII]
Hazardous air pollutants	Operate as an emergency use only engine.	15A NCAC 2D .1111 40 CFR Part 63, Subpart ZZZZ

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous air pollutants	Comply with work practices beginning May 3, 2013 for existing CI emergency generators with a site rating no more than 500 hp and beginning October 19, 2013 for existing SI emergency generators with a site rating no more than 500 hp.	15A NCAC 2D .1111 40 CFR Part 63, Subpart ZZZZ
Hazardous air pollutants	New Stationary RICE with a site rating of equal to or less than 500 brake HP, which commenced construction on or after June 12, 2006, *subject to Regulations under 40 CFR Part 60* must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part. (ID No. ES-Gen-13 only)	15A NCAC 2D .1111 40 CFR Part 63, Subpart ZZZZ [63.6590(c)]

1. **15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**
   a. Emissions of sulfur dioxide from each emergency generator and fire water pump shall not exceed **2.3 pounds per million Btu heat input**. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

   Testing [15A NCAC 2Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 G. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

   Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]
   c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from firing diesel fuel in any emergency generator or fire water pump.

2. **15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**
   a. Visible emissions from the emergency generators and fire water pumps shall not be more than **20 percent opacity** each when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

   Testing [15A NCAC 2Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 G. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

   Monitoring/Recordkeeping/Reporting
   c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of diesel fuel in any emergency generator or fire water pump.

3. **15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines (RICE)**

Table 2.1.G.3-1: New and Reconstructed Emergency RICE > 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#7	Diesel-fired	1250 kW	Michael Hooker Research Center
ES-EG#8	Diesel-fired	800 kW	Chapman Hall
ES-EG#9	Diesel-fired	1000 kW	Caudill Labs
ES-EG#10	Diesel-fired	800 kW	Bondurant Hall
ES-EG#11	Diesel-fired	1750 kW	Burnett-Womack Building
ES-EG#12	Diesel-fired	1250 kW	Mary Ellen Jones Building
ES-EG#13	Diesel-fired	2000 kW	Genetic Medicine Building
ES-EG#14	Diesel-fired	900 kW	440 West Franklin Building
ES-EG#15	Diesel-fired	2000 kW	Rams Head Center
ES-EG#16	Diesel-fired	2000 kW	ITS Building
ES-EG#17	Diesel-fired	1000 kW	Brinkhouse-Bullitt Building
ES-EG#18	Diesel-fired	1000 kW	Venable Hall
ES-EG#19	Diesel-fired	2500 kW	Imaging Research Building
ES-EG#20	Diesel-fired	2000 kW	Genomic Science Building
ES-EG#21	Diesel-fired	1350 kW	Dental Research Building
ES-Gen-2	Diesel-fired	450 kW	Ambulatory Care Center
ES-Gen-48	Diesel-fired	500 kW	Kenan Stadium
ES-Gen-76	Diesel-fired	500 kW	Northeast Chiller
ES-Gen-79	Diesel-fired	400 kW	Carmichael Auditorium

Table 2.1.G.3-2: Existing Emergency RICE > 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#1	Diesel-fired	900 kW	EPA Building
ES-EG#2	Diesel-fired	1600 kW	Thurston Bowles Building
ES-EG#3	Diesel-fired	728 kW	Lineberger Cancer Research Bldg
ES-EG#4	Diesel-fired	1000 kW	Taylor Hall
ES-EG#5	Diesel-fired	910 kW	Neuroscience Research Building
ES-EG#6	Diesel-fired	1500 kW	Medical Biomolecular Research
ES-Gen-30	Diesel-fired	535 kW	Lineberger Building Addition
ES-Gen-38	Diesel-fired	400 kW	North Side Chiller
ES-Gen-40	Diesel-fired	500 kW	Phillips Hall
ES-Gen-50	Diesel-fired	600 kW	Beard Hall
ES-Gen-57	Diesel-fired	600 kW	Bioinformatics Building
ES-Gen-59	Diesel-fired	500 kW	Glaxo Building

Table 2.1.G.3-3: New and Reconstructed Emergency RICE ≤ 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-12	Diesel-fired	150 kW	Craige Parking Deck
ES-Gen-13	Diesel-fired	300 kW	Davie Hall
ES-Gen-43	Diesel-fired	125 kW	Medical Research Building B
ES-Gen-49	Diesel-fired	230 kW	Wilson Library Stacks
ES-Gen-71	Diesel-fired	250 kW	Global Education Building
ES-Gen-72	Diesel-fired	30 kW	Hamilton Hall
ES-Gen-80	Diesel-fired	350 kW	Hinton James Dorm
ES-Gen-81	Diesel-fired	250 kW	Physicians Office Building
ES-Gen-84	Diesel-fired	250 kW	Bell Tower Parking Deck
ES-FP-1	Diesel-fired	77 Hp	Kenan Stadium

Table 2.1.G.3-4: Existing Emergency RICE ≤ 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-1	Diesel-fired	25 kW	Ackland Art Museum
ES-Gen-3	Diesel-fired	30 kW	Avery Dorm
ES-Gen-4	Diesel-fired	20 kW	Cheek/Clark Building
ES-Gen-7	Diesel-fired	35 kW	Security Services Building
ES-Gen-8	Diesel-fired	350 kW	Carmichael Dorm
ES-Gen-9	Diesel-fired	60 kW	Carolina Inn
ES-Gen-10	Diesel-fired	25 kW	Center for Dramatic Art
ES-Gen-11	Diesel-fired	230 kW	Craige Dorm
ES-Gen-14	Diesel-fired	210 kW	Davis Library
ES-Gen-15	Diesel-fired	230 kW	Ehringhaus Dorm
ES-Gen-18	Diesel-fired	150 kW	Fetzer Gym
ES-Gen-19	Diesel-fired	125 kW	Fordham Hall
ES-Gen-20	Diesel-fired	150 kW	Cardinal Deck
ES-Gen-21	Nat. gas- fired	40 kW	Old Dental School Building
ES-Gen-22	Diesel-fired	100 kW	Hill Alumni Center
ES-Gen-23	Diesel-fired	230 kW	Hilton James Dorm
ES-Gen-24	Diesel-fired	80 kW	Kenan Center
ES-Gen-25	Diesel-fired	25 kW	Kenan Field (North)
ES-Gen-26	Diesel-fired	30 kW	Kenan Field (North-New)
ES-Gen-27	Diesel-fired	25 kW	Kenan Field (South)
ES-Gen-28	Diesel-fired	100 kW	Kenan Football Center
ES-Gen-29	Diesel-fired	45 kW	Kenan Chemistry Lab
ES-Gen-31	Diesel-fired	250 kW	McGavran Greenberg Building
ES-Gen-32	Diesel-fired	100 kW	MacNider Hall
ES-Gen-33	Diesel-fired	175 kW	McColl Building
ES-Gen-35	Diesel-fired	100 kW	Morehead Chemistry Lab
ES-Gen-36	Nat. gas-fired	30 kW	Morehead Planetarium
ES-Gen-37	Diesel-fired	230 kW	Morrison Dorm
ES-Gen-39	Diesel-fired	60 kW	Parker Dorm
ES-Gen-41	Diesel-fired	20 kW	Security Services Building

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-42	Diesel-fired	125 kW	Dean Smith Center
ES-Gen-44	Diesel-fired	275 kW	Tarrson Hall
ES-Gen-45	Diesel-fired	150 kW	Tate-Turner-Kuralt Building
ES-Gen-46	Diesel-fired	260 kW	Taylor Student Health Services
ES-Gen-47	Diesel-fired	50 kW	Van Hecke-Wettach Hall
ES-Gen-58	Diesel-fired	154 kW	Carrington Building
ES-Gen-60	Diesel-fired	148 kW	Health Sciences Library
ES-Gen-61	Diesel-fired	60 kW	Knapp Building
ES-Gen-62	Diesel-fired	300 kW	RB House Library
ES-Gen-67	Diesel-fired	125 kW	Memorial Hall
ES-Gen-68	Diesel-fired	105 kW	Dogwood Deck
ES-Gen-74	Diesel-fired	250 kW	Joyner, Alexander Dorms
ES-Gen-75	Diesel-fired	250kW	McIver, Kenan, Alderman Dorms
ES-Gen-77	Diesel-fired	100 kW	Jackson Circle Parking Deck
ES-FP-2	Diesel-fired	110 hp	McColl Building
ES-FP-3	Diesel-fired	110 hp	Davis Library

a. The Permittee shall meet the requirements of 40 CFR 63 Subpart ZZZZ for emergency generators (ID Nos. ES-Gen-12, ES-Gen-13 and ES-Gen-49) by meeting the requirements in 40 CFR 60, Subpart IIII for compression ignition engines. No further requirements shall apply to RICE of the emergency generators (ID Nos. ES-Gen-12, ES-Gen-13 and ES-Gen-49) under 40 CFR 63. [§63.6590(c)]

Initial Notification [40 CFR §63.9]

b. The Permittee shall comply with the initial notification requirements of 40 CFR part 63 Subpart A "General Provisions," according to the applicability of Subpart A to such sources, as identified in Table No. 8 in Subpart ZZZZ, "Applicability of General Provisions to Subpart ZZZZ" for each affected emergency generator and fire water pump no later than 120 days after Initial start-up. The notification requirements do not apply to the existing emergency RICE listed in Tables 2.1.G.3-2 and 2.1.G.3-4 above. [40 CFR §63.6645(a)]

c. In accordance with 40 CFR §63.9 (b)(2), the initial notification shall be submitted not later than 120 calendar days after startup of the emergency generator or fire water pump and shall provide the following information:
   iii. The name and address of the owner or operator;
   iv. The address (i.e., physical location) of the affected source;
   v. An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;
   vi. A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted;
   v. A statement of whether the affected sources are a major source or an area source.

d. The Permittee shall submit the initial notification to the following agencies:
   i. North Carolina Division of Air Quality, Permitting Section,
   ii. North Carolina Division of Air Quality, Regional Office Supervisor, and
   iii. EPA-Region IV.

Recordkeeping Requirement For Applicability Determination [40 CFR §63.10(b)(3)]

e. Stationary emergency RICE with a site rating of more than 500 brake horsepower (hp), for which construction or reconstruction was commenced on or after December 19, 2002 and prior to June 12, 2006, do not have to meet the requirements of subpart ZZZZ and of subpart A of this part

except for the initial notification requirements in 2.1.G.3.b to d above. Stationary emergency RICE with a site rating of more than 500 brake horsepower (hp), for which construction or reconstruction was commenced on or after June 12, 2006 do not have to meet the requirements of subpart ZZZZ and of subpart A of this part except for the initial notification requirements in 2.1.G.3.b to d above and the operating restrictions in 2.1.G.3.e below.
The Permittee shall maintain the applicability determination for exclusion of the emergency RICE listed in Table 2.1.G.3-1 above from the requirements of 40 CFR Part 63, Subpart ZZZZ and Subpart A of this part, on site for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The analyses, or other information, that demonstrates the exemption from the requirements of Subpart ZZZZ and Part A of this Subpart, shall be signed by the person making the determination.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not maintained.

Operating Restrictions. [40 CFR §63.6640 (f)]

f. The Permittee shall operate each emergency stationary ICE in Tables 2.1 G.3-1 through 4 above, according to the requirements in paragraphs (f)(1) through (4) of §63.6640. In order for the engine to be considered an emergency stationary ICE under this Subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of §63.6640, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of §63.6640, the engine will not be considered an emergency engine under this Subpart and shall meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary ICE in emergency situations.

(ii) The Permittee may operate an emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of §63.6640 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of §63.6640 counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(A) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(B) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP–002–3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP–002–3.

(C) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(iii) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per

calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the requirements in this Section 2.1 G.3.f. are not met. [§63.6640(f)]

Compliance Date [40 CFR § 63.6595 (a)]

g. Beginning May 3, 2013, the Permittee shall comply with the operating limits, maintenance, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1.G.3.j. to 2.1.G.3.p. below for the existing compression ignition (CI) emergency engines listed in Table 2.1.G.3-4.

h. Beginning October 19, 2013, the Permittee shall comply with the operating limits, maintenance, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1.G.3.j. to 2.1.G.3.p. below for the existing spark ignition (CI) emergency engines listed in Table 2.1.G.3-4.

Work Practices Applicable to Table 2.1.G.3-4 RICE (except during startup) [§63.6603 and 63.6640;Table 2c]

i. For each existing emergency generator and fire water pump with a site rating no more than 500 hp, the Permittee shall change oil and filter every 500 hours of operation or annually, whichever comes first.

j. An oil analysis program may be used to extend the time allowed in 2.1.G.3.h. above between oil changes. The analysis program must, at a minimum, analyze the (1) total base number, (2) viscosity, and (3) percent water content. An oil change is not required if all three of the following conditions are meet:
   a. the total base number is greater than or equal to 30 percent of the total base number of the oil when new;
   b. the viscosity of the oil has not changed by more than 20 percent from the viscosity of the oil when new; and
   c. the percent water content (by volume) is less than or equal to 0.5.

   If one of the above limits is exceeded, the owner or operator must change the oil within 2 days of receiving the results of the analysis or before commencing operation, whichever is later. If using an oil analysis program to extend the time between oil changes, the owner or operator must keep records of the results of the analysis and the oil changes for the engine and include the analysis program in the maintenance plan for the engine.

k. For each existing emergency generator and fire water pump, the Permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first.

l. For each emergency generator and fire water pump, the Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the requirements in Sections 2.1 G.3.i. through l. above are not met.

Work Practices Applicable to Table 2.1.G.3-4 RICE (during startup) [40 CFR 63.6625(h)]

m. The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes for each existing emergency generator and fire water pump.

Monitoring/Operation/Maintenance Requirements Applicable to Table 2.1.G.3-4 RICE

n. The Permittee shall operate and maintain the existing stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; *OR* develop and follow a site specific maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good practice for minimizing air emissions.

o. The Permittee shall install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the requirements *in Section 2.1 G.3.n. and o. above are not met.*

Recordkeeping/Reporting Requirements

p. The Permittee shall maintain records of the following:
   i. A copy of each notification and report that is submitted to comply with subpart ZZZZ (Note: existing RICE are not required to submit an initial notification).
   ii. The occurrence and duration of each malfunction of each stationary RICE and records of corrective actions taken during periods of malfunction to minimize emissions.
   iii. A description of the maintenance conducted on each stationary RICE.
   iv. The records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in § 63.6640(f)(2)(ii) or (iii) or § 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

q. The Permittee shall keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records must be in a suitable form and be readily available for expeditious review. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the records required in Section 2.1 G.3.p. and q. above are not maintained or the requirements are not met.

r. The Permittee shall submit a semi-annual compliance report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The first report shall be submitted no later than July 30, 2013. The report must contain a description and the corrective actions taken for all deviations from any operating limitation and any malfunction during the reporting period. If there are no deviations from any operating limitations (work practice requirements), provide a statement that there were no deviations during the reporting period.

Applicability [40 CFR 63.6585, 6590(a)(2)(ii)]

s. For this source **(ID No. ES-Gen-13)** (new emergency stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions) the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart ZZZZ, "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines" and Subpart A "General Provisions."

Stationary RICE subject to Regulations under 40 CFR Part 60 [15 A NCAC 2Q. 0508(f)]

t. Pursuant to 40 CFR 63.6590(c)(6), this source **(ID No. ES-Gen-13)** must meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A by meeting the requirements of 40 CFR part 60 Subpart IIII. No further requirements apply for these engines under 40 CFR 63 Subpart ZZZZ and Subpart A.
   If the requirements in condition t. are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

H. Two No. 2 fuel oil-fired, compression ignition, non-emergency generators

ID Number	Source Description	Size of Generator	Location
ES-006 - **MACT**	No. 2 fuel oil	2000 kW maximum output	Cogeneration Facility
ES-007 - **MACT**	No. 2 fuel oil	2000 kW maximum output	Cogeneration Facility

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	See Multiple Emissions Section 2.2.A	15A NCAC 2D .0501(e)
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity each	15A NCAC 2D .0521
Hazardous air pollutants	Work practice standards, emission limits, performance testing	15A NCAC 2D .1111 40 CFR Part 63, Subpart ZZZZ

1. **15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**
   a. Emissions of sulfur dioxide from each emergency generator shall not exceed **2.3 pounds per million Btu heat input**. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

   Testing [15A NCAC 2Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 H. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

   Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]
   a. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from firing No. 2 fuel oil in any generator.

2. **15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**
   a. Visible emissions from the generators (ID Nos. ES-006 and ES-007) shall not be more than **20 percent opacity** each when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

   Testing [15A NCAC 2Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 H. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

   Monitoring/Recordkeeping/Reporting
   c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of No. 2 fuel oil in any generator.

3. **15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For "New" Non-emergency, Compression Ignition, Stationary Reciprocating Internal Combustion Engines**
   - ES-006 (2000 kW)
   - ES-007 (2000 kW)

   a. **General Provisions** [40 CFR §63.6665]
   The Permittee shall comply with the requirements of 40 CFR part 63 Subpart A "General Provisions," according to the applicability of Subpart A to such sources, as identified in Table No. 8 in Subpart ZZZZ, "Applicability Of General Provisions to Subpart ZZZZ".

   b. **Emission Limitations** [40 CFR §63.6600(b)]
      i. Reduce CO emissions by 70 percent or more at 100 percent load plus or minus 10 percent; or
      ii. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 parts per billion by volume (ppbvd) or less at 15 percent O_2.

c. **Operating Limitations (using an oxidation catalyst)** [40 CFR §63.10(b)(3), §63.6600]
   i. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than two inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and
   ii. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 degrees Fahrenheit, and less than or equal to 1350 degrees Fahrenheit.

d. **General Requirements** [40 CFR §63.6605]
   i. You must be in compliance with the emission limitations and operating limitations in this Subpart that apply to you at all times, except during periods of startup, shutdown, and malfunction.
   ii. If you must comply with emission limitations and operation limitations, you must operate and maintain your stationary RICE, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

e. **Initial Performance Test** [40 CFR §63.6610]
   i. You must conduct the initial performance test or other initial compliance demonstrations in Table 4 of this Subpart that apply to you within 180 days after startup. Each performance test must be conducted according to the requirements in 40 CFR §63.7(e). You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR §63.7(e)(1). You must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR §63.7(e)(3). Each test run must last at least 1 hour.
      (A) To comply with the requirement to reduce CO emissions, you must measure the O_2 and CO at the inlet and outlet of the control device using a portable CO and O_2 analyzer.
      (B) Measurements to determining O_2 must be made at the same time as the measurements for CO concentration using ASTM D6522-00. Methods 3A and 10 may be used as alternatives to ASTM D6522-00. The CO concentration must be at 15% percent O_2, on a dry basis.
      (C) To comply with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust, you must:
         (1) Select the sampling port location and the number of traverse points using Method 1 or 1A OF 40 CFR PART 60, APPENDIX A. [§63.7(d)(1)(i)] If using a control device the sampling site must be located at the outlet of the control device.
         (2) Determine the O_2 concentration of the stationary RICE exhaust at the sampling port location using Method 3 or 3A or 3b of 40 CFR Part 60, Appendix A. *Measurements to determine O_2 concentration must be made at the same time and* location as the measurements for formaldehyde concentration.
         (3) Measure moisture content of the stationary RICE exhaust at the sampling port location using Method 4 of 40 CFR Part 60, Appendix A, or Test Method 320 of 40 CFR Part 63, Appendix A or ASTM D 6348-03. Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
         (4) Measure formaldehyde at the exhaust of the stationary RICE using Method 320 or 323 of 40 CFR Part 60, Appendix A, or ASTM D6348-03, provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130. Formaldehyde *concentration must be at 15 percent O_2, on a dry basis. Results of this test* consist of the average of the three 1-hour or longer runs.

If the results of this test are above the limit provided in Section 2.1-H.3.b. above or if the Permittee does not conduct the initial performance test as required in this Section 2.1-H.3.e. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

f. **Monitoring Requirements** [40 CFR §63.6625, §63.6630, §63.6635, and §63.6640]

i. If you are required to install a Continuous Parameter Monitoring System (CPMS) as specified in Table 5 of this Subpart, you must install, operate, and maintain each CPMS according the requirements in §63.8.

ii. You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this Subpart.

iii. You must submit the notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

iv. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously at all times that stationary RICE is operating.

v. You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must however, use all the valid data collected during all other periods.

vi. You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 2a and 2b of this Subpart that apply. These instances are deviations from the emission and operating limitations in this Subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must re-establish the values of the operating parameters measured during the initial performance test. When you re-establish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to you stationary RICE.

vii. During periods of startup, shutdown, and malfunction you must operate in accordance with your startup, shutdown, and malfunction plan. Consistent with §63.7(e)(1), deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the startup, shutdown, and malfunction plan. For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations.

viii. You must also report each instance in which you did not meet the requirements in Table 8 "General Provisions" of this Subpart.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the requirements in Section 2.1 H. 3.f. above are not met.

g. **Recordkeeping** [40 CFR §63.6655 and §63.6650]

i. If you must comply with the emission and operating limitations of this Subpart, you must keep the following records:

(A) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(B) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(C) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

ii. For each CMPS, you must keep following records:

(A) Records described in §63.10(b)(2)(vi) through (ix).

(B) Previous (i.e. superseded) versions of the performance evaluation plan as required §63.8(d)(3).

(C) Requests for alternatives to the relative accuracy test for CPMS as required in 63.8(f)(6)(i), if applicable.

iii. You must keep the records required in Table 6 of this Subpart to show continuous compliance with each emission or operating limitation that applies to you.

iv. Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1). You must keep each record readily accessible in hard copy or electronic form on site for at least 2 years after the date of each occurrence, measure,

maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off-site for the remaining 3 years.

v. Each record shall be kept for five years following the date of occurrence, measurement, maintenance, corrective action, report, or record.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these are not maintained or the requirements in this Section 2.1 H.3.g. are not met.

h. Reporting [40 CFR §63.6645 and §63.6650]

i. You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.

ii. If you start up your new or reconstructed stationary RICE on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this Subpart.

iii. If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

iv. If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this Subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(A) For each initial compliance demonstration required in Table 5 of this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

v. The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

vi. The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

vii. Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

viii. The Compliance report must contain the following information:

(A) Company name and address.

(B) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(C) Date of report and beginning and ending dates of the reporting period.

(D) If you had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in §63.10(d)(5)(i).

(E) If there are no deviations from any emission or operating limitations, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(F) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(G) For each deviation from an emission or operating limitation occurring for a stationary RICE where a CMS is used to comply with the emission and operating limitations in this Subpart, include the following information:

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.
(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.
(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.
(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.
(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.
(9) A brief description of the stationary RICE.
(10) A brief description of the CMS.
(11) The date of the latest CMS certification or audit.
(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(H) Each affected source that has obtained a Title V operating permit pursuant to 40 CFR Part 70 or 71 must 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 7 of this Subpart 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 or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

I. One natural gas-fired boiler (2.52 million Btu per hour heat input capacity, ID No. ES-SB-6)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	Work practices	15A NCAC 2D .1109 *[CAA § 112(j)]*

1. 15A NCAC 2D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. **The initial compliance date for these emission sources and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Inspection and Maintenance [15A NCAC 2Q .0508(f)]

b. The Permittee shall perform an annual inspection of the boiler and the water heater (ID Nos. ES-SB6 and ES-SB15) and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. *Inspect the burners, and clean or replace any components of the burners as necessary;*
   ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
   iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the requirements in this Section 2.1 I.1.b. are not met.

c. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the required inspection and maintenance records are not maintained.

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

d. To assure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in each the affected source during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained or if the boiler or water heater fires a fuel other than natural gas.

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

e. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The first summary report shall be required on **July 30, 2013**. The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
   vi. All instances of deviations from the requirements of this permit must be clearly identified.

2.2 – MULTIPLE EMISSION SOURCES AND SPECIFIC LIMITATIONS AND CONDITIONS

A. 15A NCAC 2D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

In order to ensure that emergency generators (ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48 and ES-Gen-49) do not contribute to an exceedance of the 1-hour NO_2 National Ambient Air Quality Standard (NAAQS); the Permittee may only operate these generators (ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48 and ES-Gen-49) for readiness testing when generators (ID Nos. ES-006 and ES-007) are not operating and when readiness testing is not being performed for any other emergency generator, except ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48 and ES-Gen-49.

In order to ensure compliance with the annual NO_2 NAAQS, non-emergency generators (ID Nos. ES-006 and ES-007) shall not operate for more than 7,500 hours each on a consecutive 12-months basis.

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

1. The Permittee shall maintain operational records sufficient to demonstrate that emergency generators (ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, and ES-Gen-49) have not operated for readiness testing during the concurrent operation of generators (ID Nos. ES-006 and

ES-007) and the performance of readiness testing of any other emergency generator, except ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, and ES-Gen-49. The Permittee shall make these records available to a DAQ authorized representative upon request.

The Permittee shall maintain records of the hours of operation of non-emergency generators (ID Nos. ES-006 and ES-007) on a monthly basis and make these records available to a DAQ authorized representative upon request.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(c) if the above records are not maintained.

B. 15A NCAC 2D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

In order to ensure that the twenty-four hour SO_2 National Ambient Air Quality Standard (NAAQS) is not exceeded, boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) are required to monitor and keep records of SO_2 emissions using a 24-hour block average **when firing coal.**

- ID No. ES-001-Boiler #6
- ID No. ES-002-Boiler #7

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	1.2 lbs/million Btu heat input per 24-hour block average	15A NCAC 2D .0501(c) 40 CFR Part 60, Subpart Db, 60.42b (a)

Monitoring/Recordkeeping

1. The Permittee shall determine sulfur dioxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 60, Subpart A and Subpart Db, Appendix B, and Appendix F. Compliance with sulfur dioxide emission standards shall be determined by averaging the average 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 shall be summed, and the sum shall be divided by the number of operating hours for which valid data exists.

   A minimum of four data points, equally spaced, shall be required to determine a valid hour. Data availability shall be 95 percent on a **yearly** basis. If any 24-hour block average exceeds **1.2 pounds per million Btu heat input (388 pounds of SO_2 per hour)**, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501 (e).

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(c) if the requirements in this Section 2.2. B.1. are not met.

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

2. 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 no later than 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.

C. 15A NCAC 2D .0614: COMPLIANCE ASSURANCE MONITORING (CAM) for Sulfur Dioxide

1. Per 40 CFR 64 and 15A NCAC 2D .0614, the Permittee shall comply with the following.

2. **Background**
   a. Emission Units
      i. Description: Two coal/natural gas/No. 2 fuel oil-fired, circulating fluidized combustion boilers, 323.17 million Btu per hour heat input each.
      ii. Identification: ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7

   b. Applicable Regulation, Emission Limit, and Monitoring Requirements.
      i. Regulations: 15A NCAC 2D .0516 and 15A NCAC 2D .0524 (Subpart Db)
      ii. Emission limits: 2.3 pound SO_2 per million Btu heat input when firing natural gas {15A NCAC 2D .0516}

      1.2 pounds SO_2 per million Btu heat input when firing coal {15A CAC 2D .0524, 40 CFR §60.42b(d)} and 0.2 lbs SO_2 per million Btu heat input or a minimum 90% reduction when firing coal and/or No. 2 fuel oil {15A CAC 2D .0524, amended (February 27, 2006) 40 CFR §60.42b(a)}

3. **Monitoring Approach**
   NSPS, Subpart Db requires that a Continuous Emissions Monitoring System (CEMs) be installed to monitor the SO_2 emissions from boilers, ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7. This monitoring system satisfies the requirements of CAM in accordance with 40 CFR Part 64, §64.3(d)(1).

D. 15A NCAC 2D .0614: COMPLIANCE ASSURANCE MONITORING (CAM) for Particulate

1. Per 40 CFR 64 and 15A NCAC 2D .0614 and until February 3, 2013, the Permittee shall comply with the following: Beginning February 3, 2013, particulate emissions from boilers #6 and #7 (ID No. ES-001 and ES-002) are subject to the requirements in Section 2.1.A.4, 15A NCAC 2D .1109: CAA § 112(j); "Case-by-Case MACT for Boilers & Process Heaters" and no longer subject to CAM.

2. **Background**
   a. Emission Units
      i. Description: Two coal/natural gas/No. 2 fuel oil/wood/torrified wood-fired, circulating fluidized combustion boilers, 323.17 million Btu per hour heat input each.
      ii. Identification: ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7

   b. Applicable Regulation, Emission Limit, and Monitoring Requirements.
      i. Regulations: 15A NCAC 2D .0503 and 15A NCAC 2D .0524 (Subpart Db)
      ii. Emission limits:
      0.051 pounds per million Btu heat input {NSPS, 40 CFR §60.43b(a)(1) –Particulate matter}
      0.174 pounds per million Btu heat input {15A NCAC 2D .0503 –PM_{10}}
      iii. Control Technology: Two bagfilters (ID Nos. CD-004 and CD-005)

3. **Monitoring Approach**. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table:

	1
I. Indicator	Visible emissions
Measurement Approach	Visible emissions from the fabric filter will be monitored continuously using COM system on each boiler

	1
II. Indicator Range	An excursion is defined as visible emissions in amounts greater than or equal to 15%. Excursions trigger an inspection, corrective action, and a reporting requirement.
QIP Threshold	The QIP threshold is six excursions in a 6-month reporting period.
III. Performance Criteria	
A. Data Representativeness	Measurements are being made at the emission point (fabric filter outlet) of each boiler
B. Verification of Operational Status	DAHS
C. QA/QC Practices	The COM systems shall be calibrated, maintained and operated according to 40 CFR 60, Appendix B, PS1.
D. Monitoring Frequency	Data is collected continuously with COM systems.
Data Collection Procedures	Data from the COM system is collected electronically and maintained on the Data Acquisition and Handling System computer along with information on the operating status of the boilers.
Averaging Periods	6-minutes

4. **Justification**

a. Background. The pollutant-specific emission units are the two coal/natural gas/No. 2 fuel oil/wood/torrified wood-fired -fired boilers used to produce steam. The particulate matter emissions from each boiler are controlled by fabric filters with approximately 36,614 square feet of filter area each.

b. Rationale for Selection of Performance Indicators. Visible emissions was selected as the performance indicator as a surrogate for PM and PM10 because it is a good indicator of the proper operation and maintenance of the filter units. When the filter units are operating properly, there will not be any visible emissions in the exhaust outlet. Any increase in visible emissions indicates reduced performance of the filter units, therefore, the presence of visible emissions in levels exceeding or equal to 15% is used as a performance indicator.

c. Rationale for Section of Indicator Ranges. Per operating knowledge of the systems, the facility has selected an indicator range of greater than or equal to 15% opacity. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An increase in visible emissions is indicative of an increase in particulate emissions; and a COMs is a well established monitoring technique for these sources.

The selected QIP threshold for fabric filter visible emissions is six excursions in a 6-month reporting period. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

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

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

E. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS [40 CFR 60 SUBPART IIII]

- **ES-EG#13 (diesel-fired emergency generator, 2000 kW, 2682 hp)**
- **ES-EG#17 (diesel-fired emergency generator, 1000 kW, 1341 hp)**
- **ES-EG#18 (diesel-fired emergency generator, 1000 kW, 1341 hp)**
- **ES-EG#19 (diesel-fired emergency generator, 2500 kW, 3353 hp)**
- **ES-EG#20 (diesel-fired emergency generator, 2000 kW, 2682 hp)**
- **ES-EG#21 (diesel-fired emergency generator, 1350 kW, 1835 hp)**
- **ES-Gen-2 (diesel-fired emergency generator, 450 kW, 603 hp)**
- **ES-Gen-12 (diesel-fired emergency generator, 150 kW, 230 hp)**
- **ES-Gen-13 (diesel-fired emergency generator, 300 kW, 402 hp)**
- **ES-Gen-43 (diesel-fired emergency generator, 125 kW, 170 hp)**
- **ES-Gen-48 (diesel-fired emergency generator, 500 kW, 680 hp)**
- **ES-Gen-49 (diesel-fired emergency generator, 230 kW, 308 hp)**
- **ES-Gen-71 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-Gen-72 (diesel-fired emergency generator, 30 kW, 40 hp)**
- **ES-Gen-79 (diesel-fired emergency generator, 400 kW, 536 hp)**
- **ES-Gen-80 (diesel-fired emergency generator, 350 kW, 469 hp)**
- **ES-Gen-81 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-Gen-84 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-FP-1 (diesel-fired fire water pump, 57 kW, 77 hp)**

1. The Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart IIII, including Subpart A "General Provisions." [15A NCAC 2D .0524]

Emission Standards

2. The Permittee shall comply with the following emission standards:

Emission Standards: (ES-EG#13, #17, #18, #20 and #21)
NMHC and NOx (combined): 6.4 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.20 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-EG#19)
NOx : 9.2 g/kW-hr
CO: 11.4 g/kW-hr
PM: 0.54 g/kW-hr
HC: 1.3 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-43)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 5.0 g/kW-hr
PM: 0.3 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-48, ES-Gen-49, ES-79, ES-Gen-80, ES-Gen-81, and ES-Gen-84)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.2 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-71)
HC: 1.3 g/kW-hr
NOx: 9.2 g/kW-hr
CO: 11.4 g/kW-hr
PM: 0.54 g/kW-hr
[§60.4205(a) and Table 1 to the Subpart IIII]

Emission Standards: (ES-Gen-72)
NMHC and NOx (combined): 9.5 g/kW-hr
CO: 5.5 g/kW-hr
PM: 0.80 g/kW-hr
[§60.4205(a) and Table 1 to the Subpart IIII]

Emission Standards: (ES-FP-1)
NMHC and NOx (combined): 10.5 g/kW-hr
CO: 5.0 g/kW-hr
PM: 0.80 g/kW-hr
[§60.4205(c) and Table 4 to the Subpart IIII]

3. The Permittee shall use diesel fuel in the CI engine of each emergency generator and fire pump with a sulfur content of less than 15 ppm beginning October 1, 2010. [§60.4207, and §80.510(a) and (b)]

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

4. 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 2.2 E. 2. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

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

5. The CI ICE of each emergency generator and fire pump shall be equipped with a non-resettable hour meter prior to startup, if the CI ICE does not meet the standards in §60.4204. If the CI engine of each emergency generator and fire pump is not equipped with a non-resettable hour meter prior to startup, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524. [§60.4209(a)]

6. The Permittee shall operate and maintain each stationary CI ICE that achieves the emission standards in §60.4205 over the entire life of the engine according to the manufacturer's emission-related written instructions or procedures developed by the Permittee that are approved by the engine manufacturer. The Permittee may only change engine settings that are permitted by the manufacturer. The Permittee shall also meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the requirements in this Section are not met. [§60.4206 and §60.4211(a)]

7. If CI ICEs of emergency generators are required to comply with the emission standards in §60.4205(a), or if the CI engine of fire water pump is manufactured prior to the model years in Table 3 to the Subpart and must comply with the emission standards in §60.4205(c), the Permittee shall demonstrate compliance according to one of the methods specified in §60.4211(b) as included below:
(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
(3) Keeping records of engine manufacturer data indicating compliance with the standards.
(4) Keeping records of control device vendor data indicating compliance with the standards.
(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the requirements in this Section 2.2 E.7. are not met.
[§60.4211(b)]

8. The Permittee shall purchase 2007 model year and later emergency CI ICE for emergency generators certified to the emission standards in §§60.4205(b), for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications except as provided in §60.4211(g). If the installed CI ICEs of the above emergency generators are not certified to meet the emission standards in §60.4205(b) or the CI ICEs are not configured according to the manufacturer's emission-related specifications (except as provided in §60.4211(g)), the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.
[§60.4211(c)]

9. The Permittee shall operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of §60.4211. In order for the engine to be considered an emergency stationary ICE under this Subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of §60.4211, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of §60.4211, the engine will not be considered an emergency engine under this Subpart and shall meet all requirements for non-emergency engines.

(A) There is no time limit on the use of emergency stationary ICE in emergency situations.

(B) The Permittee may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of §60.4211 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of §60.4211 counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP–002–3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP–002–3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(C) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of §60.4211, the 50 hours per calendar year for nonemergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(AA)The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(BB)The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(CC)The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(DD)The power is provided only to the facility itself or to support the local transmission and distribution system.

(EE)The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the requirements in this Section 2.2. E.9. are not met.
[§60.4211(f]

10. If the Permittee does not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, the Permittee shall demonstrate compliance *as follows:*

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated,

and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the requirements in this Section 2.2 E.10. are not met.
[§60.4211(g)]

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

11. Starting with the emergency engine model year 2011, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the Permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The Permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if these records are not maintained. [§60.4214(b)]

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

12. No initial notification under §60.7 is required for emergency stationary CI internal combustion engines. [§60.4214(b)]

13. If the Permittee operates the emergency stationary CI ICE with a maximum engine power of 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4211(f)(2)(ii) and (iii), or that operates for the purposes specified in §60.4211(f)(3)(i), the Permittee shall submit an annual report according to the requirements in paragraphs (d)(1) through (3) of §60.4214. [§60.4214(d)]

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

F. 15A NCAC 2D .2400 "Clean Air Interstate Rule" (CAIR)

1. The ozone season allocations of nitrogen oxide allowances shall be determined by the US EPA. The emissions of nitrogen oxides of a source shall not exceed the number of allowances that it has in its compliance account established and administered in accordance with 15A NCAC 2D .2408.

2. Emission measurement requirements:
   - Emission measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NOx Ozone Season source with its emissions limitation according to 40 CFR 96.306(c).

3. Excess Emissions:
   - The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

Monitoring/Reporting/Recordkeeping [15A NCAC 2D .2407]

4. The owner or operator of a CAIR unit shall comply with the monitoring, recordkeeping,and reporting requirements in:
   - 40 CFR 96.306(b) and (e) and in 40 CFR Part 96, Subpart HHHH for each CAIR Ozone Season NOx unit.

Trading Program and Banking [15A NCAC 2D .2408]

5. The United States Environmental Protection Agency shall administer the allowance tracking system according to the procedures in:
   - 40 CFR Part 96, Subpart FFFF and Subpart GGGG for ozone season nitrogen oxides.

6. The owners and operators of each source covered under this Section shall have a compliance account in the EPA administered tracking system that satisfies the requirements of:
   - 40 CFR 96.351 for ozone season nitrogen oxides.

7. Any person may apply to open a general account to hold and transfer allowances by using the procedures and meeting the requirements in:
   - 40 CFR 96.351(b) for ozone season nitrogen oxides and may close that account using the procedures in 40 CFR 96.357.

8. Allowance transfers:
   - Any person who has a compliance or general account established under 40 CFR 96.351 may transfer allowances using the procedures in 40 CFR 96.360.

9. Persons with accounts shall submit information to EPA following the requirements of:
   - 40 CFR 96.352 for ozone season nitrogen oxides.

10. Any person who has a compliance account or a general account may bank allowances for future use or transfer under:
    - 40 CFR 96.355 for ozone season nitrogen oxides.

11. The appeal procedures for decisions of the Administrator are set forth in:
    - 40 CFR 96.308 for ozone season nitrogen oxides.

SECTION 3 - GENERAL CONDITIONS (version 3.7 09/21/15)

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

A. **General Provisions** [NCGS 143-215 and 15A NCAC 2Q .0508(i)(16)]

1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 2D and 2Q.
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 2Q .0507(k) and .0508(i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environmental Quality upon request.

C. **Severability Clause** [15A NCAC 2Q .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 2Q .0507(e) and 2Q .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 2Q .0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

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

G. **Permit Modifications**

1. Administrative Permit Amendments [15A NCAC 2Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 2Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 2Q .0524 and 2Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 2Q.0524 and 2Q .0505.
3. Minor Permit Modifications [15A NCAC 2Q .0515]

The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 2Q .0515.

4. Significant Permit Modifications [15A NCAC 2Q .0516]
   The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 2Q .0516.
5. Reopening for Cause [15A NCAC 2Q .0517]
   The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 2Q .0517.

H. **Changes Not Requiring Permit Modifications**

1. Reporting Requirements
   Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
   a. changes in the information submitted in the application;
   b. changes that modify equipment or processes; or
   c. changes in the quantity or quality of materials processed.

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

2. Section 502(b)(10) Changes [15A NCAC 2Q .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 2Q .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 2Q .0523(c)]
   To the extent that emissions trading is allowed under 15A NCAC 2D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 2Q .0523(c).

I.A. ***Reporting Requirements for Excess Emissions and Permit Deviations***

[15A NCAC 2D .0535(f) and 2Q .0508(f)(2)]

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

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

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 2D .0535 as follows:
   a. Pursuant to 15A NCAC 2D .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 2D .0535(f)(3).

Permit Deviations

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

I.B. **Other Requirements under 15A NCAC 2D .0535**

The Permittee shall comply with all other applicable requirements contained in 15A NCAC 2D .0535, including 15A NCAC 2D .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 2D .0535(c)(1) through (7).
2. 15A NCAC 2D .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 2Q .0508(e) and 2Q .0513(b)]
This 15A NCAC 2Q .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 2Q .0500 renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 2Q .0512(b)(1), this 15A NCAC 2Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 2Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 2Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 2Q .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 2Q .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 2Q .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 2Q .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 2Q .0508(f) and 2Q .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 2Q .0508(n)]
The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the

preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent; and
4. the method(s) used for determining the compliance status of the source during the certification period.

Q. **Certification by Responsible Official** [15A NCAC 2Q .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 2Q .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 2Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 2Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 2Q .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 2Q .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 2Q .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 2Q .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 2Q .0508(i)(10)]
1. The Permittee shall pay all fees in accordance with 15A NCAC 2Q .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 2Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 2Q .0207]
The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 2Q .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 2Q .0107 and 2Q. 0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 2Q .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 2Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 2Q .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 2Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 2Q .0505 and .0507]
The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 2Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History** [15A NCAC 2Q .0507(d)(4)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. ***Refrigerant Requirements (Stratospheric Ozone and Climate Protection)*** *[15A NCAC 2Q .0501(e)]*
1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall 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 2Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

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

FF. **Title IV Allowances** [15A NCAC 2Q .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 2D .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 2D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 2D .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 2D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 2D .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 2D .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 2Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 2D. 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 2D .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:
      (1) 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.
      (2) Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
      (3) Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
   b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 2D .2600 has precedence over all other tests.

KK. **Reopening for Cause** [15A NCAC 2Q .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 2Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 2Q .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 2Q .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 2Q .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. During operation the monitoring recordkeeping and reporting requirements as prescribed by the permit shall be implemented within the monitoring period.

MM. **Fugitive Dust Control Requirement** [15A NCAC 2D .0540] - STATE ENFORCEABLE ONLY

As required by 15A NCAC 2D .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 2D .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 2Q.0501 and .0523]

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

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

OO. **Third Party Participation and EPA Review** [15A NCAC 2Q .0521, .0522 and .0525(7)]

For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 2Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Acronyms

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

Air Quality
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

SHEILA C. HOLMAN
Director

June 16, 2016

Mr. Matthew Fajack
Vice Chancellor for Finance and Administration
University of North Carolina at Chapel Hill
302 South Building
Campus Box 1000
Chapel Hill, North Carolina 27599-1000

Dear Mr. Fajack:

SUBJECT: Air Quality Permit No. 03069T34
Facility ID: 6800043
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
Orange County
Fee Class: Title V

In accordance with your completed Air Quality Permit Application for minor modification of a Title V permit received on March 15, 2016, we are forwarding herewith Air Quality Permit No. 03069T34 to the University of North Carolina at Chapel Hill, 302 South Building, CB#1000, Chapel Hill, North Carolina authorizing the construction and operation of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 2Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

This emission source (ID No. ES-Gen-67) is listed as a minor modification per 15A NCAC 2Q .0515. The compliance certification as described in General Condition P is required. Unless otherwise notified by NC DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for this source shall become final on August 16, 2016. Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate this source under pursuant to 15A NCAC 2Q .0515(f).

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

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

in its entirety upon receipt of the request for a hearing unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.

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

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of GS 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 GS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in GS 143-215.114A and 143-215.114B.

Orange County has triggered increment tracking under PSD for PM-10, NOx, and SO_2. This modification will result in an increase in PM_{10} emissions of 0.18 pounds per hour, NOx emissions of 3.10 pounds per hour, and SO_2 emissions of 0.0063 pounds per hour.

This Air Quality Permit shall be effective from June 16, 2016 and shall expire on the earlier of March 31, 2021 or the renewal of Permit No. 03069T33 has been issued or denied. Should you have any questions concerning this matter, please contact Kevin Godwin at (919) 707-8480.

Sincerely,

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

Enclosure

c: Mr. Malachy Donohue
Heather Ceron, EPA Region 4 (Permit Only)
Patrick Butler, Supervisor, Raleigh Regional Office
Connie Horne (Cover Letter Only)
Central Files

ATTACHMENT
University of North Carolina at Chapel Hill

Insignificant Activities under 15A NCAC 2Q .0503(8)

ID No.	Source Description
IES-51	Sterilizers – Dental School
IES-53	Enclosed sorbent railcar dump pit, located in the Railcar Unloading Building (ID No. 020)
IES-SB-1	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-2	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-3	Water heater (0.300 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-4	Water heater (0.399 MMBtu/hr; natural gas-fired), located at Brooks Hall
IES-SB-5	Water heater (1.442 MMBtu/hr; natural gas-fired), located at Cheek Clark Building
IES-SB-7	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building
IES-SB-8	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building
IES-SB-9	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Henry Stadium
IES-SB-10	Water heater (0.750 MMBtu/hr; natural gas-fired), located at Henry Stadium
IES-SB-11	Water heater (0.450 MMBtu/hr; natural gas-fired), located at Hickerson House
IES-SB-12	Water heater (0.595 MMBtu/hr; natural gas-fired), located at Hill Commercial
IES-SB-13	Water heater (0.270 MMBtu/hr; natural gas-fired), located at Hill Annex
IES-SB-14	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Medical Research Building B
IES-SB-16	Water heater (0.900 MMBtu/hr; natural gas-fired), located at McCaskill Soccer
IES-SB-17	Water heater (0.900 MMBtu/hr; natural gas-fired), located at 135.5 East Franklin

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

ATTACHMENT
Table of Changes

The following changes were made to the University of North Carolina at Chapel Hill's Air Quality Permit No. 03069T33:

Page No.	Section	Description of Changes
All	Global	Revised dates, names, permit revision nos.
All	Global	Updated permit language to most recent permit shell version (v4.3).
4 – 8	Section 1 Table	Corrected size listing for emergency generators as noted in the application (6800043.16A).
8	Section 1 Table	Included replacement 400 kW emergency generator (ES-Gen-67).
9	Section 1 Table	Included (ES-Gen-67) in footnote pertaining to NSPS IIII applicability.
9	Section 1 Table	Added footnote pertaining to minor modification under 15A NCAC 02Q .0515 for (ES-Gen-67).
31	2.1 G.	Included new emergency generator (ES-GEN-67) in table as being subject to 15A NCAC 02D .0524 (NSPS Subpart IIII).
32	2.1 G.3.	Corrected size listings for emergency generators as noted in the application (6800043.16A).
32	Table 2.1 G.3-1	Included (ES-Gen-67) in table as a new RICE > 500 hp.
44	2.2 A.	Included (ES-Gen-67) in condition pertaining to 15A NCAC 02D .0501(c).
47	2.2 E.	Included (ES-Gen-67) in NSPS Subpart IIII condition.
53	3	Updated General Conditions to most recent shell version (v4.0).

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

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date	Expiration Date
03069T34	N/A	June 16, 2016*	March 31, 2021**

*The effective date listed above applies only to changes made as a result of this modification. All other terms and conditions of this permit are applicable as of the issuance date.
**This permit shall expire on the earlier of March 31, 2021 or the renewal of Permit No. 03069T33 has been issued or denied.

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 2D and 2Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 2Q, 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:	**University Of North Carolina at Chapel Hill**
Facility ID:	**6800043**
Facility Site Location: **City, County, State, Zip:**	**1120 Estes Drive Extension** **Chapel Hill, Orange County, North Carolina 27599-1650**
Mailing Address: **City, State, Zip:**	**Campus Box 1650** **Chapel Hill, North Carolina 27599-1650**
Application Number: **Complete Application Date:**	**6800043.16A** **March 15, 2016**
Primary SIC Code: **Division of Air Quality,** **Regional Office Address:**	**8221** **Raleigh Regional Office** **3800 Barrett Drive** **Raleigh, North Carolina 27609**

Permit issued this the 16th of June, 2016.

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

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

SECTION 2: SPECIFIC LIMITATIONS AND CONDITIONS

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

SECTION 3: GENERAL PERMIT CONDITIONS

ATTACHMENTS
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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:

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
		Boilers and Heaters		
10, 44	ES-001-Boiler #6[a, b] **NSPS, Subpart Db** **2D .1109** **Case by Case MACT**	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI) /torrified wood (non-CISWI)[a] -fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity	CD-004.2 CD-004.1	One bagfilter with 36,614 square feet of filter surface area Calcium carbonate injection system
10, 44	ES-002-Boiler #7[a, b] **NSPS, Subpart Db** **2D .1109** **Case by Case MACT**	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI) /torrified wood (non-CISWI)[a] -fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity	CD-005.2 CD-005.1	One bagfilter with 36,614 square feet of filter surface area Calcium carbonate injection system
20	ES-003-Boiler #8 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 338 million Btu per hour heat input capacity	None	None
23	ES-004-Boiler #9 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity	None	None
23	ES-005-Boiler #10 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity	None	None
43	ES-SB-6 **2D .1109** **Case by Case MACT**	One natural gas-fired boiler; 2.52 million Btu per hour heat capacity	None	None
	One coal handling, conveying, crushing, and storage system consisting of: NSPS, Subpart Y			
26	ES-010.1 **NSPS Y**	One enclosed railcar dump pit	CD-018	Wet spray dust suppression systems (100 gal per min. injection rate in each hopper)
26	ES-010.2 **NSPS Y**	One enclosed railcar dump pit		
26	ES-010.3 **NSPS Y**	One enclosed railcar dump pit		
26	ES-1 **NSPS Y**	One coal silo	CD-011	One bagfilter with 533 square feet of filter surface area
26	ES-2 **NSPS Y**	One coal silo	CD-012	One bagfilter with 533 square feet of filter surface area

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
26	ES-3.1 **NSPS Y**	One silo feed conveyor	CD-019	One bagfilter with 1598 square feet of filter surface area
26	ES-3.2 **NSPS Y**	One silo feed conveyor		
26	ES-3.3 **NSPS Y**	One silo feed conveyor		
26	ES-3.4 **NSPS Y**	One silo feed conveyor		
26	ES-3.5 **NSPS Y**	One silo feed conveyor		
26	ES-010A **NSPS Y**	One coal crusher building	CD-013	One bagfilter with 1330 square feet of filter surface area
One ash handling, storage, and loading system consisting of:				
28	ES-030	One ash storage silo equipped with dry loadout system	CD-031	One bagfilter with 577 square feet of filter surface area
28	ES-030A	Enclosed wet ash loadout system	CD-032	Water injection system (8.64 gal per min. injection rate)
Storage Tanks				
30	ES-T-001	One No. 2 fuel oil storage tank (500,000 gallons capacity)	None	None
30	ES-T-002	One No. 2 fuel oil storage tank (500,000 gallon capacity)	None	None
30	ES-T-003	One No. 2 fuel oil storage tank (184,200 gallon capacity) located at the Manning Drive Steam Plant	None	None
30	ES-T-004	One No. 2 fuel oil storage tank (184,200 gallon capacity) located at the Manning Drive Steam Plant	None	None
Emergency Generators and Fire Pumps				
31, 44	ES-EG#1 **MACT ZZZZ**	One diesel-fired emergency generator (900 kW), located at the EPA Building	None	None
31, 44	ES-EG#2 **MACT ZZZZ**	One diesel-fired emergency generator (1600 kW), located at the Thurston Bowles Building	None	None
31, 44	ES-EG#3 **MACT ZZZZ**	One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building	None	None
31, 44	ES-EG#4 **MACT ZZZZ**	One diesel-fired emergency generator (1000 kW) located at Taylor Hall	None	None
31, 44	ES-EG#5 **MACT ZZZZ**	One diesel-fired emergency generator (910 kW) located at the Neuroscience Research Building	None	None
31, 44	ES-EG#6 **MACT ZZZZ**	One diesel-fired emergency generator (1500 kW) located at the Medical Biomolecular Research Building	None	None
31, 44	ES-EG#7 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,250 kW) located at the Michael Hooker Research Center	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
31, 44	ES-EG#8 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (800 kW) located at Chapman Hall	None	None
31, 44	ES-EG#9 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,000 kW) located at the Caudill Labs	None	None
31, 44	ES-EG#10 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (800 kW) located at Bondurant Hall	None	None
31, 44	ES-EG#11 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,750 kW) located at the Burnett-Womack Building	None	None
31, 44	ES-EG#12 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,250 kW) located at the Mary Ellen Jones Building	None	None
31, 44	ES-EG#13 **MACT ZZZZ*, NSPS IIII, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the Genetic Medicine Building	None	None
31, 44	ES-EG#14 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (900 kW) located at the 440 West Franklin Building	None	None
31, 44	ES-EG#15 **MACT ZZZZ *, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the Rams Head Center	None	None
31, 44	ES-EG#16 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the ITS Building	None	None
31, 44	ES-EG#17 **MACT ZZZZ*, NSP IIII**	One diesel-fired emergency generator (1,000 kW) located at the Brinkhous-Bullitt Building	None	None
31, 44	ES-EG#18 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (1000 kW) located at Venable Hall	None	None
31, 44	ES-EG#19 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (2500 kW) located at the Imaging Research Building	None	None
31, 44	ES-EG#20 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (2000 kW) located at the Genomic Science Building	None	None
31, 44	ES-EG#21 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (1,250 kW) located at the Dental Research Building.	None	None
31, 44	ES-Gen-1 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Ackland Art Museum	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
31, 44	ES-Gen-2 **MACT ZZZZ*, NSPS IIII**	Emergency generator (500 kW, diesel-fired), located at Ambulatory Care Center	None	None
31, 44	ES-Gen-3 **MACT ZZZZ**	Emergency generator (30 kW, diesel-fired), located at Avery Dorm	None	None
31, 44	ES-Gen-4 **MACT ZZZZ**	Emergency generator (20 kW, diesel-fired) located at the Cheek/Clark Building	None	None
31, 44	ES-Gen-7 **MACT ZZZZ**	Emergency generator (35 kW, diesel-fired), located at Security Services Building	None	None
31, 44	ES-Gen-8 **MACT ZZZZ**	Emergency generator (350 kW, diesel-fired), located at Carmichael Dorm	None	None
31, 44	ES-Gen-9 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at Carolina Inn	None	None
31, 44	ES-Gen-10 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at the Center for Dramatic Art	None	None
31, 44	ES-Gen-11 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Craige Dorm	None	None
31, 44	ES-Gen-12 **MACT ZZZZ, NSPS IIII**	Emergency generator (150 kW, diesel-fired), located at Craige Parking Deck	None	None
31, 44	ES-Gen-13*** **MACT ZZZZ* NSPS IIII****	Emergency generator (300 kW, diesel-fired), located at the Davie Hall	None	None
31, 44	ES-Gen-14 **MACT ZZZZ**	Emergency generator (210 kW, diesel-fired), located at the Davis Library	None	None
31, 44	ES-Gen-15 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the Ehringhaus Dorm	None	None
31, 44	ES-Gen-18 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Fetzer Gym	None	None
31, 44	ES-Gen-19 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at Fordham Hall	None	None
31, 44	ES-Gen-20 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Cardinal Deck	None	None
31, 44	ES-Gen-21 **MACT ZZZZ**	Emergency generator (40 kW, natural gas-fired), located at the Old Dental School Building	None	None
31, 44	ES-Gen-22 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at Hill Alumni Center	None	None
31, 44	ES-Gen-23 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Hinton James Dorm	None	None
31, 44	ES-Gen-24 **MACT ZZZZ**	Emergency generator (80 kW, diesel-fired), located at Kenan Center	None	None
31, 44	ES-Gen-25 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Kenan Field (North)	None	None
31, 44	ES-Gen-26 **MACT ZZZZ**	Emergency generator (30 kW, diesel-fired), located at the Kenan Field (North-new)	None	None
31, 44	ES-Gen-27 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Kenan Field (South)	None	None
31, 44	ES-Gen-28 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at Kenan Football Center	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
31, 44	ES-Gen-29 **MACT ZZZZ**	Emergency generator (45 kW, diesel-fired), located at the Kenan Chemistry Lab	None	None
31, 44	ES-Gen-30 **MACT ZZZZ**	Emergency generator (535 kW, diesel-fired), located at the Lineberger Building Addition	None	None
31, 44	ES-Gen-31 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the McGavran Greenberg Building	None	None
31, 44	ES-Gen-32 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at the MacNider Hall	None	None
31, 44	ES-Gen-33 **MACT ZZZZ**	Emergency generator (175 kW, diesel-fired), located at the McColl Building	None	None
31, 44	ES-Gen-35 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at the Morehead Chemistry Lab	None	None
31, 44	ES-Gen-36 **MACT ZZZZ**	Emergency generator (30 kW, natural gas-fired), located at the Morehead Planetarium	None	None
31, 44	ES-Gen-37 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Morrison Dorm	None	None
31, 44	ES-Gen-38 **MACT ZZZZ**	Emergency generator (400 kW, diesel-fired), located at the North Side Chiller	None	None
31, 44	ES-Gen-39 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at Parker Dorm	None	None
31, 44	ES-Gen-40 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at Phillips Hall	None	None
31, 44	ES-Gen-41 **MACT ZZZZ**	Emergency generator (20 kW, diesel-fired), located at Security Services Building	None	None
31, 44	ES-Gen-42 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at the Dean Smith Center	None	None
31, 44	ES-Gen-43 **MACT ZZZZ*, NSPS IIII**	Emergency generator (125 kW, diesel-fired), located at the Medical Research Building B	None	None
31, 44	ES-Gen-44 **MACT ZZZZ**	Emergency generator (275 kW, diesel-fired), located at Tarrson Hall	None	None
31, 44	ES-Gen-45 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Tate-Turner-Kuralt Building	None	None
31, 44	ES-Gen-46 **MACT ZZZZ**	Emergency generator (260 kW, diesel-fired), located at Taylor Student Health Services	None	None
31, 44	ES-Gen-47 **MACT ZZZZ**	Emergency generator (50 kW, diesel-fired), located at Van Hecke-Wettach Hall	None	None
31, 44	ES-Gen-48 **MACT ZZZZ*, NSPS IIII**	Emergency generator (500 kW, diesel-fired), located at Kenan Stadium	None	None
31, 44	ES-Gen-49 **MACT ZZZZ, NSPS IIII**	Emergency generator (230 kW, diesel-fired), located at the Wilson Library Stacks	None	None
31, 44	ES-Gen-50 **MACT ZZZZ**	Emergency generator (600 kW, diesel-fired), located at Beard Hall	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
31, 44	ES-Gen-57 **MACT ZZZZ**	Emergency generator (600 kW, diesel-fired), located at the Bioinformatics Building	None	None
31, 44	ES-Gen-58 **MACT ZZZZ**	Emergency generator (230 kW, diesel-fired), located at the Carrington Building	None	None
31, 44	ES-Gen-59 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at the Glaxo Building	None	None
31, 44	ES-Gen-60 **MACT ZZZZ**	Emergency generator (148 kW, diesel-fired), located at the Health Sciences Library	None	None
31, 44	ES-Gen-61 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at the Knapp Building	None	None
31, 44	ES-Gen-62 **MACT ZZZZ**	Emergency generator (300 kW, diesel-fired), located at the RB House Library	None	None
31, 44	ES-Gen-67**** **MACT ZZZZ*, NSPS IIII****	Emergency generator (400 kW, diesel-fired), located at Memorial Hall	None	None
31, 44	ES-Gen-68 **MACT ZZZZ**	Emergency generator (105 kW, diesel-fired), located at the Dogwood Deck	None	None
31, 44	ES-Gen-71 **MACT ZZZZ*, NSPS IIII**	Emergency generator (110 kW, diesel-fired), located at the Global Education Building	None	None
31, 44	ES-Gen-72 **MACT ZZZZ*, NSPS IIII**	Emergency generator (30 kW, diesel-fired), located at the Hamilton Hall	None	None
31, 44	ES-Gen-74 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the Joyner, Alexander Dorms	None	None
31, 44	ES-Gen-75 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the McIver, Kenan, Alderman Dorms	None	None
31, 44	ES-Gen-76 **MACT ZZZZ***	Emergency generator (500 kW, diesel-fired), located at the Northeast Chiller	None	None
31, 44	ES-Gen-77 **MACT ZZZZ***	Emergency generator (100 kW, diesel-fired), located at the Jackson Circle Parking Deck	None	None
31, 44	ES-Gen-79 **MACT ZZZZ*, NSPS IIII**	Emergency generator (300 kW, diesel-fired), located at the Carmichael Auditorium	None	None
31, 44	ES-Gen-80 **MACT ZZZZ*, NSPS IIII**	Emergency generator (300 kW, diesel-fired), located at the Hinton James Dorm	None	None
31, 44	ES-Gen-81 **MACT ZZZZ*, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Physicians Office Building	None	None
31, 44	ES-Gen-84 **MACT ZZZZ*, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Bell Tower Parking Deck	None	None
31, 44	ES-FP-1 **MACT ZZZZ*, NSPS IIII**	Fire water pump (77 Hp, diesel-fired), located at Kenan Stadium	None	None
31, 44	ES-FP-2 **MACT ZZZZ**	Fire water pump (110 Hp, diesel-fired), located at McColl Building	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
31, 46, 49	ES-FP-3 **MACT ZZZZ**	Fire water pump (110 Hp, diesel-fired), located at Davis Library	None	None
Non-emergency generators (operated 8,760 hours per year)				
38, 44	ES-006 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One No. 2 fuel oil-fired, compression ignition, generator (2,000 kW) located at the Cogeneration Facility	None	None
38, 44	ES-007 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One No. 2 fuel oil-fired, compression ignition, generator (2,000 kW) located at the Cogeneration Facility	None	None

*** MACT Subpart ZZZZ (new classification)**

**** NSPS Subpart IIII (new classification)**

*** This emission source (ID No. ES-Gen-13) is listed as a minor modification per 15A NCAC 2Q .0515. The compliance certification as described in General Condition P is required. Unless otherwise notified by NC DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for this source shall become final on January 8, 2016. Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate this source under pursuant to 15A NCAC 2Q .0515(f).

**** This emission source (ID Nos. ES-Gen-67) is listed as a minor modification per 15A NCAC 02Q .0515. The compliance certification as described in General Condition P is required. Unless otherwise notified by NC DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for this source shall become final on (60 days after issue date). Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate this source under pursuant to 15A NCAC 02Q .0515(f).

a. As per the application and for the purpose of NC Toxics applicability, the Permittee is allowed to only combust unadulterated wood/wood pellets and torrified wood generated from unadulterated wood with no process additives, up to 20% of heat input rate of each boiler.

b. As per the application and for the purpose of CISWI NSPS applicability, the Permittee is allowed to only combust wood and torrified wood that is not "solid waste".

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 - Emission Source(s) and Control Devices(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 testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. Two coal/natural gas/No. 2 fuel oil/wood (non-CISWI)[a]/torrified wood (non-CISWI)[a]-fired, circulating fluidized combustion boilers (323.17 million Btu per hour heat input capacity each, ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7, NSPS-Subpart Db) with associated bagfilters (ID Nos. CD-004 and 005)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E_c = [(0.276)(Q_w) + (0.174)(Q_o)]/Q_t$ E_c = emission limit (lbs/million Btu); Q_w = actual wood heat input; Q_o = actual heat input other than wood heat input; and $Q_t = Q_w + Q_o$	15A NCAC 2D .0503
Particulate matter	**Coal alone or in combination with No. 2 fuel, wood, or torrified wood:** 0.051 lbs/million Btu heat input each boiler **Wood and/or Torrified Wood alone or in combination with No. 2 fuel or natural gas:** 0.10 lbs/million Btu heat input each boiler	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.43b (a)(1) and (c)
Particulate matter	Operation standards See Multiple Emission Section 2.2.D	15A NCAC 2D .0614 Compliance Assurance Monitoring
Sulfur dioxide	Firing of coal and fuel oil, alone or in combination 0.2 lbs sulfur dioxide per million Btu heat input -or- Sulfur dioxide emissions shall not be in excess of ten percent of the potential sulfur dioxide emission rate (90 percent reduction) and shall not contain sulfur dioxide in excess of the rate calculated by the following formula $E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$ E_s = sulfur dioxide emission limit (lbs/million Btu) K_a = 1.20 lbs/million Btu K_b = 0.80 lbs/million Btu H_a = heat input from the combustion of coal H_b = heat input from the combustion of oil	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.42b(a)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 2D .0516
Sulfur dioxide	See Multiple Emissions Section 2.2.B	15A NCAC 2D .0501(e)
Sulfur dioxide	See Multiple Emissions Section 2.2.C	15A NCAC 2D .0614 Compliance Assurance Monitoring
Nitrogen dioxide	**Coal-firing only** 0.60 lbs/million Btu heat input	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.44b(a)

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	**Natural gas/No. 2 fuel oil-firing only** 0.10 lbs/million Btu heat input	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db, §60.44b(a)
Nitrogen dioxide	**Combined fuel firing** $E_n = \frac{[(EL_{go}\ H_{go}) + (EL_c\ H_c)]}{H_{go} + H_c}$ E_n = nitrogen oxides emission limit (lbs/million Btu) EL_{go} = 0.10 lbs/million Btu H_{go} = heat input from the combustion of natural gas or distillate fuel (lbs/million Btu) EL_c = 0.60 lbs/million Btu H_c = heat input from the combustion of coal	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db, §60.44b (b)
Nitrogen dioxide	See Multiple Emissions Section 2.2.F	15A NCAC 2D .2400 **(CAIR)**
Hazardous air pollutants	**From coal firing:** • Filterable PM: 0.08 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • Hydrogen Chloride-Equivalent (HCl): 435.5 lbs/hr • CO: 133 ppmvd, corrected to 7% O_2 **From No. 2 fuel oil firing:** • Filterable PM: 0.014 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2 **From wood or torrified wood firing:** • Filterable PM: 0.39 lbs/MMBtu • Mercury (Hg): 5.0e-06 lbs/MMBtu • Hydrogen Chloride-Equivalent (HCl): 435.5 lbs/hr • CO: 834 ppmvd, corrected to 7% O_2	15A NCAC 2D .1109 *[CAA § 112(j)]*
Nitrogen oxides	See Specific Condition 2.1 A.5.	15A NCAC 2D .0530(u)

1. **15A NCAC 2D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emissions of particulate matter from these boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0503 and 15A NCAC 2D .0504]

$$Ec = [(0.276)(Qw) + (0.174)(Qo)]/Qt$$

Where;
Ec = emission limit for combined firing (pound per mmBtu);
Qw = actual wood heat input (including torrified wood);
Qo = actual heat input other than wood heat input; and
Qt = Qw + Qo

Testing [NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [NCAC 2Q .0508(f)]

c. To assure compliance, the Permittee shall follow the NSPS monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 A. 2. f through e. In addition to any other recordkeeping required by 40 CFR 60.48b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas fired during **each month.** The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if the monitoring or record keeping requirements in this Section 2.1 A.1.c are not complied with or these records are not kept.

d. The Permittee shall submit a summary report of the fuel records 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 2D .0524: NSPS 40 CFR PART 60 SUBPART Db

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 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Db, including Subpart A General Provisions. [15A NCAC 2D .0524]

Emission Limitations [15A NCAC 2D .0524]

b. **Particulate Matter** - The maximum particulate emissions from the firing of coal alone or in combination with No. 2 fuel oil, wood and/or torrified wood shall not exceed 0.051 pounds per million Btu heat input.
The maximum particulate emissions from the firing of wood and/or torrified wood alone or in combination with No. 2 fuel oil and/or natural gas shall not exceed 0.10 pounds per million Btu heat input.

c. **Sulfur Dioxide** - The maximum sulfur dioxide emissions from the firing of coal and fuel oil, alone or in combination with wood and/or torrified shall not be in excess of 0.2 pounds per million Btu heat input ***or*** ten percent of the potential sulfur dioxide emission rate (ninety percent reduction) and shall not contain sulfur dioxide in excess of the rate calculated by the following formula:

$$E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$$

E_s = sulfur dioxide emission limit (lbs/million Btu heat input)
K_a = 1.20 lbs/million Btu heat input
K_b = 0.80 lbs/million Btu heat input
H_a = heat input from the combustion of coal in million Btu
H_b = heat input from the combustion of oil in million Btu

d. **Nitrogen Dioxide -**
   i. The maximum nitrogen dioxide emissions when firing coal shall not exceed 0.60 pounds per million Btu heat input for boilers with a low heat release rate.
   ii. The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.10 pounds per million Btu heat input for boilers with a low heat release rate.
   iii. When firing combined fuels in boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7), compliance is achieved in accordance with the formula listed in 40 CFR 60.44b (b).

e. **Opacity** - When firing coal, No. 2 fuel oil, or natural gas, each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

f. A continuous emissions monitor for sulfur dioxide, nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60, Appendix B "Performance Specifications", and Appendix F "Quality Assurance Procedures." The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the monitoring requirements in this Section 2.1 A.2.f. are not complied with.

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

g. In addition to any other recordkeeping required by 40 CFR 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each day** when firing coal or No. 2 fuel oil. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

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

h. In addition to any other reporting required by 40 CFR 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
   i. Any excess emission reports as measured by the continuous emission monitoring systems (CEMS) and continuous opacity monitoring systems (COMS), by January 30, April 30, July 30, and October 30 of each calendar year for the preceding three-month period. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
   ii. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from each boiler (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 A.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

c. In addition to any other recordkeeping required by 40 CFR 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas fired during **each month** in boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the fuel records 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.

4. 15A NCAC 2D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 22, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 23, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)**:

Pollutant	Emission Limits For Each Fuel Fired In Boilers #6 and #7[2]			
	Coal	Wood/Torrified Wood	No. 2 Fuel Oil	Natural Gas
Filterable PM	0.08 lb/MMBtu	0.39 lb/MMBtu	0.014 lb/MMBtu	
Mercury (Hg):	**3.0e-06 lb/MMBtu**	**5.0e-06 lb/MMBtu**	**3.0e-06 lb/MMBtu**	
Hydrogen Chloride-equivalent (HCl)[1]:	**435.5 lbs/hr**	**435.5 lbs/hr**		
Carbon Monoxide (CO): 30-day average corrected to 7% oxygen	**133 ppmvd,**	**834 ppmvd,**	**30 ppmvd,**	**66 ppmvd,**

1. HCl-equivalent is defined by the following equation:

$$E = E_{HCl} + E_{Cl2}*(RfC_{HCl}/RfC_{Cl2})$$

Where:
E = HCl-equivalent emission rate (in lbs/hr);
E_{HCl} = Hydrogen chloride emission rate (in lbs/hr);
E_{Cl2} = Chlorine emission rate (in lbs/hr);
RfC_{HCl} = Reference concentration for HCl (20 $\mu g/m^3$); and
RfC_{Cl2} = Reference concentration for Cl_2 (0.20 $\mu g/m^3$)

2. Weighted Emission Limit Based on Heat Input of Fuel
When two or more fuels are fired in the boiler and each represent at least 10% of the heat input to the boiler, the emission limit shall be proportional to heat input of each fuel. For example, the CO emission limitation, in ppmvd, corrected to 7% O_2, measured on a 30-day average, is calculated as follows:

$$E_{CO} = [(834)(W) + (133)(C) + 30(DFO) + 66(NG)]/(W + C + DFO + NG)$$

Where:
E_{CO} = CO emission limitation in ppmvd, corrected to 7% oxygen
W = heat input of wood and torrified wood in million Btus per hour;
C = heat input of coal in million Btus per hour,
DFO = heat input of distillate No. 2 fuel oil in million Btu per hour; and
NG = heat input of natural gas in million Btus per hour.

c. The emissions limitations for a specific fuel type in Section 2.1. A.4.b. above shall only apply when the Permittee fires at least 10% of that fuel in the boiler on a 12-month rolling average heat input basis. If the Permittee fires less than 10% of a specific fuel in the boiler, the respective emissions limitations and the associated testing, monitoring, and recordkeeping for that particular fuel shall not apply. However, the Permittee shall retain records of the fuels fired in the boiler in accordance with Section 2.1.A.4.u. below. **The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Operating Standards

d. To assure compliance with the filterable PM and mercury limitations, while firing coal/wood the exhaust from the boiler stack shall not be greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

e. To assure compliance with the mercury and HCl-equivalent limitations while firing coal, the Permittee shall maintain the sorbent injection rate at or above the operating limit (on a lbs coal (and/or wood)/lbs sorbent injection basis) set in accordance with Section 2.1.A.4.g. below.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the Permittee does not maintain the sorbent injection rate (in lbs coal(and/or wood) fired/lb sorbent injection) at or above the operating limit (on a lbs coal(and/or wood)/lbs sorbent injection basis) set in accordance with Section 2.1.A.4.g. below.

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

f. No testing is required to demonstrate compliance with the emissions limitations associated with the firing of natural gas and No. 2 fuel oil.

g. Initial Testing Requirement. The Permittee shall conduct an initial compliance test while firing coal within 180 days of the initial compliance date, unless the NC DAQ – SSCB approves a previously conducted performance test as an equivalent compliance demonstration. Testing shall be performed in accordance with General Condition JJ found in Section 3. In addition, the tests shall be consistent with the following test methods, unless otherwise approved by the NC DAQ – SSCB:
The Permittee shall be deemed in non-compliance with 15A NCAC 2D .1109 if the required initial test is not conducted, or if the results of the emissions test exceed the limits in Section 2.1.A.4.b. above.

h. The Permittee shall establish the minimum sorbent injection rate (in lbs coal (and/or wood) fired/lb sorbent injection) during the initial performance test. During the test, the Permittee shall collect sorbent injection rate data every 15 minutes during the entire period of the performance test. The average sorbent injection rate shall be determined for each individual test run in the 3-run test by computing the average of all 15-minute readings taken during each test run.
   i. Except as provided in ii. below, the Permittee shall submit an application for a permit modification within 60 days of approval of the stack test to incorporate the minimum sorbent injection rate into the permit. This modification may be made by administrative amendment.
   ii. If the SSCB approves a prior performance test to establish the sorbent injection rate, the Permittee shall submit an application for a permit modification prior to the initial compliance date for this standard. This modification may be made by administrative amendment.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the minimum sorbent injection rate (in lbs coal(and/or wood) fired/lb sorbent injection) during the initial performance test is not established or the requirements in this Section 2.1 A.4. h. are not complied with.

i. Annual Testing. The Permittee must conduct all applicable performance tests on an annual basis, unless it meets the requirements listed in i. through iii. below. Annual performance tests, if required, must be completed between 11 and 13 months after the previous performance test.
   i. The Permittee may conduct performance tests less often for a given pollutant if the performance tests for at least 3 consecutive years show the emission rate is less than or equal to 80 percent of the allowable emission limit. In this case, the Permittee need not conduct a performance test for that pollutant for the next 2 years, but must conduct a performance test during each third year and no more than 36 months after the previous performance test.
   ii. If the affected boiler or process heater continues to remain at or below 80 percent of the allowable emission rate, the Permittee may conduct performance tests every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.
   iii. If a performance test shows emissions at greater than 80% of the allowable limit, the Permittee must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.

   The Permittee must report the results of performance test within 60 days after the completion of the performance tests or fuel analyses. This report should also verify that the operating limits for the affected sources have not changed or provide documentation of revised operating parameters.

   The Permittee shall be deemed in non-compliance with 15A NCAC 2D .1109 if the required annual tests are not conducted, or if the results of any tests exceed the limits in Section 2.1.A.4.b. above.

j. **Site-Specific Monitoring Plan** [15A NCAC 2Q .0508(f)]
The Permittee must develop a site-specific monitoring plan for each required continuous monitoring system (CMS). The plan shall be submitted to the NC DAQ-SSCB at least 60 days before the initial performance evaluation of the CMS. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the Permittee does not develop a site-specific monitoring plan for each CEM.

Monitoring [15A NCAC 2Q .0508(f)] **For limits associated with Coal and Wood-Firing Only.**

k. The Permittee must install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide and oxygen according to the procedures listed in i. through viii. below. The carbon monoxide and oxygen shall be monitored at the same location at the outlet of the boilers.
   i. The CEMS must be installed, operated, and maintained according to the applicable procedures under Performance Specification (PS) 3 or 4A of 40 CFR 60, Appendix B, and according to the site-specific monitoring plan required in Section 2.1.A.4.j. above.
   ii. Conduct a performance evaluation of each CEMS according to the requirements in 40 CFR 63.8 and according to PS 4A of 40 CFR 60, Appendix B.
   iii. The CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.
   iv. The CEMS data must be reduced as specified in 40 CFR 63.8(g)(2).
   v. The Permittee must calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.
   vi. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.
   vii. For purposes of calculating data averages, the Permittee may not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the boiler or process heater is operating at less than 50 percent of its rated capacity. The Permittee must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.
   viii. A 30-day rolling average emission rate above the applicable emission limitation shall constitute a violation of the standard.

l. The Permittee may install, operate, and maintain an oxygen analyzer system as defined in 40 CFR 63.7575, in lieu of the requirements to install, operate, and maintain a CEMS for carbon monoxide and oxygen in Section 2.1 A.4.k. above.

m. The Permittee must install, operate, certify and maintain the continuous opacity monitoring system (COMS) according to the procedures listed below.
   i. The COMS must be installed, operated, and maintained according to PS 1 of 40 CFR 60, Appendix B.
   ii. Conduct a performance evaluation of the COMS according to the requirements in 40 CFR 63.8 and according to PS 1 of 40 CFR 60, Appendix B.
   iii. As specified in 40 CFR 63.8(c)(4)(i), the COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
   iv. The COMS data must be reduced as specified in 40 CFR 63.8(g)(2).
   v. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.
   vi. Include in the site-specific monitoring plan, required pursuant to Section 2.1.A.4.j. above, procedures and acceptance criteria for operating and maintaining the COMS according to the requirements in 40 CFR 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.
   vii. Operate and maintain the COMS according to the requirements in the monitoring plan and the requirements of 40 CFR 63.8(e). Identify periods the COMS is out-of-control including any periods

that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

viii. Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.

n. The Permittee must install, operate, and maintain continuous parameter monitoring systems (CPMS) to monitor sorbent injection rate at the limestone injections systems according to the procedures listed below.
   i. Locate the devices in a position that provide a representative measurement of the total sorbent injection rate.
   ii. Install and calibrate the devices in accordance with manufacturer's procedures and specifications.
   iii. At least annually, calibrate the device in accordance with the manufacturer's procedures and specifications.
   iv. The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. A valid hour of data must have a minimum of four successive cycles of operation.
   v. Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), conduct all monitoring in continuous operation at all times that the affected unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
   vi. For purposes of calculating data averages, the Permittee may not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. The Permittee must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.
   vii. Determine the 3-hour block average of all recorded readings, except as provided in paragraph vi. above.
   viii. Record the results of each inspection, calibration, and validation check.
   ix. Operation below the established minimum operating limits on a 3-hour average basis shall constitute a violation of established operating limits.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the monitoring requirements in Sections 2.1 A.4. k. through n. above are not complied with.

Boiler Inspection and Maintenance [15A NCAC 2Q .0508(f)]
For No. 2 Fuel Oil and Natural Gas-Firing Only

o. If less than 10% coal and less than 10% wood or torrified wood is fired in a boiler on a 12-month average heat input basis and the Permittee has not performed the monitoring in Section 2.1. A.4 k. through n. above, the Permittee shall perform an annual inspection of the boiler and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burners, and clean or replace any components of the burners as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
   iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the boilers are not inspected or the tune-up is not performed or the requirements of this Section 2.1 A.4.o. are not complied with.

p. The results of any required annual burner 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 of each recorded action;
ii. The results of each inspection; and,
iii. The results of any maintenance performed on the boilers.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the required boiler inspection and maintenance records are not maintained.

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

q. Maintain copy of each notification and report required by this standard, including all documentation supporting any Notification of Compliance Status.
r. Maintain records of performance tests or other compliance demonstrations, CMS performance evaluations, and opacity observations.
s. For each required CEMS, CPMS, and COMS, maintain the following records:
   i. All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);
   ii. A record of each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);
   iii. All CMS calibration checks; and,
   iv. All adjustments and maintenance performed on CMS;
   Maintain records of all monitoring data and calculated averages for applicable operating limits, including opacity, carbon monoxide, and sorbent injection rate used to demonstrate compliance with the standard.
t. For each affected source, maintain records of monthly fuel use by each affected source, including the type(s) of fuel fired and amount(s) used.
u. If the Permittee limits the firing of a specific fuel to less than 10% on 12-month average heat input basis, he shall create and retain the following records at least once per calendar month:
   i. Record the fuel use by each affected source, including the type(s) of fuel and amount(s) used, during the previous calendar month; and,
   ii. Calculate the 12-month average heat input from each fuel for each affected source during the previous 12-month period.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the records in Sections 2.1 A.4. q. through u. above are not maintained.

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

v. Notification of Compliance Status. The Permittee must submit a Notification of Compliance Status that meets the requirements of 40 CFR 63.9(h)(2)(ii) before the close of business on the 60th day following the completion of the final required performance test and/or other initial compliance demonstration. The Notification of Compliance Status report must contain the following information, as applicable:
   i. A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.
   ii. Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.
   iii. Identification of whether the facility is complying with the PM emission limit or the alternative TSM emission limit.
   iv. Identification of whether the facility demonstrated compliance with each applicable emission limit through performance testing or fuel analysis.
   v. Identification of whether the facility plans to demonstrate compliance by emissions averaging.
   vi. A certification signed by the Responsible Official that the facility has met all applicable emission limits and work practice standards.
   vii. A summary of the CO emissions monitoring data and the maximum CO emission levels recorded during the performance test to show that the facility has met any applicable work practice standard.
   viii. If the affected source fires only gaseous fuel and/or distillate fuel oil, include a certification of such that is signed by the Responsible Official.
w. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each

calendar year for the preceding six-month period between January and June. The first summary report shall be required on **July 30, 2013**. The report shall include the following:

i. Company name and address;
ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
iii. Date of report and beginning and ending dates of the reporting period;
iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
v. A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable;
vi. A signed statement indicating that no new types of fuel were fired in the affected sources;
vii. Identification of any startup, shutdown, or malfunction events that were reported in accordance with 15A NCAC 2D .0535;
viii. If there are no deviations with this standard, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period;
ix. If there were no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CMSs were out of control during the reporting period; and,
x. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 2D .0530(u): PREVENTION OF SIGNIFICANT DETERIORATION

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements for a project consisting of burning mixture of wood and coal (up to 20% wood/terrified wood and up to 80% coal, both on a heat input basis) in each boiler (ID Nos. ES-001 - Boiler #6 and ES-002 - Boiler #7).
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 A.5.b. through d. below.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

Monitoring/Recordkeeping [15A NCAC 2D .0530(u)]

c. The Permittee shall maintain records of actual emissions of NOx in tons per year on a calendar year basis for five years following the resumption of regular operations after commencement of burning mixture of wood/torrified wood and coal (up to 20% wood/terrified wood and up to 80% coal, both on a heat input basis) in each boiler (ID Nos. ES-001 - Boiler #6 and ES-002 - Boiler #7).
The Permittee shall make the information, documented and maintained in this Section 2.1 A.5.c., available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530(u) if these records are not maintained.

Reporting [15A NCAC 2D .0530(u)]

d. The Permittee shall submit a report for NOx emissions to the Director within 60 days after the end of each calendar year during which the records in Section 2.1 A.5.c. must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

The reported actual emissions for each of the five calendar years for NOx will be compared to the projected actual emission as included below:

Pollutant	Projected Actual Emissions* Tons per Year
NOx	599.1

* 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.

B. One natural gas/No. 2 fuel oil-fired boiler (338 million Btu per hour heat input capacity, ID No. ES-003-Boiler #8, NSPS-Subpart Db)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	**Natural gas or No. 2 fuel oil firing** 0.174 lbs/million Btu heat input	15A NCAC 2D .0503
Sulfur dioxide	**No. 2 fuel oil-firing only** Burn low sulfur fuel 0.5 percent sulfur content by weight or less	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.42b (j)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.43b (f) and (g)
Nitrogen dioxide	0.20 lbs/million Btu heat input	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db§60.44b (a)(1)
Nitrogen dioxide	See Multiple Emissions Section 2.2	15A NCAC 2D .2400 **(CAIR)**
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Filterable PM: 0.014 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2	15A NCAC 2D .1109 *[CAA § 112(j)]*

1. **15A NCAC 2D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS - *NATURAL GAS OR NO. 2 FUEL OIL FIRING***

a. Emissions of particulate matter from the combustion of natural gas or No. 2 fuel oil, that are discharged from this boiler (ID No. ES-003-Boiler #8) into the atmosphere shall not exceed 0.174 pounds per million Btu heat input.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 B. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

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

c. In addition to any other recordkeeping required by 40 CFR §60.48b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas and No. 2 fuel oil fired during **each month** in boiler (ID No. ES-003-Boiler #8). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the fuel records 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 2D .0524: NSPS 40 CFR PART 60 SUBPART Db - *WHEN FIRING NO. 2 FUEL OIL***
   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 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Db, including Subpart A "General Provisions."[15A NCAC 2D .0524]

   Emission Limitations [15A NCAC 2D .0524]
   b. **Sulfur Dioxide** - The maximum sulfur content of No. 2 fuel oil fired in boiler (ID No. ES-003-Boiler #8) shall not exceed 0.5 sulfur percent by weight.
   c. **Nitrogen Dioxide** - The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.20 pounds per million Btu heat input for boilers with a high heat release rate.
   d. **Opacity** - When firing No. 2 fuel oil, or natural gas, this boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

   Monitoring [15A NCAC 2Q .0508(f)]
   e. A continuous emissions monitor for nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and Appendix F "Quality Assurance Procedures." The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the monitoring requirements in this Section 2.1 B.2.e. are not complied with.

   Recordkeeping [15A NCAC 2Q .0508(f)]
   f. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each month** when firing No. 2 fuel oil. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

   Reporting [15A NCAC 2Q .0508(f)]
   g. In addition to any other reporting required by 40 CFR § 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
      i. any excess opacity emission reports as measured by the continuous emission monitor (CEM) by January 30, April 30, July 30, and October 30 of each calendar year for the preceding three-month period. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
      ii. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. **15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**
   a. Emissions of sulfur dioxide from boiler (ID No. ES-003-Boiler #8) shall not exceed 2.3 pounds per million Btu heat input when firing natural gas. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

   Testing [15A NCAC 2Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 B. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

   Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]
   c. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amount of natural gas fired during **each month** in boiler (ID No. ES-003-Boiler #8). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the fuel records 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.

4. 15A NCAC 2D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 22, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 23, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boiler **(ID No. ES-003-Boiler #8)**:
   i. From No. 2 fuel oil firing:
      (A) Filterable PM: 0.014 lbs/MMBtu
      (B) Mercury (Hg): 3.0e-06 lbs/MMBtu
      (C) Carbon Monoxide (CO): 30 ppmvd, corrected to 7% oxygen
   ii. From natural gas firing:
      (A) Carbon Monoxide (CO): 66 ppmvd, corrected to 7% oxygen

   The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date.

Boiler Inspection and Maintenance [15A NCAC 2Q .0508(f)]

c. The Permittee shall perform an annual inspection of the boiler and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burners, and clean or replace any components of the burners as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
   iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the boiler is not inspected or tune-up is not performed or the requirements of this Section 2.1 B.4.c. are not complied with.

d. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the required boiler inspection and maintenance records are not maintained.

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

e. To assure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in the affected boiler during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained or if the boiler fires a fuel other than natural gas or No. 2 fuel oil.

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

f. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The first summary report shall be required on **July 30, 2013**. The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
   vi. All instances of deviations from the requirements of this permit must be clearly identified.

C. Two natural gas/No. 2 fuel oil-fired boilers (249 million Btu per hour heat input capacity each, ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10, NSPS-Subpart Db) located at the Manning Drive Steam Plant

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	**Natural gas or No. 2 fuel oil firing** 0.164 lbs/million Btu heat input	15A NCAC 2D .0503
Sulfur dioxide	**No. 2 fuel oil-firing only** Burn low sulfur fuel 0.3 percent sulfur content by weight or less	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db §60.42b (j)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db, §60.43b(f) and (g)
Nitrogen dioxide	0.20 lbs/million Btu heat input	15A NCAC 2D .0524 40 CFR Part 60, Subpart Db, §60.44b (a)(1)
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Filterable PM: 0.014 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2	15A NCAC 2D .1109 *[CAA § 112(j)]*

1. 15A NCAC 2D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS - *NATURAL GAS OR NO. 2 FUEL OIL FIRING*

a. Emissions of particulate matter from the combustion of natural gas or No. 2 fuel oil that are discharged from boilers (ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10) into the atmosphere shall not exceed 0.164 pounds per million Btu heat input. [15A NCAC 2D .0503(a)]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 C. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

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

c. No monitoring, recordkeeping, or reporting is required for particulate emissions from the firing of natural gas or No. 2 fuel oil in any boiler.

2. **15A NCAC 2D .0524: NSPS 40 CFR PART 60 SUBPART Db - *WHEN FIRING NO. 2 FUEL OIL* (For boilers installed after February 28, 2005)**

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 2D .0524 "New Source Performance Standards" (NSPS) as promulgated in 40 CFR Part 60 Subpart Db, including Subpart A General Provisions.

Emission Limitations [15A NCAC 2D .0524]

b. **Sulfur Dioxide** - The maximum sulfur content of No. 2 fuel oil fired in each boiler (ID No. ES-004-Boiler #9 or ES-005-Boiler#10) shall not exceed 0.3 sulfur percent by weight.

c. **Nitrogen Dioxide** - The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.20 pounds per million Btu heat input for boilers with a high heat release rate.

d. **Particulate** – Boilers (ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10) will burn fuel oil that contains no more than 0.3 weight percent sulfur, or will burn natural gas that does not have a PM standard under §60.43b, and these boilers do not use a post-combustion technology to reduce SO_2 or PM emissions. Therefore, these boilers are not subject to the PM limits under §60.43b(h)(1).

e. **Opacity** - When firing No. 2 fuel oil, or natural gas, each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

f. A continuous emissions monitor for nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and Appendix F "Quality Assurance Procedures."

The owner or operator of an affected facility who elects to demonstrate that the affected facility combust only very low sulfur oil under §60.42b (j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the monitoring requirements in this Section 2.1 A.3.f. are not complied with.

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

g. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each month** when firing No. 2 fuel oil. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

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

h. In addition to any other reporting required by 40 CFR § 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
   i. Any excess opacity emission reports as measured by the continuous emission monitor (CEM), by January 30, and July 30 each calendar year for the preceding **six-month period**. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
   ii. The owner or operator of an affected facility who elects to demonstrate that the affected facility combust only very low sulfur oil under §60.42b (j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b.

iii. The owner or operator of each affected facility subject to the sulfur dioxide, particulate matter, and/or nitrogen oxides emissions limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

iv. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES -When firing Natural Gas-

a. Emissions of sulfur dioxide from boiler (ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 C. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of natural gas.

4. 15A NCAC 2D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 22, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 23, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boilers (ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10):

i. From No. 2 fuel oil firing:
(A) Filterable PM: 0.014 lbs/MMBtu
(B) Mercury (Hg): 3.0e-06 lbs/MMBtu
(C) Carbon Monoxide (CO): 30 ppmvd, corrected to 7% oxygen

ii. From natural gas firing:
(A) Carbon Monoxide (CO): 66 ppmvd, corrected to 7% oxygen

The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date.

Boiler Inspection and Maintenance [15A NCAC 2Q .0508(f)]

c. The Permittee shall perform an annual inspection of the boilers and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

i. Inspect the burners, and clean or replace any components of the burners as necessary;
ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the boilers are not inspected or tune-up is not performed or requirements of this Section 2.1 C.4.c. are not complied with.

d. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the required boiler inspection and maintenance records are not maintained.

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

e. To assure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in the affected boilers during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained or if either boilers fires a fuel other than natural gas or No. 2 fuel oil.

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

f. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The first summary report shall be required on **July 30, 2013**. The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
   vi. All instances of deviations from the requirements of this permit must be clearly identified.

D. One coal handling, conveying, crushing, and storage system [NSPS] consisting of:

* **Three enclosed railcar dump pits (ID Nos. ES-010.1, 010.2, & 010.3) with associated wet dust suppression systems (100 gallons per minute water injection rate in each hopper, ID No. CD-018),**
* **One coal silo (ID No. ES-1) with associated bagfilter (533 square feet of filter surface area, ID No. CD-011),**
* **One coal silo (ID No. ES-2) with associated bagfilter (533 square feet of filter surface area, ID No. CD-012),**
* **One coal crusher building (ID No. ES-010A) with associated bagfilter (1330 square feet of filter surface area, ID No. CD-013), and**
* **Five silo feed conveyors (ID Nos. ES-3.1, 3.2, 3.3, 3.4, & 3.5) with associated bagfilter (1598 square feet of filter surface area, ID No. CD-019)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ $P < 30$ tpy; $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy Where: E = allowable particulate emission rate (lbs/hr) P= process weight rate in tons/hr	15A NCAC 2D .0515
Visible emissions	20 percent opacity	15A NCAC 2D .0524 **40 CFR Part 60, Subpart Y**

1. **15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**

   a. Emissions of particulate matter from the coal handling, conveying, crushing, and storage system shall not exceed an allowable emission rate as calculated by the following equation:

   $E = 4.10 \times P^{0.67}$ $P < 30$ tpy; and
   $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy

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

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

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

   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided by the equation in Section 2.1 D. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

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

   c. Particulate matter emissions from the coal handling, conveying, crushing, and storage system shall be controlled by a bagfilters (ID Nos. CD-011, 012, and 013). To assure compliance, the Permittee shall perform the following inspections and maintenance activities:
      i. a monthly external visual inspection of the system ductwork and material collection unit for leaks; and
      ii. an annual internal inspection of the bagfilter's structural integrity to be performed.

      The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and bagfilters are not inspected and maintained.

   d. The records of inspection and maintenance shall be maintained in a logbook, updated on a monthly basis (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 findings of each inspection; and
      iii. the records of any maintenance performed on the bagfilter.

      The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

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

   e. The Permittee shall submit the records of any maintenance performed on the bagfilters within 30 days of receipt of a written request by the DAQ.

   f. The Permittee shall submit a summary report of 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 2D .0524: 40 CFR PART 60, SUBPART Y - CONTROL OF VISIBLE EMISSIONS**
   a. Visible emissions from the coal handling, conveying, crushing, and storage system shall not be more than 20 percent opacity when in operation.

   Testing [15A NCAC 2Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 D. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

   Monitoring [15A NCAC 2Q .0508(f)]
   c. The Permittee may operate the three enclosed railcar dump pits (ID No. 010) without concurrent operation of the wet spray dust suppression system (100 gallons per minute water injection rate, ID No. 018) during times when the received coal contains sufficient moisture to prevent visible emissions from exceeding 20 percent opacity. During unloading operations when the wet suppression system is not in use, a currently certified visible emissions observer (EPA Method 9) shall observe the building vent emissions and record observations in a logbook (written or electronic format). The water sprays shall be turned on when any one opacity reading exceeds twenty percent. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the monitoring requirements in this Section 2.1 D. 2.c. are not complied with.

   Recordkeeping [15A NCAC 2Q .0508(f)]
   d. The records of the monitoring shall be maintained in a logbook, updated on a monthly basis (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 findings 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 records of any corrective actions performed.

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

   Reporting [15A NCAC 2Q .0508(f)]
   e. The Permittee shall submit a summary report of the observations 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.

E. One ash handling, storage, and loading system consisting of:

* **One ash storage silo equipped with dry loadout system (ID No. ES-030) and associated bagfilter (ID No. CD-031)**
* **One wet loadout system (ID No. ES-030A) with water injection system (ID No. CD-032)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ $P < 30$ tpy; $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy Where: E = allowable particulate emission rate in lbs/hr P = process weight rate in tons/hr	15A NCAC 2D .0515

Regulated Pollutant	Limits/Standards	Applicable Regulation
Visible emissions	20 percent opacity	15A NCAC 2D .0521

1. **15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**
   a. Emissions of particulate matter from the ash handling, storage, and loading system shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \qquad P < 30 \text{ tpy; and}$$
$$E = 55.0 \times P^{0.11} - 40 \qquad P \geq 30 \text{ tpy}$$

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

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

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 E. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

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

c. Particulate matter emissions from the ash storage silo shall be controlled by a bagfilter (ID No. CD-031). To assure compliance, the Permittee shall perform inspections and maintenance consisting of routine bag cleaning and replacement and pulse air system check, as recommended by the manufacturer. In addition to the manufacturer's recommendations, the inspection and maintenance requirement shall include the following:
   i. a monthly external visual inspection of the system ductwork and material collection unit for leaks; and
   ii. an annual internal inspection of the bagfilters' structural integrity to be performed during the period of seasonal down time.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and bagfilters are not inspected and maintained.

d. The records of inspection and maintenance shall be maintained in a logbook, updated on a monthly basis (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 findings of each inspection; and
   iii. the records of any maintenance performed on the bagfilters.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

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

e. The Permittee shall submit the records of any maintenance performed on the bagfilters within 30 days of receipt of a written request by the DAQ.
f. The Permittee shall submit a summary report of 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.

2. **15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**
   a. Visible emissions from the ash handling, storage, and loading system shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

c. To assure compliance, once a day when the system is in operation, the Permittee shall observe the emission points of this source for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission sources is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2610 (Method 9) is below the limit given in Section 2.1 E. 2. a. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

d. The records of the monitoring shall be maintained in a logbook, updated on a monthly basis (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 findings 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 records of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

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

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

F. Four No. 2 fuel oil storage tanks (two with 500,000 gallon capacity each, ID Nos. ES-T-001 & T-002, and two with 184,200 gallon capacity each, ID Nos. ES-T-003 & T-004)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile organic compounds	No applicable requirements	None

G. Eighty-two diesel-fired, compression ignition, emergency generators; Two natural gas-fired, spark ignition, emergency generators; and Three No. 2 fuel oil-fired fire water pumps

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	See Multiple Emissions Section 2.2 A.	15A NCAC 2D .0501(c)
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity each	15A NCAC 2D .0521
Multiple pollutants	See Multiple Emissions Section 2.2 E. (ID Nos. ES-Gen-2, ES-EG#13, ES-EG-#17 to ES-EG-#20, ES-Gen#21, ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, ES-Gen-67, ES-Gen-71, ES-Gen-72, ES-Gen-79 to ES-Gen-81, ES-Gen-84, and ES-FP-1)	15A NCAC 2D .0524 [40 CFR Part 60, Subpart IIII]
Hazardous air pollutants	Operate as an emergency use only engine.	15A NCAC 2D .1111 40 CFR Part 63, Subpart ZZZZ
Hazardous air pollutants	Comply with work practices beginning May 3, 2013 for existing CI emergency generators with a site rating no more than 500 hp and beginning October 19, 2013 for existing SI emergency generators with a site rating no more than 500 hp.	15A NCAC 2D .1111 40 CFR Part 63, Subpart ZZZZ
Hazardous air pollutants	New Stationary RICE with a site rating of equal to or less than 500 brake HP, which commenced construction on or after June 12, 2006, *subject to Regulations under 40 CFR Part 60* must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part. (ID No. ES-Gen-13 only)	15A NCAC 2D .1111 40 CFR Part 63, Subpart ZZZZ [63.6590(c)]

1. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from each emergency generator and fire water pump shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 G. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from firing diesel fuel in any emergency generator or fire water pump.

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

a. Visible emissions from the emergency generators and fire water pumps shall not be more than 20 percent opacity each when averaged over a six-minute period. However, six-minute averaging

periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 G. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting

c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of diesel fuel in any emergency generator or fire water pump.

3. 15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines (RICE)

Table 2.1.G.3-1: New and Reconstructed Emergency RICE > 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#7	Diesel-fired	1250 kW	Michael Hooker Research Center
ES-EG#8	Diesel-fired	800 kW	Chapman Hall
ES-EG#9	Diesel-fired	1000 kW	Caudill Labs
ES-EG#10	Diesel-fired	800 kW	Bondurant Hall
ES-EG#11	Diesel-fired	1750 kW	Burnett-Womack Building
ES-EG#12	Diesel-fired	1250 kW	Mary Ellen Jones Building
ES-EG#13	Diesel-fired	2000 kW	Genetic Medicine Building
ES-EG#14	Diesel-fired	900 kW	440 West Franklin Building
ES-EG#15	Diesel-fired	2000 kW	Rams Head Center
ES-EG#16	Diesel-fired	2000 kW	ITS Building
ES-EG#17	Diesel-fired	1000 kW	Brinkhouse-Bullitt Building
ES-EG#18	Diesel-fired	1000 kW	Venable Hall
ES-EG#19	Diesel-fired	2500 kW	Imaging Research Building
ES-EG#20	Diesel-fired	2000 kW	Genomic Science Building
ES-EG#21	Diesel-fired	1250 kW	Dental Research Building
ES-Gen-2	Diesel-fired	500 kW	Ambulatory Care Center
ES-Gen-48	Diesel-fired	500 kW	Kenan Stadium
ES-Gen-67	Diesel-fired	400 kW	Memorial Hall
ES-Gen-76	Diesel-fired	500 kW	Northeast Chiller

Table 2.1.G.3-2: Existing Emergency RICE > 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#1	Diesel-fired	900 kW	EPA Building
ES-EG#2	Diesel-fired	1600 kW	Thurston Bowles Building
ES-EG#3	Diesel-fired	728 kW	Lineberger Cancer Research Bldg
ES-EG#4	Diesel-fired	1000 kW	Taylor Hall
ES-EG#5	Diesel-fired	910 kW	Neuroscience Research Building

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#6	Diesel-fired	1500 kW	Medical Biomolecular Research
ES-Gen-30	Diesel-fired	535 kW	Lineberger Building Addition
ES-Gen-38	Diesel-fired	400 kW	North Side Chiller
ES-Gen-40	Diesel-fired	500 kW	Phillips Hall
ES-Gen-50	Diesel-fired	600 kW	Beard Hall
ES-Gen-57	Diesel-fired	600 kW	Bioinformatics Building
ES-Gen-59	Diesel-fired	500 kW	Glaxo Building

Table 2.1.G.3-3: New and Reconstructed Emergency RICE ≤ 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-12	Diesel-fired	150 kW	Craige Parking Deck
ES-Gen-13	Diesel-fired	300 kW	Davie Hall
ES-Gen-43	Diesel-fired	125 kW	Medical Research Building B
ES-Gen-49	Diesel-fired	230 kW	Wilson Library Stacks
ES-Gen-71	Diesel-fired	110 kW	Global Education Building
ES-Gen-72	Diesel-fired	30 kW	Hamilton Hall
ES-Gen-79	Diesel-fired	300 kW	Carmichael Auditorium
ES-Gen-80	Diesel-fired	300 kW	Hinton James Dorm
ES-Gen-81	Diesel-fired	250 kW	Physicians Office Building
ES-Gen-84	Diesel-fired	250 kW	Bell Tower Parking Deck
ES-FP-1	Diesel-fired	77 Hp	Kenan Stadium

Table 2.1.G.3-4: Existing Emergency RICE ≤ 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-1	Diesel-fired	25 kW	Ackland Art Museum
ES-Gen-3	Diesel-fired	30 kW	Avery Dorm
ES-Gen-4	Diesel-fired	20 kW	Cheek/Clark Building
ES-Gen-7	Diesel-fired	35 kW	Security Services Building
ES-Gen-8	Diesel-fired	350 kW	Carmichael Dorm
ES-Gen-9	Diesel-fired	60 kW	Carolina Inn
ES-Gen-10	Diesel-fired	25 kW	Center for Dramatic Art
ES-Gen-11	Diesel-fired	250 kW	Craige Dorm
ES-Gen-14	Diesel-fired	210 kW	Davis Library
ES-Gen-15	Diesel-fired	250 kW	Ehringhaus Dorm
ES-Gen-18	Diesel-fired	150 kW	Fetzer Gym
ES-Gen-19	Diesel-fired	125 kW	Fordham Hall
ES-Gen-20	Diesel-fired	150 kW	Cardinal Deck
ES-Gen-21	Nat. gas- fired	40 kW	Old Dental School Building
ES-Gen-22	Diesel-fired	100 kW	Hill Alumni Center
ES-Gen-23	Diesel-fired	250 kW	Hilton James Dorm
ES-Gen-24	Diesel-fired	80 kW	Kenan Center
ES-Gen-25	Diesel-fired	25 kW	Kenan Field (North)
ES-Gen-26	Diesel-fired	30 kW	Kenan Field (North-New)

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-27	Diesel-fired	25 kW	Kenan Field (South)
ES-Gen-28	Diesel-fired	100 kW	Kenan Football Center
ES-Gen-29	Diesel-fired	45 kW	Kenan Chemistry Lab
ES-Gen-31	Diesel-fired	250 kW	McGavran Greenberg Building
ES-Gen-32	Diesel-fired	100 kW	MacNider Hall
ES-Gen-33	Diesel-fired	175 kW	McColl Building
ES-Gen-35	Diesel-fired	125 kW	Morehead Chemistry Lab
ES-Gen-36	Nat. gas-fired	30 kW	Morehead Planetarium
ES-Gen-37	Diesel-fired	250 kW	Morrison Dorm
ES-Gen-39	Diesel-fired	60 kW	Parker Dorm
ES-Gen-41	Diesel-fired	20 kW	Security Services Building
ES-Gen-42	Diesel-fired	125 kW	Dean Smith Center
ES-Gen-44	Diesel-fired	275 kW	Tarrson Hall
ES-Gen-45	Diesel-fired	150 kW	Tate-Turner-Kuralt Building
ES-Gen-46	Diesel-fired	260 kW	Taylor Student Health Services
ES-Gen-47	Diesel-fired	50 kW	Van Hecke-Wettach Hall
ES-Gen-58	Diesel-fired	230 kW	Carrington Building
ES-Gen-60	Diesel-fired	148 kW	Health Sciences Library
ES-Gen-61	Diesel-fired	60 kW	Knapp Building
ES-Gen-62	Diesel-fired	300 kW	RB House Library
ES-Gen-68	Diesel-fired	105 kW	Dogwood Deck
ES-Gen-74	Diesel-fired	250 kW	Joyner, Alexander Dorms
ES-Gen-75	Diesel-fired	250kW	McIver, Kenan, Alderman Dorms
ES-Gen-77	Diesel-fired	100 kW	Jackson Circle Parking Deck
ES-FP-2	Diesel-fired	110 hp	McColl Building
ES-FP-3	Diesel-fired	110 hp	Davis Library

a. The Permittee shall meet the requirements of 40 CFR 63 Subpart ZZZZ for emergency generators (ID Nos. ES-Gen-12, ES-Gen-13, ES-Gen-49, and ES-Gen-67) by meeting the requirements in 40 CFR 60, Subpart IIII for compression ignition engines. No further requirements shall apply to RICE of the emergency generators (ID Nos. ES-Gen-12, ES-Gen-13, ES-Gen-49, and ES-Gen-67) under 40 CFR 63. [§63.6590(c)]

Initial Notification [40 CFR §63.9]

b. The Permittee shall comply with the initial notification requirements of 40 CFR part 63 Subpart A "General Provisions," according to the applicability of Subpart A to such sources, as identified in Table No. 8 in Subpart ZZZZ, "Applicability of General Provisions to Subpart ZZZZ" for each affected emergency generator and fire water pump no later than 120 days after Initial start-up. The notification requirements do not apply to the existing emergency RICE listed in Tables 2.1.G.3-2 and 2.1.G.3-4 above. [40 CFR §63.6645(a)]

c. In accordance with 40 CFR §63.9 (b)(2), the initial notification shall be submitted not later than 120 calendar days after startup of the emergency generator or fire water pump and shall provide the following information:
   iii. The name and address of the owner or operator;
   iv. The address (i.e., physical location) of the affected source;
   v. An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;
   vi. A brief description of the nature, size, design, and method of operation of the source and an

identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted;

v. A statement of whether the affected sources are a major source or an area source.

d. The Permittee shall submit the initial notification to the following agencies:

i. North Carolina Division of Air Quality, Permitting Section,

ii. North Carolina Division of Air Quality, Regional Office Supervisor, and

iii. EPA-Region IV.

Recordkeeping Requirement For Applicability Determination [40 CFR §63.10(b)(3)]

e. Stationary emergency RICE with a site rating of more than 500 brake horsepower (hp), for which construction or reconstruction was commenced on or after December 19, 2002 and prior to June 12, 2006, do not have to meet the requirements of subpart ZZZZ and of subpart A of this part except for the initial notification requirements in 2.1.G.3.b to d above. Stationary emergency RICE with a site rating of more than 500 brake horsepower (hp), for which construction or reconstruction was commenced on or after June 12, 2006 do not have to meet the requirements of subpart ZZZZ and of subpart A of this part except for the initial notification requirements in 2.1.G.3.b to d above and the operating restrictions in 2.1.G.3.e below.

The Permittee shall maintain the applicability determination for exclusion of the emergency RICE listed in Table 2.1.G.3-1 above from the requirements of 40 CFR Part 63, Subpart ZZZZ and Subpart A of this part, on site for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The analyses, or other information, that demonstrates the exemption from the requirements of Subpart ZZZZ and Part A of this Subpart, shall be signed by the person making the determination.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not maintained.

Operating Restrictions. [40 CFR §63.6640 (f)]

f. The Permittee shall operate each emergency stationary ICE in Tables 2.1 G.3-1 through 4 above, according to the requirements in paragraphs (f)(1) through (4) of §63.6640. In order for the engine to be considered an emergency stationary ICE under this Subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of §63.6640, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of §63.6640, the engine will not be considered an emergency engine under this Subpart and shall meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary ICE in emergency situations.

(ii) The Permittee may operate an emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of §63.6640 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of §63.6640 counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(A) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(B) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP–002–3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP–002–3.

(C) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(iii) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the requirements in this Section 2.1 G.3.f. are not met. [§63.6640(f)]

Compliance Date [40 CFR § 63.6595 (a)]

g. Beginning May 3, 2013, the Permittee shall comply with the operating limits, maintenance, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1.G.3.j. to 2.1.G.3.p. below for the existing compression ignition (CI) emergency engines listed in Table 2.1.G.3-4.

h. Beginning October 19, 2013, the Permittee shall comply with the operating limits, maintenance, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1.G.3.j. to 2.1.G.3.p. below for the existing spark ignition (CI) emergency engines listed in Table 2.1.G.3-4.

Work Practices Applicable to Table 2.1.G.3-4 RICE (except during startup) [§63.6603 and 63.6640;Table 2c]

i. For each existing emergency generator and fire water pump with a site rating no more than 500 hp, the Permittee shall change oil and filter every 500 hours of operation or annually, whichever comes first.

j. An oil analysis program may be used to extend the time allowed in 2.1.G.3.h. above between oil changes. The analysis program must, at a minimum, analyze the (1) total base number, (2) viscosity, and (3) percent water content. An oil change is not required if all three of the following conditions are meet:
   a. the total base number is greater than or equal to 30 percent of the total base number of the oil when new;
   b. the viscosity of the oil has not changed by more than 20 percent from the viscosity of the oil when new; and
   c. the percent water content (by volume) is less than or equal to 0.5.

   If one of the above limits is exceeded, the owner or operator must change the oil within 2 days of receiving the results of the analysis or before commencing operation, whichever is later. If using an oil analysis program to extend the time between oil changes, the owner or operator must keep records of the results of the analysis and the oil changes for the engine and include the analysis program in the maintenance plan for the engine.

k. For each existing emergency generator and fire water pump, the Permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first.

l. For each emergency generator and fire water pump, the Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the requirements in Sections 2.1 G.3.i. through l. above are not met.

Work Practices Applicable to Table 2.1.G.3-4 RICE (during startup) [40 CFR 63.6625(h)]

m. The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes for each existing emergency generator and fire water pump.

Monitoring/Operation/Maintenance Requirements Applicable to Table 2.1.G.3-4 RICE

n. The Permittee shall operate and maintain the existing stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; *OR* develop and follow a site specific maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good practice for minimizing air emissions.

o. The Permittee shall install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the requirements in Section 2.1 G.3.n. and o. above are not met.

Recordkeeping/Reporting Requirements

p. The Permittee shall maintain records of the following:
   i. A copy of each notification and report that is submitted to comply with subpart ZZZZ (Note: existing RICE are not required to submit an initial notification).
   ii. The occurrence and duration of each malfunction of each stationary RICE and records of corrective actions taken during periods of malfunction to minimize emissions.
   iii. A description of the maintenance conducted on each stationary RICE.
   iv. The records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in § 63.6640(f)(2)(ii) or (iii) or § 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

q. The Permittee shall keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records must be in a suitable form and be readily available for expeditious review.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the records required in Section 2.1 G.3.p. and q. above are not maintained or the requirements are not met.

r. The Permittee shall submit a semi-annual compliance report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The first report shall be submitted no later than July 30, 2013. The report must contain a description and the corrective actions taken for all deviations from any operating limitation and any malfunction during the reporting period. If there are no deviations from any operating limitations (work practice requirements), provide a statement that there were no deviations during the reporting period.

Applicability [40 CFR 63.6585, 6590(a)(2)(ii)]

s. For this source (ID No. ES-Gen-13) (new emergency stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions) the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart ZZZZ, "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines" and Subpart A "General Provisions."

Stationary RICE subject to Regulations under 40 CFR Part 60 [15 A NCAC 2Q. 0508(f)]

t. Pursuant to 40 CFR 63.6590(c)(6), this source (ID No. ES-Gen-13) must meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A by meeting the requirements of 40 CFR part 60 Subpart IIII. No further requirements apply for these engines under 40 CFR 63 Subpart ZZZZ and Subpart A.

If the requirements in condition t. are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

H. Two No. 2 fuel oil-fired, compression ignition, non-emergency generators

ID Number	Source Description	Size of Generator	Location
ES-006 – **MACT**	No. 2 fuel oil	2000 kW maximum output	Cogeneration Facility
ES-007 – **MACT**	No. 2 fuel oil	2000 kW maximum output	Cogeneration Facility

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	See Multiple Emissions Section 2.2.A	15A NCAC 2D .0501(e)
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity each	15A NCAC 2D .0521
Hazardous air pollutants	Work practice standards, emission limits, performance testing	15A NCAC 2D .1111 40 CFR Part 63, Subpart ZZZZ

1. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from each emergency generator shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 H. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

a. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from firing No. 2 fuel oil in any generator.

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

a. Visible emissions from the generators (ID Nos. ES-006 and ES-007) shall not be more than 20 percent opacity each when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 H. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting

c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of No. 2 fuel oil in any generator.

3. **15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For "New" Non-emergency, Compression Ignition, Stationary Reciprocating Internal Combustion Engines**
   - ES-006 (2000 kW)
   - ES-007 (2000 kW)

   a. **General Provisions** [40 CFR §63.6665]
   The Permittee shall comply with the requirements of 40 CFR part 63 Subpart A "General Provisions," according to the applicability of Subpart A to such sources, as identified in Table No. 8 in Subpart ZZZZ, "Applicability Of General Provisions to Subpart ZZZZ".

   b. **Emission Limitations** [40 CFR §63.6600(b)]
   i. Reduce CO emissions by 70 percent or more at 100 percent load plus or minus 10 percent; or
   ii. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 parts per billion by volume (ppbvd) or less at 15 percent O_2.

   c. **Operating Limitations (using an oxidation catalyst)** [40 CFR §63.10(b)(3), §63.6600]
   i. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than two inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and
   ii. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 degrees Fahrenheit, and less than or equal to 1350 degrees Fahrenheit.

   d. **General Requirements** [40 CFR §63.6605]
   i. You must be in compliance with the emission limitations and operating limitations in this Subpart that apply to you at all times, except during periods of startup, shutdown, and malfunction.
   ii. If you must comply with emission limitations and operation limitations, you must operate and maintain your stationary RICE, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

   e. **Initial Performance Test** [40 CFR §63.6610]
   i. You must conduct the initial performance test or other initial compliance demonstrations in Table 4 of this Subpart that apply to you within 180 days after startup. Each performance test must be conducted according to the requirements in 40 CFR §63.7(e). You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR §63.7(e)(1). You must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR §63.7(e)(3). Each test run must last at least 1 hour.
   (A) To comply with the requirement to reduce CO emissions, you must measure the O_2 and CO at the inlet and outlet of the control device using a portable CO and O_2 analyzer.
   (B) Measurements to determining O_2 must be made at the same time as the measurements for CO concentration using ASTM D6522-00. Methods 3A and 10 may be used as alternatives to ASTM D6522-00. The CO concentration must be at 15% percent O_2, on a dry basis.
   (C) To comply with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust, you must:
   (1) Select the sampling port location and the number of traverse points using Method 1 or 1A OF 40 CFR PART 60, APPENDIX A. [§63.7(d)(1)(i)] If using a control device the sampling site must be located at the outlet of the control device.
   (2) Determine the O_2 concentration of the stationary RICE exhaust at the sampling port location using Method 3 or 3A or 3b of 40 CFR Part 60, Appendix A. Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde concentration.

(3) Measure moisture content of the stationary RICE exhaust at the sampling port location using Method 4 of 40 CFR Part 60, Appendix A, or Test Method 320 of 40 CFR Part 63, Appendix A or ASTM D 6348-03. Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.

(4) Measure formaldehyde at the exhaust of the stationary RICE using Method 320 or 323 of 40 CFR Part 60, Appendix A, or ASTM D6348-03, provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130. Formaldehyde concentration must be at 15 percent O_2, on a dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

If the results of this test are above the limit provided in Section 2.1-H.3.b. above or if the Permittee does not conduct the initial performance test as required in this Section 2.1-H.3.e. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

f. **Monitoring Requirements** [40 CFR §63.6625, §63.6630, §63.6635, and §63.6640]

i. If you are required to install a Continuous Parameter Monitoring System (CPMS) as specified in Table 5 of this Subpart, you must install, operate, and maintain each CPMS according the requirements in §63.8.

ii. You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this Subpart.

iii. You must submit the notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

iv. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously at all times that stationary RICE is operating.

v. You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must however, use all the valid data collected during all other periods.

vi. You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 2a and 2b of this Subpart that apply. These instances are deviations from the emission and operating limitations in this Subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must re-establish the values of the operating parameters measured during the initial performance test. When you re-establish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to you stationary RICE.

vii. During periods of startup, shutdown, and malfunction you must operate in accordance with your startup, shutdown, and malfunction plan. Consistent with §63.7(e)(1), deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the startup, shutdown, and malfunction plan. For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations.

viii. You must also report each instance in which you did not meet the requirements in Table 8 "General Provisions" of this Subpart.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the requirements in Section 2.1 H. 3.f. above are not met.

g. **Recordkeeping** [40 CFR §63.6655 and §63.6650]

i. If you must comply with the emission and operating limitations of this Subpart, you must keep the following records:

(A) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).
(B) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
(C) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

ii. For each CMPS, you must keep following records:
(A) Records described in §63.10(b)(2)(vi) through (ix).
(B) Previous (i.e. superseded) versions of the performance evaluation plan as required §63.8(d)(3).
(C) Requests for alternatives to the relative accuracy test for CPMS as required in 63.8(f)(6)(i), if applicable.

iii. You must keep the records required in Table 6 of this Subpart to show continuous compliance with each emission or operating limitation that applies to you.

iv. Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1). You must keep each record readily accessible in hard copy or electronic form on site for at least 2 years after the date of each occurrence, measure, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off-site for the remaining 3 years.

v. Each record shall be kept for five years following the date of occurrence, measurement, maintenance, corrective action, report, or record.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these are not maintained or the requirements in this Section 2.1 H.3.g. are not met.

h. <u>Reporting</u> <u>[40 CFR §63.6645 and §63.6650]</u>

i. You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.

ii. If you start up your new or reconstructed stationary RICE on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this Subpart.

iii. If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

iv. If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this Subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).
(A) For each initial compliance demonstration required in Table 5 of this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

v. The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

vi. The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

vii. Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

viii. The Compliance report must contain the following information:
(A) Company name and address.
(B) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
(C) Date of report and beginning and ending dates of the reporting period.

(D) If you had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in §63.10(d)(5)(i).

(E) If there are no deviations from any emission or operating limitations, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(F) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(G) For each deviation from an emission or operating limitation occurring for a stationary RICE where a CMS is used to comply with the emission and operating limitations in this Subpart, include the following information:

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(H) Each affected source that has obtained a Title V operating permit pursuant to 40 CFR Part 70 or 71 must 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 7 of this Subpart 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 or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

I. One natural gas-fired boiler (2.52 million Btu per hour heat input capacity, ID No. ES-SB-6)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	Work practices	15A NCAC 2D .1109 *[CAA § 112(j)]*

1. 15A NCAC 2D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The initial compliance date for these emission sources and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date.

Inspection and Maintenance [15A NCAC 2Q .0508(f)]

b. The Permittee shall perform an annual inspection of the boiler (ID Nos. ES-SB6) and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burners, and clean or replace any components of the burners as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
   iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the requirements in this Section 2.1 I.1.b. are not met.

c. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the required inspection and maintenance records are not maintained.

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

d. To assure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in each the affected source during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained or if the boiler or water heater fires a fuel other than natural gas.

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

e. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The first summary report shall be required on July 30, 2013. The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with

units of measure;

v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,

vi. All instances of deviations from the requirements of this permit must be clearly identified.

2.2 – MULTIPLE EMISSION SOURCES AND SPECIFIC LIMITATIONS AND CONDITIONS

A. 15A NCAC 2D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

In order to ensure that emergency generators (ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and ES-Gen-67) do not contribute to an exceedance of the 1-hour NO_2 National Ambient Air Quality Standard (NAAQS); the Permittee may only operate these generators (ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48 and ES-Gen-49) for readiness testing when generators (ID Nos. ES-006 and ES-007) are not operating and when readiness testing is not being performed for any other emergency generator, except ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49 and ES-Gen-67.

In order to ensure compliance with the annual NO_2 NAAQS, non-emergency generators (ID Nos. ES-006 and ES-007) shall not operate for more than 7,500 hours each on a consecutive 12-months basis.

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

1. The Permittee shall maintain operational records sufficient to demonstrate that emergency generators (ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and ES-Gen-67) have not operated for readiness testing during the concurrent operation of generators (ID Nos. ES-006 and ES-007) and the performance of readiness testing of any other emergency generator, except ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49 and ES-Gen-67. The Permittee shall make these records available to a DAQ authorized representative upon request.

   The Permittee shall maintain records of the hours of operation of non-emergency generators (ID Nos. ES-006 and ES-007) on a monthly basis and make these records available to a DAQ authorized representative upon request.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(c) if the above records are not maintained.

B. 15A NCAC 2D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

In order to ensure that the twenty-four hour SO_2 National Ambient Air Quality Standard (NAAQS) is not exceeded, boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) are required to monitor and keep records of SO_2 emissions using a 24-hour block average when firing coal.

- ID No. ES-001-Boiler #6
- ID No. ES-002-Boiler #7

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	1.2 lbs/million Btu heat input per 24-hour block average	15A NCAC 2D .0501(c) 40 CFR Part 60, Subpart Db, 60.42b (a)

Monitoring/Recordkeeping

1. The Permittee shall determine sulfur dioxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 60, Subpart A and Subpart Db, Appendix B, and Appendix F. Compliance with sulfur dioxide emission standards shall be determined by averaging the average 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 shall be summed, and the sum shall be divided by the number of operating hours for which valid data exists.

A minimum of four data points, equally spaced, shall be required to determine a valid hour. Data availability shall be 95 percent on a yearly basis. If any 24-hour block average exceeds 1.2 pounds per million Btu heat input (388 pounds of SO_2 per hour), the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501 (e).

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(c) if the requirements in this Section 2.2. B.1. are not met.

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

2. 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 no later than 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.

C. 15A NCAC 2D .0614: COMPLIANCE ASSURANCE MONITORING (CAM) for Sulfur Dioxide

1. Per 40 CFR 64 and 15A NCAC 2D .0614, the Permittee shall comply with the following.

2. **Background**
   a. Emission Units
      i. Description: Two coal/natural gas/No. 2 fuel oil-fired, circulating fluidized combustion boilers, 323.17 million Btu per hour heat input each.
      ii. Identification: ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7

   b. Applicable Regulation, Emission Limit, and Monitoring Requirements.
      i. Regulations: 15A NCAC 2D .0516 and 15A NCAC 2D .0524 (Subpart Db)
      ii. Emission limits: 2.3 pound SO_2 per million Btu heat input when firing natural gas {15A NCAC 2D .0516}

      1.2 pounds SO_2 per million Btu heat input when firing coal {15A CAC 2D .0524, 40 CFR §60.42b(d)} and 0.2 lbs SO_2 per million Btu heat input or a minimum 90% reduction when firing coal and/or No. 2 fuel oil {15A CAC 2D .0524, amended (February 27, 2006) 40 CFR §60.42b(a)}

3. **Monitoring Approach**
   NSPS, Subpart Db requires that a Continuous Emissions Monitoring System (CEMs) be installed to monitor the SO_2 emissions from boilers, ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7. This monitoring system satisfies the requirements of CAM in accordance with 40 CFR Part 64, §64.3(d)(1).

D. 15A NCAC 2D .0614: COMPLIANCE ASSURANCE MONITORING (CAM) for Particulate

1. Per 40 CFR 64 and 15A NCAC 2D .0614 and until February 3, 2013, the Permittee shall comply with the following: Beginning February 3, 2013, particulate emissions from boilers #6 and #7 (ID No. ES-001 and ES-002) are subject to the requirements in Section 2.1.A.4, 15A NCAC 2D .1109: CAA § 112(j); "Case-by-Case MACT for Boilers & Process Heaters" and no longer subject to CAM.

2. **Background**
   a. Emission Units
      i. Description: Two coal/natural gas/No. 2 fuel oil/wood/torrified wood-fired, circulating fluidized combustion boilers, 323.17 million Btu per hour heat input each.
      ii. Identification: ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7

   b. Applicable Regulation, Emission Limit, and Monitoring Requirements.
      i. Regulations: 15A NCAC 2D .0503 and 15A NCAC 2D .0524 (Subpart Db)
      ii. Emission limits:
      0.051 pounds per million Btu heat input {NSPS, 40 CFR §60.43b(a)(1) –Particulate matter}
      0.174 pounds per million Btu heat input {15A NCAC 2D .0503 –PM_{10}}
      iii. Control Technology: Two bagfilters (ID Nos. CD-004 and CD-005)

3. **Monitoring Approach**. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table:

	1
I. Indicator	Visible emissions
Measurement Approach	Visible emissions from the fabric filter will be monitored continuously using COM system on each boiler
II. Indicator Range	An excursion is defined as visible emissions in amounts greater than or equal to 15%. Excursions trigger an inspection, corrective action, and a reporting requirement.
QIP Threshold	The QIP threshold is six excursions in a 6-month reporting period.
III. Performance Criteria	
A. Data Representativeness	Measurements are being made at the emission point (fabric filter outlet) of each boiler
B. Verification of Operational Status	DAHS
C. QA/QC Practices	The COM systems shall be calibrated, maintained and operated according to 40 CFR 60, Appendix B, PS1.
D. Monitoring Frequency	Data is collected continuously with COM systems.
Data Collection Procedures	Data from the COM system is collected electronically and maintained on the Data Acquisition and Handling System computer along with information on the operating status of the boilers.
Averaging Periods	6-minutes

4. **Justification**
   a. Background. The pollutant-specific emission units are the two coal/natural gas/No. 2 fuel oil/wood/torrified wood-fired -fired boilers used to produce steam. The particulate matter emissions from each boiler are controlled by fabric filters with approximately 36,614 square feet of filter area each.

   b. Rationale for Selection of Performance Indicators. Visible emissions was selected as the performance indicator as a surrogate for PM and PM10 because it is a good indicator of the proper operation and maintenance of the filter units. When the filter units are operating properly, there will not be any visible emissions in the exhaust outlet. Any increase in visible emissions indicates reduced performance of the filter units, therefore, the presence of visible emissions in levels exceeding or equal to 15% is used as a performance indicator.

c. Rationale for Section of Indicator Ranges. Per operating knowledge of the systems, the facility has selected an indicator range of greater than or equal to 15% opacity. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An increase in visible emissions is indicative of an increase in particulate emissions; and a COMs is a well established monitoring technique for these sources.

The selected QIP threshold for fabric filter visible emissions is six excursions in a 6-month reporting period. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

5. **Reporting** [15A NCAC 2Q .0508(f)]
The Permittee shall submit a summary report of all monitoring activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations for the requirements of this permit must be clearly identified.

E. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS [40 CFR 60 SUBPART IIII]

- **ES-EG#13 (diesel-fired emergency generator, 2000 kW, 2682 hp)**
- **ES-EG#17 (diesel-fired emergency generator, 1000 kW, 1341 hp)**
- **ES-EG#18 (diesel-fired emergency generator, 1000 kW, 1341 hp)**
- **ES-EG#19 (diesel-fired emergency generator, 2500 kW, 3353 hp)**
- **ES-EG#20 (diesel-fired emergency generator, 2000 kW, 2682 hp)**
- **ES-EG#21 (diesel-fired emergency generator, 1350 kW, 1835 hp)**
- **ES-Gen-2 (diesel-fired emergency generator, 450 kW, 603 hp)**
- **ES-Gen-12 (diesel-fired emergency generator, 150 kW, 230 hp)**
- **ES-Gen-13 (diesel-fired emergency generator, 300 kW, 402 hp)**
- **ES-Gen-43 (diesel-fired emergency generator, 125 kW, 170 hp)**
- **ES-Gen-48 (diesel-fired emergency generator, 500 kW, 680 hp)**
- **ES-Gen-49 (diesel-fired emergency generator, 230 kW, 308 hp)**
- **ES-Gen-67 (diesel-fired emergency generator, 400kW, 536 hp)**
- **ES-Gen-71 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-Gen-72 (diesel-fired emergency generator, 30 kW, 40 hp)**
- **ES-Gen-79 (diesel-fired emergency generator, 400 kW, 536 hp)**
- **ES-Gen-80 (diesel-fired emergency generator, 350 kW, 469 hp)**
- **ES-Gen-81 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-Gen-84 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-FP-1 (diesel-fired fire water pump, 57 kW, 77 hp)**

1. The Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart IIII, including Subpart A "General Provisions." [15A NCAC 2D .0524]

Emission Standards

2. The Permittee shall comply with the following emission standards:

Emission Standards: (ES-EG#13, #17, #18, #20 and #21)
NMHC and NOx (combined): 6.4 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.20 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-EG#19)
NOx : 9.2 g/kW-hr
CO: 11.4 g/kW-hr
PM: 0.54 g/kW-hr
HC: 1.3 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-43)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 5.0 g/kW-hr
PM: 0.3 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-48, ES-Gen-49, ES-Gen-67, ES-79, ES-Gen-80, ES-Gen-81, and ES-Gen-84)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.2 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-71)
HC: 1.3 g/kW-hr
NOx: 9.2 g/kW-hr
CO: 11.4 g/kW-hr
PM: 0.54 g/kW-hr
[§60.4205(a) and Table 1 to the Subpart IIII]

Emission Standards: (ES-Gen-72)
NMHC and NOx (combined): 9.5 g/kW-hr
CO: 5.5 g/kW-hr
PM: 0.80 g/kW-hr
[§60.4205(a) and Table 1 to the Subpart IIII]

Emission Standards: (ES-FP-1)
NMHC and NOx (combined): 10.5 g/kW-hr
CO: 5.0 g/kW-hr
PM: 0.80 g/kW-hr
[§60.4205(c) and Table 4 to the Subpart IIII]

3. The Permittee shall use diesel fuel in the CI engine of each emergency generator and fire pump with a sulfur content of less than 15 ppm beginning October 1, 2010. [§60.4207, and §80.510(a) and (b)]

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

4. 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 2.2 E. 2. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

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

5. The CI ICE of each emergency generator and fire pump shall be equipped with a non-resettable hour meter prior to startup, if the CI ICE does not meet the standards in §60.4204. If the CI engine of each emergency generator and fire pump is not equipped with a non-resettable hour meter prior to startup, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524. [§60.4209(a)]

6. The Permittee shall operate and maintain each stationary CI ICE that achieves the emission standards in §60.4205 over the entire life of the engine according to the manufacturer's emission-related written instructions or procedures developed by the Permittee that are approved by the engine manufacturer. The Permittee may only change engine settings that are permitted by the manufacturer. The Permittee shall also meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the requirements in this Section are not met. [§60.4206 and §60.4211(a)]

7. If CI ICEs of emergency generators are required to comply with the emission standards in §60.4205(a), or if the CI engine of fire water pump is manufactured prior to the model years in Table 3 to the Subpart and must comply with the emission standards in §60.4205(c), the Permittee shall demonstrate compliance according to one of the methods specified in §60.4211(b) as included below:

   (A) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
   (B) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
   (C) Keeping records of engine manufacturer data indicating compliance with the standards.
   (D) Keeping records of control device vendor data indicating compliance with the standards.
   (E) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the requirements in this Section 2.2 E.7. are not met. [§60.4211(b)]

8. The Permittee shall purchase 2007 model year and later emergency CI ICE for emergency generators certified to the emission standards in §§60.4205(b), for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications except as provided in §60.4211(g). If the installed CI ICEs of the above emergency generators are not certified to meet the emission standards in §60.4205(b) or the CI ICEs are not configured according to the manufacturer's emission-related specifications (except as provided in §60.4211(g)), the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524. [§60.4211(c)]

9. The Permittee shall operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of §60.4211. In order for the engine to be considered an emergency stationary ICE under this Subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of §60.4211, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of §60.4211, the engine will not be considered an emergency engine under this Subpart and shall meet all requirements for non-emergency engines.

   (A) There is no time limit on the use of emergency stationary ICE in emergency situations.
   (B) The Permittee may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of §60.4211 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of §60.4211 counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

      (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator

maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP–002–3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP–002–3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(C) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of §60.4211, the 50 hours per calendar year for nonemergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(AA) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(BB) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(CC) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(DD) The power is provided only to the facility itself or to support the local transmission and distribution system.

(EE) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the requirements in this Section 2.2. E.9. are not met. [§60.4211(f]

10. If the Permittee does not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, the Permittee shall demonstrate compliance as follows:

(A) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if

you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(B) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission related settings in a way that is not permitted by the manufacturer.

(C) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the requirements in this Section 2.2 E.10. are not met. [§60.4211(g)]

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

11. Starting with the emergency engine model year 2011, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the Permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The Permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if these records are not maintained. [§60.4214(b)]

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

12. No initial notification under §60.7 is required for emergency stationary CI internal combustion engines. [§60.4214(b)]

13. If the Permittee operates the emergency stationary CI ICE with a maximum engine power of 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4211(f)(2)(ii) and (iii), or that operates for the purposes specified in §60.4211(f)(3)(i), the Permittee shall submit an annual report according to the requirements in paragraphs (d)(1) through (3) of §60.4214. [§60.4214(d)]

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

F. 15A NCAC 2D .2400 "Clean Air Interstate Rule" (CAIR)

1. The ozone season allocations of nitrogen oxide allowances shall be determined by the US EPA. The emissions of nitrogen oxides of a source shall not exceed the number of allowances that it has in its compliance account established and administered in accordance with 15A NCAC 2D .2408.

2. Emission measurement requirements:
   - Emission measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NOx Ozone Season source with its emissions limitation according to 40 CFR 96.306(c).

3. Excess Emissions:
   - The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

Monitoring/Reporting/Recordkeeping [15A NCAC 2D .2407]

4. The owner or operator of a CAIR unit shall comply with the monitoring, recordkeeping,and reporting requirements in:
   - 40 CFR 96.306(b) and (e) and in 40 CFR Part 96, Subpart HHHH for each CAIR Ozone Season NOx unit.

Trading Program and Banking [15A NCAC 2D .2408]

5. The United States Environmental Protection Agency shall administer the allowance tracking system according to the procedures in:
   - 40 CFR Part 96, Subpart FFFF and Subpart GGGG for ozone season nitrogen oxides.

6. The owners and operators of each source covered under this Section shall have a compliance account in the EPA administered tracking system that satisfies the requirements of:
   - 40 CFR 96.351 for ozone season nitrogen oxides.

7. Any person may apply to open a general account to hold and transfer allowances by using the procedures and meeting the requirements in:
   - 40 CFR 96.351(b) for ozone season nitrogen oxides and may close that account using the procedures in 40 CFR 96.357.

8. Allowance transfers:
   - Any person who has a compliance or general account established under 40 CFR 96.351 may transfer allowances using the procedures in 40 CFR 96.360.

9. Persons with accounts shall submit information to EPA following the requirements of:
   - 40 CFR 96.352 for ozone season nitrogen oxides.

10. Any person who has a compliance account or a general account may bank allowances for future use or transfer under:
    - 40 CFR 96.355 for ozone season nitrogen oxides.

11. The appeal procedures for decisions of the Administrator are set forth in:
    - 40 CFR 96.308 for ozone season nitrogen oxides.

SECTION 3 - GENERAL CONDITIONS (v4.0)

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

A. **General Provisions** [NCGS 143-215 and 15A NCAC 02Q .0508(i)(16)]

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

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

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to 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. **Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 02Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

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

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

2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;
      iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
      iv. the Permittee shall attach the notice to the relevant permit.
   c. The written notification shall include:
      i. a description of the change;
      ii. the date on which the change will occur;
      iii. any change in emissions; and
      iv. any permit term or condition that is no longer applicable as a result of the change.
   d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.

3. Off Permit Changes [15A NCAC 02Q .0523(b)]
   The Permittee may make changes in the operation or emissions without revising the permit if:
   a. the change affects only insignificant activities and the activities remain insignificant after the change; or
   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 and Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

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

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

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
   a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
      i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
         - name and location of the facility;
         - nature and cause of the malfunction or breakdown;
         - time when the malfunction or breakdown is first observed;
         - expected duration; and
         - estimated rate of emissions;
      ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
      iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

Permit Deviations

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

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

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

1. Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess

emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in 15A NCAC 02D .0535(c)(1) through (7).

2. 15A NCAC 02D .0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

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

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

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

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

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

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 02Q .0508(i)(4)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 02Q .0508(i)(9)]

1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 02Q .0507(f)]

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes

applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

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

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

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

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

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

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

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

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

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

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

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

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

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]
A construction and operating permit shall 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)(4)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(e)]
1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall 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. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** – FEDERALLY-ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

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

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

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

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

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 02Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 02D. If emissions testing is required by this permit or

the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
   a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
      i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
      ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
      iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
   b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 02D .2600 has precedence over all other tests.

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

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

LL. **Reporting Requirements for Non-Operating Equipment** [15A NCAC 02Q .0508(i)(16)]
The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. During operation the monitoring recordkeeping and reporting requirements as prescribed by the permit shall be implemented within the monitoring period.

MM. **Fugitive Dust Control Requirement** [15A NCAC 02D .0540] - STATE ENFORCEABLE ONLY
As required by 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

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

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

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

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

OO. **Third Party Participation and EPA Review** [15A NCAC 02Q .0521, .0522 and .0525(7)]
For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Acronyms

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

Air Quality
ENVIRONMENTAL QUALITY

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL A. ABRACZINSKAS
Director

March 22, 2018

Mr. Jonathan Pruitt
Vice Chancellor for Finance and Operations
University of North Carolina at Chapel Hill
200 E. Cameron Avenue
Campus Box 1000
Chapel Hill, North Carolina 27599-1000

Dear Mr. Pruitt:

SUBJECT: Air Quality Permit No. 03069T35
Facility ID: 6800043
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
Orange County
Fee Class: Title V
PSD Status: Major

In accordance with your completed Air Quality Permit Application for a 501(c)(2) Part 1 significant modification of your Title V permit received on April 25, 2017, we are forwarding herewith Air Quality Permit No. 03069T35 to the University of North Carolina at Chapel Hill, 200 E. Cameron Avenue, CB#1000, Chapel Hill, North Carolina authorizing the construction and operation of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

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

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

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

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in tbis 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 GS 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 GS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in GS 143-215.114A and 143-215.114B.

Orange County has triggered increment tracking under PSD for PM-10, NOx, and SO_2. This modification will result in an increase in PM_{10} emissions of 0.07 pounds per hour, NOx emissions of 1.30 pounds per hour, and SO_2 emissions of 0.003 pounds per hour.

This Air Quality Permit shall be effective from March 22, 2018 until March 31, 2021, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein. Should you have any questions concerning this matter, please contact David B. Hughes at (919) 707-8411.

Sincerely,

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

Enclosure

c: Mr. Larry Daw (Environmental Compliance Officer)
Patrick Butler, Supervisor, Raleigh Regional Office
Connie Horne (Cover Letter Only)
Central Files

ATTACHMENT
University of North Carolina at Chapel Hill
Air Quality Permit No. 03069T35

Insignificant Activities Pursuant to 15A NCAC 02Q .0503(8)

ID No.	Source Description
IES-51	Sterilizers – Dental School
IES-53	Enclosed sorbent railcar dump pit, located in the Railcar Unloading Building (ID No. 020)
IES-SB-1	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-2	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-3	Water heater (0.300 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-4	Water heater (0.399 MMBtu/hr; natural gas-fired), located at Brooks Hall
IES-SB-5	Water heater (1.442 MMBtu/hr; natural gas-fired), located at Cheek Clark Building
IES-SB-7	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building
IES-SB-8	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building
IES-SB-9	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Henry Stadium
IES-SB-10	Water heater (0.750 MMBtu/hr; natural gas-fired), located at Henry Stadium
IES-SB-11	Water heater (0.450 MMBtu/hr; natural gas-fired), located at Hickerson House
IES-SB-12	Water heater (0.595 MMBtu/hr; natural gas-fired), located at Hill Commercial
IES-SB-13	Water heater (0.270 MMBtu/hr; natural gas-fired), located at Hill Annex
IES-SB-14	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Medical Research Building B
IES-SB-16	Water heater (0.900 MMBtu/hr; natural gas-fired), located at McCaskill Soccer
IES-SB-17	Water heater (0.900 MMBtu/hr; natural gas-fired), located at 135.5 East Franklin

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

ATTACHMENT
Table of Changes

The following changes were made to the University of North Carolina at Chapel Hill's Air Quality Permit No. 03069T35:

Page No.	Section	Description of Changes
Attachment	Insignificant Activities	Revised dates, names, permit revision number
Cover	---	-amended permit revision number and all dates
All	Header	-amended permit revision number
8	Section 1 Table	-Permittee requested that the existing 125 kW emergency generator (ES-Gen-67) be reinstated into the permit (same as Air Permit No. 03069T33). Remove the new 400 kW emergency generator (ES-Gen-67) which was never installed.
9	Section 1 Table	-replace 110 Hp diesel-fired fire water pump (ES-FP-3) with one new 225 Hp diesel-fired fire water pump (ES-FP-3).
9	Section 1 Table	-added footnote pertaining to significant modification under 15A NCAC 02Q .0501(c)(2) for fire water pump (ES-FP-3).
31	2.1 G.	-removed the new 400 kW emergency generator (ES-Gen-67). -Included new 225 Hp fire water pump (ES-FP-3) in table as being subject to 15A NCAC 02D .0524 (NSPS Subpart IIII).
32	Table 2.1 G.3-1.	-removed new 400 kW emergency generator (ES-Gen-67) in table as a new and reconstructed emergency RICE >500 Hp.
33	Table 2.1 G.3-3	-Included 225 Hp fire water pump (ES-FP-3) in table as a new and reconstructed emergency RICE ≤ 500 Hp.
34	Table 2.1 G.3-4	-Included existing 125 kW emergency generator (ES-Gen-67) in table as existing emergency RICE≤500 Hp. -removed existing 110 Hp fire water pump (ES-FP-3) in table as existing emergency RICE≤500 Hp.
34	2.1 G.3.a	-removed new 400 kW emergency generator (ES-Gen-67). -Included new 225 Hp fire water pump (ES-FP-3).
38	2.1 G.4	-added references to permit conditions for 15A NCAC 02Q .0504.
44	2.2 A.	-removed new 400 kW emergency generator (ES-Gen-67). -Included new 225 Hp fire water pump (ES-FP-3).
48	2.2 E.	-removed new 400 kW emergency generator (ES-Gen-67). -Included new 225 Hp fire water pump (ES-FP-3).
48 & 49	2.2 E.2	-removed new 400 kW emergency generator (ES-Gen-67) from *Emission Standards*. -Included Emission Standards – NMHC & NOx, CO, and PM for new 225 Hp fire water pump.
53	3	Updated shell conditions (v5.1, 08/03/2017).

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

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date	Expiration Date
03069T35	03069T34	March 22, 2018	March 31, 2021*

*This permit shall expire on the earlier of March 31, 2021 or the renewal of Permit No. 03069T33 has been issued or denied.

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:	**University Of North Carolina at Chapel Hill**
Facility ID:	**6800043**
Facility Site Location: **City, County, State, Zip:**	**1120 Estes Drive Extension** **Chapel Hill, Orange County, North Carolina 27599-1650**
Mailing Address: **City, State, Zip:**	**200 E. Cameron Avenue, Campus Box 1000** **Chapel Hill, North Carolina 27599-1000**
Application Number: **Complete Application Date:**	**6800043.17A** **April 25, 2017**
Primary SIC Code: **Division of Air Quality,** **Regional Office Address:**	**8221** **Raleigh Regional Office** **3800 Barrett Drive** **Raleigh, North Carolina 27609**

Permit issued this the 22th of March, 2018.

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

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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:

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
		Boilers and Heaters		
3, 10-19, 44-47	ES-001-Boiler #6[a, b] **NSPS, Subpart Db** **2D .1109** **Case by Case MACT**	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI) /torrified wood (non-CISWI)[a] -fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity	CD-004.2 CD-004.1	One bagfilter with 36,614 square feet of filter surface area Calcium carbonate injection system
3, 10-19, 44-47	ES-002-Boiler #7[a, b] **NSPS, Subpart Db** **2D .1109** **Case by Case MACT**	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI) /torrified wood (non-CISWI)[a] -fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity	CD-005.2 CD-005.1	One bagfilter with 36,614 square feet of filter surface area Calcium carbonate injection system
3, 20-23	ES-003-Boiler #8 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 338 million Btu per hour heat input capacity	None	None
3, 23-26	ES-004-Boiler #9 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity	None	None
3, 23-26	ES-005-Boiler #10 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity	None	None
3, 43, 44	ES-SB-6 **2D .1109** **Case by Case MACT**	One natural gas-fired boiler; 2.52 million Btu per hour heat capacity	*None*	*None*
	One coal handling, conveying, crushing, and storage system consisting of: NSPS, Subpart Y			
3, 26-28	ES-010.1 **NSPS Y**	One enclosed railcar dump pit	CD-018	Wet spray dust suppression systems (100 gal per min. injection rate in each hopper)
3, 26-28	ES-010.2 **NSPS Y**	One enclosed railcar dump pit		
3, 26-28	ES-010.3 **NSPS Y**	One enclosed railcar dump pit		
3, 26-28	ES-1 **NSPS Y**	One coal silo	CD-011	One bagfilter with 533 square feet of filter surface area

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
4, 26-28	ES-2 **NSPS Y**	One coal silo	CD-012	One bagfilter with 533 square feet of filter surface area
4, 26-28	ES-3.1 **NSPS Y**	One silo feed conveyor	CD-019	One bagfilter with 1598 square feet of filter surface area
4, 26-28	ES-3.2 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-3.3 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-3.4 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-3.5 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-010A **NSPS Y**	One coal crusher building	CD-013	One bagfilter with 1330 square feet of filter surface area
One ash handling, storage, and loading system consisting of:				
4, 28-30	ES-030	One ash storage silo equipped with dry loadout system	CD-031	One bagfilter with 577 square feet of filter surface area
4, 28-30	ES-030A	Enclosed wet ash loadout system	CD-032	Water injection system (8.64 gal per min. injection rate)
Storage Tanks				
4, 30	ES-T-001	One No. 2 fuel oil storage tank (500,000 gallons capacity)	None	None
4, 30	ES-T-002	One No. 2 fuel oil storage tank (500,000 gallon capacity)	None	None
4, 30	ES-T-003	One No. 2 fuel oil storage tank (184,200 gallon capacity) located at the Manning Drive Steam Plant	None	None
4, 30	ES-T-004	One No. 2 fuel oil storage tank (184,200 gallon capacity) located at the Manning Drive Steam Plant	None	None
Emergency Generators and Fire Pumps				
4, 31-38	ES-EG#1 **MACT ZZZZ**	One diesel-fired emergency generator (900 kW), located at the EPA Building	None	None
4, 31-38	ES-EG#2 **MACT ZZZZ**	One diesel-fired emergency generator (1600 kW), located at the Thurston Bowles Building	None	None
4, 31-38	ES-EG#3 **MACT ZZZZ**	One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building	None	None
4, 31-38	ES-EG#4 **MACT ZZZZ**	One diesel-fired emergency generator (1000 kW) located at Taylor Hall	None	None
4, 31-38	ES-EG#5 **MACT ZZZZ**	One diesel-fired emergency generator (910 kW) located at the Neuroscience Research Building	None	None
4, 31-38	ES-EG#6 **MACT ZZZZ**	One diesel-fired emergency generator (1500 kW) located at the Medical Biomolecular Research Building	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
5, 31-38	ES-EG#7 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,250 kW) located at the Michael Hooker Research Center	None	None
5, 31-38	ES-EG#8 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (800 kW) located at Chapman Hall	None	None
5, 31-38	ES-EG#9 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,000 kW) located at the Caudill Labs	None	None
5, 31-38	ES-EG#10 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (800 kW) located at Bondurant Hall	None	None
5, 31-38	ES-EG#11 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,750 kW) located at the Burnett-Womack Building	None	None
5, 31-38	ES-EG#12 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,250 kW) located at the Mary Ellen Jones Building	None	None
5, 31-38, 47-52	ES-EG#13 **MACT ZZZZ*, NSPS IIII, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the Genetic Medicine Building	None	None
5, 31-38	ES-EG#14 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (900 kW) located at the 440 West Franklin Building	None	None
5, 31-38	ES-EG#15 **MACT ZZZZ *, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the Rams Head Center	None	None
5, 31-38	ES-EG#16 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the ITS Building	None	None
5, 31-38, 47-52	ES-EG#17 **MACT ZZZZ*, NSP IIII**	One diesel-fired emergency generator (1,000 kW) located at the Brinkhous-Bullitt Building	None	None
5, 31-38, 47-52	ES-EG#18 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (1000 kW) located at Venable Hall	None	None
5, 31-38, 47-52	ES-EG#19 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (2500 kW) located at the Imaging Research Building	None	None
5, 31-38, 47-52	ES-EG#20 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (2000 kW) located at the Genomic Science Building	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
6, 31-38, 47-52	ES-EG#21 **MACT ZZZZ*, NSPS IIII**	One diesel-fired emergency generator (1,250 kW) located at the Dental Research Building.	None	None
6, 31-38	ES-Gen-1 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Ackland Art Museum	None	None
6, 31-38, 47-52	ES-Gen-2 **MACT ZZZZ*, NSPS IIII**	Emergency generator (500 kW, diesel-fired), located at Ambulatory Care Center	None	None
6, 31-38	ES-Gen-3 **MACT ZZZZ**	Emergency generator (30 kW, diesel-fired), located at Avery Dorm	None	None
6, 31-38	ES-Gen-4 **MACT ZZZZ**	Emergency generator (20 kW, diesel-fired) located at the Cheek/Clark Building	None	None
6, 31-38	ES-Gen-7 **MACT ZZZZ**	Emergency generator (35 kW, diesel-fired), located at Security Services Building	None	None
6, 31-38	ES-Gen-8 **MACT ZZZZ**	Emergency generator (350 kW, diesel-fired), located at Carmichael Dorm	None	None
6, 31-38	ES-Gen-9 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at Carolina Inn	None	None
6, 31-38	ES-Gen-10 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at the Center for Dramatic Art	None	None
6, 31-38	ES-Gen-11 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Craige Dorm	None	None
6, 31-38, 44, 47-52	ES-Gen-12 **MACT ZZZZ, NSPS IIII**	Emergency generator (150 kW, diesel-fired), located at Craige Parking Deck	None	None
6, 31-38, 44, 47-52	ES-Gen-13*** **MACT ZZZZ* NSPS IIII****	Emergency generator (300 kW, diesel-fired), located at the Davie Hall	None	None
6, 31-38	ES-Gen-14 **MACT ZZZZ**	Emergency generator (210 kW, diesel-fired), located at the Davis Library	None	None
6, 31-38	ES-Gen-15 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the Ehringhaus Dorm	None	None
6, 31-38	ES-Gen-18 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Fetzer Gym	None	None
6, 31-38	ES-Gen-19 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at Fordham Hall	None	None
6, 31-38	ES-Gen-20 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Cardinal Deck	None	None
6, 31-38	ES-Gen-21 **MACT ZZZZ**	Emergency generator (40 kW, natural gas-fired), located at the Old Dental School Building	None	None
6, 31-38	ES-Gen-22 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at Hill Alumni Center	None	None
6, 31-38	ES-Gen-23 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Hinton James Dorm	None	None
6, 31-38	ES-Gen-24 **MACT ZZZZ**	Emergency generator (80 kW, diesel-fired), located at Kenan Center	None	None
6, 31-38	ES-Gen-25 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Kenan Field (North)	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
7, 31-38	ES-Gen-26 **MACT ZZZZ**	Emergency generator (30 kW, diesel-fired), located at the Kenan Field (North-new)	None	None
7, 31-38	ES-Gen-27 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Kenan Field (South)	None	None
7, 31-38	ES-Gen-28 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at Kenan Football Center	None	None
7, 31-38	ES-Gen-29 **MACT ZZZZ**	Emergency generator (45 kW, diesel-fired), located at the Kenan Chemistry Lab	None	None
7, 31-38	ES-Gen-30 **MACT ZZZZ**	Emergency generator (535 kW, diesel-fired), located at the Lineberger Building Addition	None	None
7, 31-38	ES-Gen-31 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the McGavran Greenberg Building	None	None
7, 31-38	ES-Gen-32 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at the MacNider Hall	None	None
7, 31-38	ES-Gen-33 **MACT ZZZZ**	Emergency generator (175 kW, diesel-fired), located at the McColl Building	None	None
7, 31-38	ES-Gen-35 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at the Morehead Chemistry Lab	None	None
7, 31-38	ES-Gen-36 **MACT ZZZZ**	Emergency generator (30 kW, natural gas-fired), located at the Morehead Planetarium	None	None
7, 31-38	ES-Gen-37 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Morrison Dorm	None	None
7, 31-38	ES-Gen-38 **MACT ZZZZ**	Emergency generator (400 kW, diesel-fired), located at the North Side Chiller	None	None
7, 31-38	ES-Gen-39 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at Parker Dorm	None	None
7, 31-38	ES-Gen-40 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at Phillips Hall	None	None
7, 31-38	ES-Gen-41 **MACT ZZZZ**	Emergency generator (20 kW, diesel-fired), located at Security Services Building	None	None
7, 31-38	ES-Gen-42 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at the Dean Smith Center	None	None
7, 31-38, 44, 47-52	ES-Gen-43 **MACT ZZZZ*, NSPS IIII**	Emergency generator (125 kW, diesel-fired), located at the Medical Research Building B	None	None
7, 31-38	ES-Gen-44 **MACT ZZZZ**	Emergency generator (275 kW, diesel-fired), located at Tarrson Hall	None	None
7, 31-38	ES-Gen-45 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Tate-Turner-Kuralt Building	None	None
7, 31-38	ES-Gen-46 **MACT ZZZZ**	Emergency generator (260 kW, diesel-fired), located at Taylor Student Health Services	None	None
7, 31-38	ES-Gen-47 **MACT ZZZZ**	Emergency generator (50 kW, diesel-fired), located at Van Hecke-Wettach Hall	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
8, 31-38, 44, 47-52	ES-Gen-48 **MACT ZZZZ*, NSPS IIII**	Emergency generator (500 kW, diesel-fired), located at Kenan Stadium	None	None
8, 31-38, 44, 47-52	ES-Gen-49 **MACT ZZZZ, NSPS IIII**	Emergency generator (230 kW, diesel-fired), located at the Wilson Library Stacks	None	None
8, 31-38	ES-Gen-50 **MACT ZZZZ**	Emergency generator (600 kW, diesel-fired), located at Beard Hall	None	None
8, 31-38	ES-Gen-57 **MACT ZZZZ**	Emergency generator (600 kW, diesel-fired), located at the Bioinformatics Building	None	None
8, 31-38	ES-Gen-58 **MACT ZZZZ**	Emergency generator (230 kW, diesel-fired), located at the Carrington Building	None	None
8, 31-38	ES-Gen-59 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at the Glaxo Building	None	None
8, 31-38	ES-Gen-60 **MACT ZZZZ**	Emergency generator (148 kW, diesel-fired), located at the Health Sciences Library	None	None
8, 31-38	ES-Gen-61 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at the Knapp Building	None	None
8, 31-38	ES-Gen-62 **MACT ZZZZ**	Emergency generator (300 kW, diesel-fired), located at the RB House Library	None	None
8, 31-38	ES-Gen-67 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at Memorial Hall	None	None
8, 31-38	ES-Gen-68 **MACT ZZZZ**	Emergency generator (105 kW, diesel-fired), located at the Dogwood Deck	None	None
8, 31-38, 47-52	ES-Gen-71 **MACT ZZZZ*, NSPS IIII**	Emergency generator (110 kW, diesel-fired), located at the Global Education Building	None	None
8, 31-38, 47-52	ES-Gen-72 **MACT ZZZZ*, NSPS IIII**	Emergency generator (30 kW, diesel-fired), located at the Hamilton Hall	None	None
8, 31-38	ES-Gen-74 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the Joyner, Alexander Dorms	None	None
8, 31-38	ES-Gen-75 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the McIver, Kenan, Alderman Dorms	None	None
8, 31-38	ES-Gen-76 **MACT ZZZZ***	Emergency generator (500 kW, diesel-fired), located at the Northeast Chiller	None	None
8, 31-38	ES-Gen-77 **MACT ZZZZ***	Emergency generator (100 kW, diesel-fired), located at the Jackson Circle Parking Deck	None	None
8, 31-38, 47-52	ES-Gen-79 **MACT ZZZZ*, NSPS IIII**	Emergency generator (300 kW, diesel-fired), located at the Carmichael Auditorium	None	None
8, 31-38, 47-52	ES-Gen-80 **MACT ZZZZ*, NSPS IIII**	Emergency generator (300 kW, diesel-fired), located at the Hinton James Dorm	None	None
8, 31-38, 47-52	ES-Gen-81 **MACT ZZZZ*, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Physicians Office Building	None	None
8, 31-38, 47-52	ES-Gen-84 **MACT ZZZZ*, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Bell Tower Parking Deck	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
9, 31-38, 47-52	ES-FP-1 **MACT ZZZZ*, NSPS IIII**	Fire water pump (77 Hp, diesel-fired), located at Kenan Stadium	None	None
9, 31-38	ES-FP-2 **MACT ZZZZ**	Fire water pump (110 Hp, diesel-fired), located at McColl Building	None	None
9, 31-38, 44, 47-52	ES-FP-3**** **MACT ZZZZ*, NSPS IIII****	Fire water pump (225 Hp, diesel-fired), located at Davis Library	None	None
Non-emergency generators (operated 8,760 hours per year)				
9, 38-44	ES-006 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One No. 2 fuel oil-fired, compression ignition, generator (2,000 kW) located at the Cogeneration Facility	None	None
9, 38-44	ES-007 **MACT ZZZZ*, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One No. 2 fuel oil-fired, compression ignition, generator (2,000 kW) located at the Cogeneration Facility	None	None

*** MACT Subpart ZZZZ (new classification)**
**** NSPS Subpart IIII (new classification)**

*** This emission source (ID No. ES-Gen-13) is listed as a minor modification per 15A NCAC 02Q .0515. The compliance certification as described in General Condition P is required.. Unless otherwise notified by NC DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for this source shall become final on (60 days after issue date). Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate this source under pursuant to 15A NCAC 02Q .0515(l).

**** This emission source (ID No. ES-FP-3) is listed as a 15A NCAC 02Q .0501(c)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation in accordance with General Condition NN.1. The permit shield described in General Conditions R does not apply and compliance certification as described in General Condition P is not required.

a. As per the application and for the purpose of NC Toxics applicability, the Permittee is allowed to only combust unadulterated wood/wood pellets and torrified wood generated from unadulterated wood with no process additives, up to 20% of heat input rate of each boiler.

b. As per the application and for the purpose of CISWI NSPS applicability, the Permittee is allowed to only combust wood and torrified wood that is not "solid waste".

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 - Emission Source(s) and Control Devices(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 testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. Two coal/natural gas/No. 2 fuel oil/wood (non-CISWI)[a]/torrified wood (non-CISWI)[a]-fired, circulating fluidized combustion boilers (323.17 million Btu per hour heat input capacity each, ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7, NSPS-Subpart Db) with associated bagfilters (ID Nos. CD-004 and 005)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E_c = [(0.276)(Q_w) + (0.174)(Q_o)]/Q_t$ E_c = emission limit (lbs/million Btu); Q_w = actual wood heat input; Q_o = actual heat input other than wood heat input; and $Q_t = Q_w + Q_o$	15A NCAC 02D .0503
Particulate matter	**Coal alone or in combination with No. 2 fuel, wood, or torrified wood:** 0.051 lbs/million Btu heat input each boiler **Wood and/or Torrified Wood alone or in combination with No. 2 fuel or natural gas:** 0.10 lbs/million Btu heat input each boiler	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.43b (a)(1) and (c)
Particulate matter	Operation standards See Multiple Emission Section 2.2.D	15A NCAC 02D .0614 Compliance Assurance Monitoring
Sulfur dioxide	Firing of coal and fuel oil, alone or in combination 0.2 lbs sulfur dioxide per million Btu heat input -or- Sulfur dioxide emissions shall not be in excess of ten percent of the potential sulfur dioxide emission rate (90 percent reduction) and shall not contain sulfur dioxide in excess of the rate calculated by the following formula $E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$ E_s = sulfur dioxide emission limit (lbs/million Btu) K_a = 1.20 lbs/million Btu K_b = 0.80 lbs/million Btu H_a = heat input from the combustion of coal H_b = heat input from the combustion of oil	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.42b(a)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 02D .0516
Sulfur dioxide	See Multiple Emissions Section 2.2.B	15A NCAC 02D .0501(e)
Sulfur dioxide	See Multiple Emissions Section 2.2.C	15A NCAC 02D .0614 Compliance Assurance Monitoring
Nitrogen dioxide	**Coal-firing only** 0.60 lbs/million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.44b(a)

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	**Natural gas/No. 2 fuel oil-firing only** 0.10 lbs/million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.44b(a)
Nitrogen dioxide	**Combined fuel firing** $E_n = \frac{[(EL_{go}\ H_{go}) + (EL_c\ H_c)]}{H_{go} + H_c}$ E_n = nitrogen oxides emission limit (lbs/million Btu) EL_{go} = 0.10 lbs/million Btu H_{go} = heat input from the combustion of natural gas or distillate fuel (lbs/million Btu) EL_c = 0.60 lbs/million Btu H_c = heat input from the combustion of coal	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.44b (b)
Nitrogen dioxide	See Multiple Emissions Section 2.2.F	15A NCAC 02D .2400 **(CAIR)**
Hazardous air pollutants	**From coal firing:** • Filterable PM: 0.08 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • Hydrogen Chloride-Equivalent (HCl): 435.5 lbs/hr • CO: 133 ppmvd, corrected to 7% O_2 **From No. 2 fuel oil firing:** • Filterable PM: 0.014 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2 **From wood or torrified wood firing:** • Filterable PM: 0.39 lbs/MMBtu • Mercury (Hg): 5.0e-06 lbs/MMBtu • Hydrogen Chloride-Equivalent (HCl): 435.5 lbs/hr • CO: 834 ppmvd, corrected to 7% O_2	15A NCAC 02D .1109 *[CAA § 112(j)]*
Nitrogen oxides	See Specific Condition 2.1 A.5.	15A NCAC 02D .0530(u)

1. **15A NCAC 02D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emissions of particulate matter from these boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0503 and 15A NCAC 02D .0504]

$$Ec = [(0.276)(Qw) + (0.174)(Qo)]/Qt$$

Where;
Ec = emission limit for combined firing (pound per mmBtu);
Qw = actual wood heat input (including torrified wood);
Qo = actual heat input other than wood heat input; and
Qt = Qw + Qo

Testing [NCAC 2Q .0508(f)]

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

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

c. To ensure compliance, the Permittee shall follow the NSPS monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 A. 2. f through e. In addition to any other recordkeeping required by 40 CFR 60.48b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas fired during **each month.** The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if the monitoring or record keeping requirements in this Section 2.1 A.1.c are not complied with or these records are not kept.

d. The Permittee shall submit a summary report of the fuel records 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 .0524: NSPS 40 CFR PART 60 SUBPART Db

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 Db, including Subpart A General Provisions. [15A NCAC 02D .0524]

Emission Limitations [15A NCAC 02D .0524]

b. **Particulate Matter** - The maximum particulate emissions from the firing of coal alone or in combination with No. 2 fuel oil, wood and/or torrified wood shall not exceed 0.051 pounds per million Btu heat input.
The maximum particulate emissions from the firing of wood and/or torrified wood alone or in combination with No. 2 fuel oil and/or natural gas shall not exceed 0.10 pounds per million Btu heat input.

c. **Sulfur Dioxide** - The maximum sulfur dioxide emissions from the firing of coal and fuel oil, alone or in combination with wood and/or torrified shall not be in excess of 0.2 pounds per million Btu heat input ***or*** ten percent of the potential sulfur dioxide emission rate (ninety percent reduction) and shall not contain sulfur dioxide in excess of the rate calculated by the following formula:

$$E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$$

E_s = sulfur dioxide emission limit (lbs/million Btu heat input)
K_a = 1.20 lbs/million Btu heat input
K_b = 0.80 lbs/million Btu heat input
H_a = heat input from the combustion of coal in million Btu
H_b = heat input from the combustion of oil in million Btu

d. **Nitrogen Dioxide** -
   i. The maximum nitrogen dioxide emissions when firing coal shall not exceed 0.60 pounds per million Btu heat input for boilers with a low heat release rate.
   ii. The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.10 pounds per million Btu heat input for boilers with a low heat release rate.
   iii. When firing combined fuels in boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7), compliance is achieved in accordance with the formula listed in 40 CFR 60.44b (b).

e. **Opacity** - When firing coal, No. 2 fuel oil, or natural gas, each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

f. A continuous emissions monitor for sulfur dioxide, nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60, Appendix B "Performance Specifications", and Appendix F "Quality Assurance Procedures." The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the monitoring requirements in this Section 2.1 A.2.f. are not complied with.

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

g. In addition to any other recordkeeping required by 40 CFR 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each day** when firing coal or No. 2 fuel oil. 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. In addition to any other reporting required by 40 CFR 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
   i. Any excess emission reports as measured by the continuous emission monitoring systems (CEMS) and continuous opacity monitoring systems (COMS), by January 30, April 30, July 30, and October 30 of each calendar year for the preceding three-month period. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
   ii. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from each boiler (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 A.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. *In addition to any other recordkeeping required by 40 CFR 60.49b or recordkeeping requirements of* the EPA, the Permittee shall record and maintain records of the amounts of natural gas fired during **each month** in boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the fuel records 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.*

4. 15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 19, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 20, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)**:

Pollutant	Emission Limits For Each Fuel Fired In Boilers #6 and #7[2]			
	Coal	Wood/Torrified Wood	No. 2 Fuel Oil	Natural Gas
Filterable PM	0.08 lb/MMBtu	0.39 lb/MMBtu	0.014 lb/MMBtu	
Mercury (Hg):	**3.0e-06 lb/MMBtu**	**5.0e-06 lb/MMBtu**	**3.0e-06 lb/MMBtu**	
Hydrogen Chloride-equivalent (HCl)[1]:	**435.5 lbs/hr**	**435.5 lbs/hr**		
Carbon Monoxide (CO): 30-day average corrected to 7% oxygen	**133 ppmvd,**	**834 ppmvd,**	**30 ppmvd,**	**66 ppmvd,**

1. HCl-equivalent is defined by the following equation:

$$E = E_{HCl} + E_{Cl2}*(RfC_{HCl}/RfC_{Cl2})$$

Where:
E = HCl-equivalent emission rate (in lbs/hr);
E_{HCl} = Hydrogen chloride emission rate (in lbs/hr);
E_{Cl2} = Chlorine emission rate (in lbs/hr);
RfC_{HCl} = Reference concentration for HCl (20 μg/m^3); and
RfC_{Cl2} = Reference concentration for Cl_2 (0.20 μg/m^3)

2. Weighted Emission Limit Based on Heat Input of Fuel
When two or more fuels are fired in the boiler and each represent at least 10% of the heat input to the boiler, the emission limit shall be proportional to heat input of each fuel. For example, the CO emission limitation, in ppmvd, corrected to 7% O_2, measured on a 30-day average, is calculated as follows:

$$E_{CO} = [(834)(W) + (133)(C) + 30(DFO) + 66(NG)]/(W + C + DFO + NG)$$

Where:
E_{CO} = CO emission limitation in ppmvd, corrected to 7% oxygen
W = heat input of wood and torrified wood in million Btus per hour;
C = heat input of coal in million Btus per hour,
DFO = heat input of distillate No. 2 fuel oil in million Btu per hour; and
NG = heat input of natural gas in million Btus per hour.

c. The emissions limitations for a specific fuel type in Section 2.1. A.4.b. above shall only apply when the Permittee fires at least 10% of that fuel in the boiler on a 12-month rolling average heat input basis. If the Permittee fires less than 10% of a specific fuel in the boiler, the respective emissions limitations and the associated testing, monitoring, and recordkeeping for that particular fuel shall not apply. However, the Permittee shall retain records of the fuels fired in the boiler in accordance with Section 2.1.A.4.u. below. **The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Operating Standards

d. To ensure compliance with the filterable PM and mercury limitations, while firing coal/wood the exhaust from the boiler stack shall not be greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

e. To ensure compliance with the mercury and HCl-equivalent limitations while firing coal, the Permittee shall maintain the sorbent injection rate at or above the operating limit (on a lbs coal (and/or wood)/lbs sorbent injection basis) set in accordance with Section 2.1.A.4.g. below.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the Permittee does not maintain the sorbent injection rate (in lbs coal(and/or wood) fired/lb sorbent injection) at or above the operating limit (on a lbs coal(and/or wood)/lbs sorbent injection basis) set in accordance with Section 2.1.A.4.g. below.

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

f. No testing is required to demonstrate compliance with the emissions limitations associated with the firing of natural gas and No. 2 fuel oil.

g. Initial Testing Requirement. The Permittee shall conduct an initial compliance test while firing coal within 180 days of the initial compliance date, unless the NC DAQ – SSCB approves a previously conducted performance test as an equivalent compliance demonstration. Testing shall be performed in accordance with General Condition JJ found in Section 3. In addition, the tests shall be consistent with the following test methods, unless otherwise approved by the NC DAQ – SSCB:
The Permittee shall be deemed in non-compliance with 15A NCAC 02D .1109 if the required initial test is not conducted, or if the results of the emissions test exceed the limits in Section 2.1.A.4.b. above.

h. The Permittee shall establish the minimum sorbent injection rate (in lbs coal (and/or wood) fired/lb sorbent injection) during the initial performance test. During the test, the Permittee shall collect sorbent injection rate data every 15 minutes during the entire period of the performance test. The average sorbent injection rate shall be determined for each individual test run in the 3-run test by computing the average of all 15-minute readings taken during each test run.
   i. Except as provided in ii. below, the Permittee shall submit an application for a permit modification within 60 days of approval of the stack test to incorporate the minimum sorbent injection rate into the permit. This modification may be made by administrative amendment.
   ii. If the SSCB approves a prior performance test to establish the sorbent injection rate, the Permittee shall submit an application for a permit modification prior to the initial compliance date for this standard. This modification may be made by administrative amendment.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the minimum sorbent injection rate (in lbs coal(and/or wood) fired/lb sorbent injection) during the initial performance test is not established or the requirements in this Section 2.1 A.4. h. are not complied with.

i. Annual Testing. The Permittee must conduct all applicable performance tests on an annual basis, unless it meets the requirements listed in i. through iii. below. Annual performance tests, if required, must be completed between 11 and 13 months after the previous performance test.
   i. The Permittee may conduct performance tests less often for a given pollutant if the performance tests for at least 3 consecutive years show the emission rate is less than or equal to 80 percent of the allowable emission limit. In this case, the Permittee need not conduct a performance test for that pollutant for the next 2 years, but must conduct a performance test during each third year and no more than 36 months after the previous performance test.
   ii. If the affected boiler or process heater continues to remain at or below 80 percent of the allowable emission rate, the Permittee may conduct performance tests every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.
   iii. If a performance test shows emissions at greater than 80% of the allowable limit, the Permittee must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.

The Permittee must report the results of performance test within 60 days after the completion of the performance tests or fuel analyses. This report should also verify that the operating limits for the affected sources have not changed or provide documentation of revised operating parameters.

The Permittee shall be deemed in non-compliance with 15A NCAC 02D .1109 if the required annual tests are not conducted, or if the results of any tests exceed the limits in Section 2.1.A.4.b. above.

j. **Site-Specific Monitoring Plan** [15A NCAC 02Q .0508(f)]
The Permittee must develop a site-specific monitoring plan for each required continuous monitoring system (CMS). The plan shall be submitted to the NC DAQ-SSCB at least 60 days before the initial performance evaluation of the CMS. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the Permittee does not develop a site-specific monitoring plan for each CEM.

Monitoring [15A NCAC 02Q .0508(f)] **For limits associated with Coal and Wood-Firing Only.**

k. The Permittee must install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide and oxygen according to the procedures listed in i. through viii. below. The carbon monoxide and oxygen shall be monitored at the same location at the outlet of the boilers.
   i. The CEMS must be installed, operated, and maintained according to the applicable procedures under Performance Specification (PS) 3 or 4A of 40 CFR 60, Appendix B, and according to the site-specific monitoring plan required in Section 2.1.A.4.j. above.
   ii. Conduct a performance evaluation of each CEMS according to the requirements in 40 CFR 63.8 and according to PS 4A of 40 CFR 60, Appendix B.
   iii. The CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.
   iv. The CEMS data must be reduced as specified in 40 CFR 63.8(g)(2).
   v. The Permittee must calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.
   vi. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.
   vii. For purposes of calculating data averages, the Permittee may not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the boiler or process heater is operating at less than 50 percent of its rated capacity. The Permittee must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.
   viii. A 30-day rolling average emission rate above the applicable emission limitation shall constitute a violation of the standard.

l. The Permittee may install, operate, and maintain an oxygen analyzer system as defined in 40 CFR 63.7575, in lieu of the requirements to install, operate, and maintain a CEMS for carbon monoxide and oxygen in Section 2.1 A.4.k. above.

m. The Permittee must install, operate, certify and maintain the continuous opacity monitoring system (COMS) according to the procedures listed below.
   i. The COMS must be installed, operated, and maintained according to PS 1 of 40 CFR 60, Appendix B.
   ii. Conduct a performance evaluation of the COMS according to the requirements in 40 CFR 63.8 and according to PS 1 of 40 CFR 60, Appendix B.
   iii. As specified in 40 CFR 63.8(c)(4)(i), the COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
   iv. The COMS data must be reduced as specified in 40 CFR 63.8(g)(2).
   v. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.
   vi. Include in the site-specific monitoring plan, required pursuant to Section 2.1.A.4.j. above, procedures and acceptance criteria for operating and maintaining the COMS according to the requirements in 40 CFR 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.
   vii. Operate and maintain the COMS according to the requirements in the monitoring plan and the requirements of 40 CFR 63.8(e). Identify periods the COMS is out-of-control including any periods

that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

viii. Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.

n. The Permittee must install, operate, and maintain continuous parameter monitoring systems (CPMS) to monitor sorbent injection rate at the limestone injections systems according to the procedures listed below.

i. Locate the devices in a position that provide a representative measurement of the total sorbent injection rate.
ii. Install and calibrate the devices in accordance with manufacturer's procedures and specifications.
iii. At least annually, calibrate the device in accordance with the manufacturer's procedures and specifications.
iv. The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. A valid hour of data must have a minimum of four successive cycles of operation.
v. Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), conduct all monitoring in continuous operation at all times that the affected unit is operating. A monitoriog malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
vi. For purposes of calculating data averages, the Permittee may not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. The Permittee must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.
vii. Determine the 3-hour block average of all recorded readings, except as provided in paragraph vi. above.
viii. Record the results of each inspection, calibration, and validation check.
ix. Operation below the established minimum operating limits on a 3-hour average basis shall constitute a violation of established operating limits.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the monitoring requirements in Sections 2.1 A.4. k. through n. above are not complied with.

Boiler Inspection and Maintenance [15A NCAC 02Q .0508(f)]
For No. 2 Fuel Oil and Natural Gas-Firing Only

o. If less than 10% coal and less than 10% wood or torrified wood is fired in a boiler on a 12-month average heat input basis and the Permittee has not performed the monitoring in Section 2.1. A.4 k. through n. above, the Permittee shall perform an annual inspection of the boiler and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

i. Inspect the burners, and clean or replace any components of the burners as necessary;
ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the boilers are not inspected or the tune-up is not performed or the requirements of this Section 2.1 A.4.o. are not complied with.

p. The results of any required annual burner 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 of each recorded action;
ii. The results of each inspection; and,
iii. The results of any maintenance performed on the boilers.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required boiler inspection and maintenance records are not maintained.

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

q. Maintain copy of each notification and report required by this standard, including all documentation supporting any Notification of Compliance Status.
r. Maintain records of performance tests or other compliance demonstrations, CMS performance evaluations, and opacity observations.
s. For each required CEMS, CPMS, and COMS, maintain the following records:
   i. All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);
   ii. A record of each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);
   iii. All CMS calibration checks; and,
   iv. All adjustments and maintenance performed on CMS;
   Maintain records of all monitoring data and calculated averages for applicable operating limits, including opacity, carbon monoxide, and sorbent injection rate used to demonstrate compliance with the standard.
t. For each affected source, maintain records of monthly fuel use by each affected source, including the type(s) of fuel fired and amount(s) used.
u. If the Permittee limits the firing of a specific fuel to less than 10% on 12-month average heat input basis, he shall create and retain the following records at least once per calendar month:
   i. Record the fuel use by each affected source, including the type(s) of fuel and amount(s) used, during the previous calendar month; and,
   ii. Calculate the 12-month average heat input from each fuel for each affected source during the previous 12-month period.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the records in Sections 2.1 A.4. q. through u. above are not maintained.

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

v. Notification of Compliance Status. The Permittee must submit a Notification of Compliance Status that meets the requirements of 40 CFR 63.9(h)(2)(ii) before the close of business on the 60th day following the completion of the final required performance test and/or other initial compliance demonstration. The Notification of Compliance Status report must contain the following information, as applicable:
   i. A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.
   ii. Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.
   iii. Identification of whether the facility is complying with the PM emission limit or the alternative TSM emission limit.
   iv. Identification of whether the facility demonstrated compliance with each applicable emission limit through performance testing or fuel analysis.
   v. Identification of whether the facility plans to demonstrate compliance by emissions averaging.
   vi. A certification signed by the Responsible Official that the facility has met all applicable emission limits and work practice standards.
   vii. A summary of the CO emissions monitoring data and the maximum CO emission levels recorded during the performance test to show that the facility has met any applicable work practice standard.
   viii. If the affected source fires only gaseous fuel and/or distillate fuel oil, include a certification of such that is signed by the Responsible Official.
w. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each

calendar year for the preceding six-month period between January and June. The first summary report shall be required on **July 30, 2013**. The report shall include the following:

i. Company name and address;
ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
iii. Date of report and beginning and ending dates of the reporting period;
iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
v. A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable;
vi. A signed statement indicating that no new types of fuel were fired in the affected sources;
vii. Identification of any startup, shutdown, or malfunction events that were reported in accordance with 15A NCAC 02D .0535;
viii. If there are no deviations with this standard, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period;
ix. If there were no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CMSs were out of control during the reporting period; and,
x. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .0530(u): PREVENTION OF SIGNIFICANT DETERIORATION

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements for a project consisting of burning mixture of wood and coal (up to 20% wood/terrified wood and up to 80% coal, both on a heat input basis) in each boiler (ID Nos. ES-001 - Boiler #6 and ES-002 - Boiler #7).
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 A.5.b. through d. below.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

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

c. The Permittee shall maintain records of actual emissions of NOx in tons per year on a calendar year basis for five years following the resumption of regular operations after commencement of burning mixture of wood/terrified wood and coal (up to 20% wood/terrified wood and up to 80% coal, both on a heat input basis) in each boiler (ID Nos. ES-001 - Boiler #6 and ES-002 - Boiler #7).
The Permittee shall make the information, documented and maintained in this Section 2.1 A.5.c., available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530(u) if these records are not maintained.

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

d. The Permittee shall submit a report for NOx emissions to the Director within 60 days after the end of each calendar year during which the records in Section 2.1 A.5.c. must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

The reported actual emissions for each of the five calendar years for NOx will be compared to the projected actual emission as included below:

Pollutant	Projected Actual Emissions* Tons per Year
NOx	599.1

* 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.

B. One natural gas/No. 2 fuel oil-fired boiler (338 million Btu per hour heat input capacity, ID No. ES-003-Boiler #8, NSPS-Subpart Db)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	**Natural gas or No. 2 fuel oil firing** 0.174 lbs/million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	**No. 2 fuel oil-firing only** Burn low sulfur fuel 0.5 percent sulfur content by weight or less	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.42b (j)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.43b (f) and (g)
Nitrogen dioxide	0.20 lbs/million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db§60.44b (a)(1)
Nitrogen dioxide	See Multiple Emissions Section 2.2	15A NCAC 02D .2400 **(CAIR)**
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Filterable PM: 0.014 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2	15A NCAC 02D .1109 *[CAA § 112(j)]*

1. **15A NCAC 02D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS - *NATURAL GAS OR NO. 2 FUEL OIL FIRING***

   a. Emissions of particulate matter from the combustion of natural gas or No. 2 fuel oil, that are discharged from this boiler (ID No. ES-003-Boiler #8) into the atmosphere shall not exceed 0.174 pounds per million Btu heat input.

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

   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 B. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

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

   c. In addition to any other recordkeeping required by 40 CFR §60.48b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas and No. 2 fuel oil fired during **each month** in boiler (ID No. ES-003-Boiler #8). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if these records are not maintained.

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

   d. The Permittee shall submit a summary report of the fuel records 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 .0524: NSPS 40 CFR PART 60 SUBPART Db - *WHEN FIRING NO. 2 FUEL OIL***
   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 Db, including Subpart A "General Provisions."[15A NCAC 02D .0524]

   Emission Limitations [15A NCAC 02D .0524]
   b. **Sulfur Dioxide** - The maximum sulfur content of No. 2 fuel oil fired in boiler (ID No. ES-003-Boiler #8) shall not exceed 0.5 sulfur percent by weight.
   c. **Nitrogen Dioxide** - The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.20 pounds per million Btu heat input for boilers with a high heat release rate.
   d. **Opacity** - When firing No. 2 fuel oil, or natural gas, this boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

   Monitoring [15A NCAC 02Q .0508(f)]
   e. A continuous emissions monitor for nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and Appendix F "Quality Assurance Procedures." The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the monitoring requirements in this Section 2.1 B.2.e. are not complied with.

   Recordkeeping [15A NCAC 02Q .0508(f)]
   f. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each month** when firing No. 2 fuel oil. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

   Reporting [15A NCAC 02Q .0508(f)]
   g. In addition to any other reporting required by 40 CFR § 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
      i. any excess opacity emission reports as measured by the continuous emission monitor (CEM) by January 30, April 30, July 30, and October 30 of each calendar year for the preceding three-month period. *If there are no excess emissions during the calendar quarter, the Permittee shall submit a* report semiannually stating that no excess emissions occurred during the semiannual reporting period.
      ii. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. **15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**
   a. Emissions of sulfur dioxide from boiler (ID No. ES-003-Boiler #8) shall not exceed 2.3 pounds per million Btu heat input when firing natural gas. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 B. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

   Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]
   c. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amount of natural gas fired during **each month** in boiler (ID No. ES-003-Boiler #8). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the fuel records 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.

4. 15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 19, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 20, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boiler **(ID No. ES-003-Boiler #8)**:
   i. From No. 2 fuel oil firing:
      (A) Filterable PM: 0.014 lbs/MMBtu
      (B) Mercury (Hg): 3.0e-06 lbs/MMBtu
      (C) Carbon Monoxide (CO): 30 ppmvd, corrected to 7% oxygen
   ii. From natural gas firing:
      (A) Carbon Monoxide (CO): 66 ppmvd, corrected to 7% oxygen

   The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date.

Boiler Inspection and Maintenance [15A NCAC 02Q .0508(f)]

c. The Permittee shall perform an annual inspection of the boiler and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burners, and clean or replace any components of the burners as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
   iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the boiler is not inspected or tune-up is not performed or the requirements of this Section 2.1 B.4.c. are not complied with.

d. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required boiler inspection and maintenance records are not maintained.

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

e. To ensure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in the affected boiler during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if these records are not maintained or if the boiler fires a fuel other than natural gas or No. 2 fuel oil.

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

f. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The first summary report shall be required on **July 30, 2013**. The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
   vi. All instances of deviations from the requirements of this permit must be clearly identified.

C. Two natural gas/No. 2 fuel oil-fired boilers (249 million Btu per hour heat input capacity each, ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10, NSPS-Subpart Db) located at the Manning Drive Steam Plant

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	**Natural gas or No. 2 fuel oil firing** 0.164 lbs/million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	**No. 2 fuel oil-firing only** Burn low sulfur fuel 0.3 percent sulfur content by weight or less	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.42b (j)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.43b(f) and (g)
Nitrogen dioxide	0.20 lbs/million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.44b (a)(1)
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Filterable PM: 0.014 lbs/MMBtu • Mercury (Hg): 3.0e-06 lbs/MMBtu • *CO: 30 ppmvd, corrected to 7% O_2* **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2	15A NCAC 02D .1109 *[CAA § 112(j)]*

1. **15A NCAC 02D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS - *NATURAL GAS OR NO. 2 FUEL OIL FIRING***

   a. Emissions of particulate matter from the combustion of natural gas or No. 2 fuel oil that are discharged from boilers (ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10) into the atmosphere shall not exceed 0.164 pounds per million Btu heat input. [15A NCAC 02D .0503(a)]

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

   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 C. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

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

c. No monitoring, recordkeeping, or reporting is required for particulate emissions from the firing of natural gas or No. 2 fuel oil in any boiler.

2. **15A NCAC 02D .0524: NSPS 40 CFR PART 60 SUBPART Db - *WHEN FIRING NO. 2 FUEL OIL* (For boilers installed after February 28, 2005)**

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 Db, including Subpart A General Provisions.

Emission Limitations [15A NCAC 02D .0524]

b. **Sulfur Dioxide** - The maximum sulfur content of No. 2 fuel oil fired in each boiler (ID No. ES-004-Boiler #9 or ES-005-Boiler#10) shall not exceed 0.3 sulfur percent by weight.

c. **Nitrogen Dioxide** - The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.20 pounds per million Btu heat input for boilers with a high heat release rate.

d. **Particulate** – Boilers (ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10) will burn fuel oil that contains no more than 0.3 weight percent sulfur, or will burn natural gas that does not have a PM standard under §60.43b, and these boilers do not use a post-combustion technology to reduce SO_2 or PM emissions. Therefore, these boilers are not subject to the PM limits under §60.43b(h)(1).

e. **Opacity** - When firing No. 2 fuel oil, or natural gas, each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

f. A continuous emissions monitor for nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and Appendix F "Quality Assurance Procedures."

The owner or operator of an affected facility who elects to demonstrate that the affected facility combust only very low sulfur oil under §60.42b (j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the monitoring requirements in this Section 2.1 A.3.f. are not complied with.

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

g. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each month** when firing No. 2 fuel oil. 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. In addition to any other reporting required by 40 CFR § 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:

i. Any excess opacity emission reports as measured by the continuous emission monitor (CEM), by January 30, and July 30 each calendar year for the preceding **six-month period**. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.

ii. The owner or operator of an affected facility who elects to demonstrate that the affected facility combust only very low sulfur oil under §60.42b (j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b.

iii. The owner or operator of each affected facility subject to the sulfur dioxide, particulate matter, and/or nitrogen oxides emissions limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

iv. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. **15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES -When firing Natural Gas-**

a. Emissions of sulfur dioxide from boiler (ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 C. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of natural gas.

4. **15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters**

a. The Permittee shall comply with this CAA §112(j) standard until **May 19, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 20, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boilers (ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10):

i. From No. 2 fuel oil firing:
(A) Filterable PM: 0.014 lbs/MMBtu
(B) Mercury (Hg): 3.0e-06 lbs/MMBtu
(C) Carbon Monoxide (CO): 30 ppmvd, corrected to 7% oxygen

ii. From natural gas firing:
(A) Carbon Monoxide (CO): 66 ppmvd, corrected to 7% oxygen

The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date.

Boiler Inspection and Maintenance [15A NCAC 02Q .0508(f)]

c. The Permittee shall perform an annual inspection of the boilers and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

i. Inspect the burners, and clean or replace any components of the burners as necessary;

ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,

iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.

iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the boilers are not inspected or tune-up is not performed or requirements of this Section 2.1 C.4.c. are not complied with.

d. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required boiler inspection and maintenance records are not maintained.

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

e. To ensure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in the affected boilers during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if these records are not maintained or if either boilers fires a fuel other than natural gas or No. 2 fuel oil.

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

f. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The first summary report shall be required on **July 30, 2013**. The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
   vi. All instances of deviations from the requirements of this permit must be clearly identified.

D. One coal handling, conveying, crushing, and storage system [NSPS] consisting of:

* **Three enclosed railcar dump pits (ID Nos. ES-010.1, 010.2, & 010.3) with associated wet dust suppression systems (100 gallons per minute water injection rate in each hopper, ID No. CD-018),**
* **One coal silo (ID No. ES-1) with associated bagfilter (533 square feet of filter surface area, ID No. CD-011),**
* **One coal silo (ID No. ES-2) with associated bagfilter (533 square feet of filter surface area, ID No. CD-012),**
* **One coal crusher building (ID No. ES-010A) with associated bagfilter (1330 square feet of filter surface area, ID No. CD-013), and**
* **Five silo feed conveyors (ID Nos. ES-3.1, 3.2, 3.3, 3.4, & 3.5) with associated bagfilter (1598 square feet of filter surface area, ID No. CD-019)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ $P < 30$ tpy; $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy Where: E = allowable particulate emission rate (lbs/hr) P= process weight rate in tons/hr	15A NCAC 02D .0515
Visible emissions	20 percent opacity	15A NCAC 02D .0524 **40 CFR Part 60, Subpart Y**

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

   a. Emissions of particulate matter from the coal handling, conveying, crushing, and storage system shall not exceed an allowable emission rate as calculated by the following equation:

   $E = 4.10 \times P^{0.67}$ $P < 30$ tpy; and
   $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy

   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 found in Section 3. If the results of this test are above the limit provided by the equation in Section 2.1 D. 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 coal handling, conveying, crushing, and storage system shall be controlled by a bagfilters (ID Nos. CD-011, 012, and 013). To assure compliance, the Permittee shall perform the following inspections and maintenance activities:
      i. a monthly external visual inspection of the system ductwork and material collection unit for leaks; and
      ii. an annual internal inspection of the bagfilter's structural integrity to be performed.

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

   d. The records of inspection and maintenance shall be maintained in a logbook, updated on a monthly basis (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 findings of each inspection; and
      iii. the records of any maintenance performed on the bagfilter.

      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 records of any maintenance performed on the bagfilters within 30 days of receipt of a written request by the DAQ.

   f. The Permittee shall submit a summary report of 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 .0524: 40 CFR PART 60, SUBPART Y - CONTROL OF VISIBLE EMISSIONS**
   a. Visible emissions from the coal handling, conveying, crushing, and storage system shall not be more than 20 percent opacity when in operation.

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided 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. The Permittee may operate the three enclosed railcar dump pits (ID No. 010) without concurrent operation of the wet spray dust suppression system (100 gallons per minute water injection rate, ID No. 018) during times when the received coal contains sufficient moisture to prevent visible emissions from exceeding 20 percent opacity. During unloading operations when the wet suppression system is not in use, a currently certified visible emissions observer (EPA Method 9) shall observe the building vent emissions and record observations in a logbook (written or electronic format). The water sprays shall be turned on when any one opacity reading exceeds twenty percent. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the monitoring requirements in this Section 2.1 D. 2.c. are not complied with.

   Recordkeeping [15A NCAC 02Q .0508(f)]
   d. The records of the monitoring shall be maintained in a logbook, updated on a monthly basis (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 findings 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 records 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)]
   e. The Permittee shall submit a summary report of the observations 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.

E. One ash handling, storage, and loading system consisting of:

* **One ash storage silo equipped with dry loadout system (ID No. ES-030) and associated bagfilter (ID No. CD-031)**
* **One wet loadout system (ID No. ES-030A) with water injection system (ID No. CD-032)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ $P < 30$ tpy; $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy Where: E = allowable particulate emission rate in lbs/hr P = process weight rate in tons/hr	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 the ash handling, storage, and loading system shall not exceed an allowable emission rate as calculated by the following equation:

   $E = 4.10 \times P^{0.67}$ $P < 30$ tpy; and
   $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy

   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 found in Section 3. If the results of this test are above the limit provided in Section 2.1 E. 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 ash storage silo shall be controlled by a bagfilter (ID No. CD-031). To assure compliance, the Permittee shall perform inspections and maintenance consisting of routine bag cleaning and replacement and pulse air system check, as recommended by the manufacturer. In addition to the manufacturer's recommendations, the inspection and maintenance requirement shall include the following:
      i. a monthly external visual inspection of the system ductwork and material collection unit for leaks; and
      ii. an annual internal inspection of the bagfilters' structural integrity to be performed during the period of seasonal down time.

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

   d. The records of inspection and maintenance shall be maintained in a logbook, updated on a monthly basis (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 findings of each inspection; and
      iii. the records of any maintenance performed on the bagfilters.

      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 records of any maintenance performed on the bagfilters within 30 days of receipt of a written request by the DAQ.

f. The Permittee shall submit a summary report of 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.

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

a. Visible emissions from the ash handling, storage, and loading system shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

c. To ensure compliance, once a day when the system is in operation, the Permittee shall observe the emission points of this source for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission sources is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 02D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) is below the limit given in Section 2.1 E. 2. a. above. If the demonstration in (b) 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 records of the monitoring shall be maintained in a logbook, updated on a monthly basis (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 findings 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 records 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 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.

F. Four No. 2 fuel oil storage tanks (two with 500,000 gallon capacity each, ID Nos. ES-T-001 & T-002, and two with 184,200 gallon capacity each, ID Nos. ES-T-003 & T-004)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile organic compounds	No applicable requirements	None

G. Eighty-two diesel-fired, compression ignition, emergency generators; Two natural gas-fired, spark ignition, emergency generators; and Three No. 2 fuel oil-fired fire water pumps

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	See Multiple Emissions Section 2.2 A.	15A NCAC 02D .0501(c)
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity each	15A NCAC 02D .0521
Multiple pollutants	See Multiple Emissions Section 2.2 E. (ID Nos. ES-Gen-2, ES-EG#13, ES-EG-#17 to ES-EG-#20, ES-Gen#21, ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, ES-Gen-71, ES-Gen-72, ES-Gen-79 to ES-Gen-81, ES-Gen-84, ES-FP-1, and ES-FP-3)	15A NCAC 02D .0524 [40 CFR Part 60, Subpart IIII]
Hazardous air pollutants	Operate as an emergency use only engine.	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ
Hazardous air pollutants	Comply with work practices beginning May 3, 2013 for existing CI emergency generators with a site rating no more than 500 hp and beginning October 19, 2013 for existing SI emergency generators with a site rating no more than 500 hp.	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ
Hazardous air pollutants	New Stationary RICE with a site rating of equal to or less than 500 brake HP, which commenced construction on or after June 12, 2006, *subject to Regulations under 40 CFR Part 60* must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part. (ID No. ES-Gen-13 only)	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ [63.6590(c)]

1. **15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**
   a. Emissions of sulfur dioxide from each emergency generator and fire water pump shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 G. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

   c. *No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from firing* diesel fuel in any emergency generator or fire water pump.

2. **15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS**
   a. Visible emissions from the emergency generators and fire water pumps shall not be more than 20 percent opacity each 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 found in Section 3. If the results of this test are above the limit provided in Section 2.1 G. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

   Monitoring/Recordkeeping/Reporting
   c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of diesel fuel in any emergency generator or fire water pump.

3. **15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines (RICE)**

Table 2.1.G.3-1: New and Reconstructed Emergency RICE > 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#7	Diesel-fired	1250 kW	Michael Hooker Research Center
ES-EG#8	Diesel-fired	800 kW	Chapman Hall
ES-EG#9	Diesel-fired	1000 kW	Caudill Labs
ES-EG#10	Diesel-fired	800 kW	Bondurant Hall
ES-EG#11	Diesel-fired	1750 kW	Burnett-Womack Building
ES-EG#12	Diesel-fired	1250 kW	Mary Ellen Jones Building
ES-EG#13	Diesel-fired	2000 kW	Genetic Medicine Building
ES-EG#14	Diesel-fired	900 kW	440 West Franklin Building
ES-EG#15	Diesel-fired	2000 kW	Rams Head Center
ES-EG#16	Diesel-fired	2000 kW	ITS Building
ES-EG#17	Diesel-fired	1000 kW	Brinkhouse-Bullitt Building
ES-EG#18	Diesel-fired	1000 kW	Venable Hall
ES-EG#19	Diesel-fired	2500 kW	Imaging Research Building
ES-EG#20	Diesel-fired	2000 kW	Genomic Science Building
ES-EG#21	Diesel-fired	1250 kW	Dental Research Building
ES-Gen-2	Diesel-fired	500 kW	Ambulatory Care Center
ES-Gen-48	Diesel-fired	500 kW	Kenan Stadium
ES-Gen-76	Diesel-fired	500 kW	Northeast Chiller

Table 2.1.G.3-2: Existing Emergency RICE > 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#1	Diesel-fired	900 kW	EPA Building
ES-EG#2	Diesel-fired	1600 kW	Thurston Bowles Building
ES-EG#3	Diesel-fired	728 kW	Lineberger Cancer Research Bldg
ES-EG#4	Diesel-fired	1000 kW	Taylor Hall
ES-EG#5	Diesel-fired	910 kW	Neuroscience Research Building
ES-EG#6	Diesel-fired	1500 kW	Medical Biomolecular Research
ES-Gen-30	Diesel-fired	535 kW	Lineberger Building Addition
ES-Gen-38	Diesel-fired	400 kW	North Side Chiller
ES-Gen-40	Diesel-fired	500 kW	Phillips Hall
ES-Gen-50	Diesel-fired	600 kW	Beard Hall
ES-Gen-57	Diesel-fired	600 kW	Bioinformatics Building
ES-Gen-59	Diesel-fired	500 kW	Glaxo Building

Table 2.1.G.3-3: New and Reconstructed Emergency RICE ≤ 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-12	Diesel-fired	150 kW	Craige Parking Deck
ES-Gen-13	Diesel-fired	300 kW	Davie Hall
ES-Gen-43	Diesel-fired	125 kW	Medical Research Building B
ES-Gen-49	Diesel-fired	230 kW	Wilson Library Stacks
ES-Gen-71	Diesel-fired	110 kW	Global Education Building
ES-Gen-72	Diesel-fired	30 kW	Hamilton Hall
ES-Gen-79	Diesel-fired	300 kW	Carmichael Auditorium
ES-Gen-80	Diesel-fired	300 kW	Hinton James Dorm
ES-Gen-81	Diesel-fired	250 kW	Physicians Office Building
ES-Gen-84	Diesel-fired	250 kW	Bell Tower Parking Deck
ES-FP-1	Diesel-fired	77 Hp	Kenan Stadium
ES-FP-3	Diesel-fired	225 Hp	Davis Library

Table 2.1.G.3-4: Existing Emergency RICE ≤ 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-1	Diesel-fired	25 kW	Ackland Art Museum
ES-Gen-3	Diesel-fired	30 kW	Avery Dorm
ES-Gen-4	Diesel-fired	20 kW	Cheek/Clark Building
ES-Gen-7	Diesel-fired	35 kW	Security Services Building
ES-Gen-8	Diesel-fired	350 kW	Carmichael Dorm
ES-Gen-9	Diesel-fired	60 kW	Carolina Inn
ES-Gen-10	Diesel-fired	25 kW	Center for Dramatic Art
ES-Gen-11	Diesel-fired	250 kW	Craige Dorm
ES-Gen-14	Diesel-fired	210 kW	Davis Library
ES-Gen-15	Diesel-fired	250 kW	Ehringhaus Dorm
ES-Gen-18	Diesel-fired	150 kW	Fetzer Gym
ES-Gen-19	Diesel-fired	125 kW	Fordham Hall

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-20	Diesel-fired	150 kW	Cardinal Deck
ES-Gen-21	Nat. gas- fired	40 kW	Old Dental School Building
ES-Gen-22	Diesel-fired	100 kW	Hill Alumni Center
ES-Gen-23	Diesel-fired	250 kW	Hilton James Dorm
ES-Gen-24	Diesel-fired	80 kW	Kenan Center
ES-Gen-25	Diesel-fired	25 kW	Kenan Field (North)
ES-Gen-26	Diesel-fired	30 kW	Kenan Field (North-New)
ES-Gen-27	Diesel-fired	25 kW	Kenan Field (South)
ES-Gen-28	Diesel-fired	100 kW	Kenan Football Center
ES-Gen-29	Diesel-fired	45 kW	Kenan Chemistry Lab
ES-Gen-31	Diesel-fired	250 kW	McGavran Greenberg Building
ES-Gen-32	Diesel-fired	100 kW	MacNider Hall
ES-Gen-33	Diesel-fired	175 kW	McColl Building
ES-Gen-35	Diesel-fired	125 kW	Morehead Chemistry Lab
ES-Gen-36	Nat. gas-fired	30 kW	Morehead Planetarium
ES-Gen-37	Diesel-fired	250 kW	Morrison Dorm
ES-Gen-39	Diesel-fired	60 kW	Parker Dorm
ES-Gen-41	Diesel-fired	20 kW	Security Services Building
ES-Gen-42	Diesel-fired	125 kW	Dean Smith Center
ES-Gen-44	Diesel-fired	275 kW	Tarrson Hall
ES-Gen-45	Diesel-fired	150 kW	Tate-Turner-Kuralt Building
ES-Gen-46	Diesel-fired	260 kW	Taylor Student Health Services
ES-Gen-47	Diesel-fired	50 kW	Van Hecke-Wettach Hall
ES-Gen-58	Diesel-fired	230 kW	Carrington Building
ES-Gen-60	Diesel-fired	148 kW	Health Sciences Library
ES-Gen-61	Diesel-fired	60 kW	Knapp Building
ES-Gen-62	Diesel-fired	300 kW	RB House Library
ES-Gen-67	Diesel-fired	125 kW	Memorial Hall
ES-Gen-68	Diesel-fired	105 kW	Dogwood Deck
ES-Gen-74	Diesel-fired	250 kW	Joyner, Alexander Dorms
ES-Gen-75	Diesel-fired	250kW	McIver, Kenan, Alderman Dorms
ES-Gen-77	Diesel-fired	100 kW	Jackson Circle Parking Deck
ES-FP-2	Diesel-fired	110 Hp	McColl Building

a. The Permittee shall meet the requirements of 40 CFR 63 Subpart ZZZZ for emergency generators (ID Nos. ES-Gen-12, ES-Gen-13, and ES-Gen-49) and diesel-fired fire water pump (ID No. ES-FP-3) by meeting the requirements in 40 CFR 60, Subpart IIII for compression ignition engines. No further requirements shall apply to RICE of the emergency generators (ID Nos. ES-Gen-12, ES-Gen-13, and ES-Gen-49) and diesel-fired fire water pump (ID No. ES-FP-3) under 40 CFR 63. [§63.6590(c)]

Initial Notification [40 CFR §63.9]

b. The Permittee shall comply with the initial notification requirements of 40 CFR part 63 Subpart A "General Provisions," according to the applicability of Subpart A to such sources, as identified in Table No. 8 in Subpart ZZZZ, "Applicability of General Provisions to Subpart ZZZZ" for each affected emergency generator and fire water pump no later than 120 days after Initial start-up. The

notification requirements do not apply to the existing emergency RICE listed in Tables 2.1.G.3-2 and 2.1.G.3-4 above. [40 CFR §63.6645(a)]

c. In accordance with 40 CFR §63.9 (b)(2), the initial notification shall be submitted not later than 120 calendar days after startup of the emergency generator or fire water pump and shall provide the following information:
   iii. The name and address of the owner or operator;
   iv. The address (i.e., physical location) of the affected source;
   v. An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;
   vi. A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted;
   v. A statement of whether the affected sources are a major source or an area source.

d. The Permittee shall submit the initial notification to the following agencies:
   i. North Carolina Division of Air Quality, Permitting Section,
   ii. North Carolina Division of Air Quality, Regional Office Supervisor, and
   iii. EPA-Region IV.

Recordkeeping Requirement For Applicability Determination [40 CFR §63.10(b)(3)]

e. Stationary emergency RICE with a site rating of more than 500 brake horsepower (hp), for which construction or reconstruction was commenced on or after December 19, 2002 and prior to June 12, 2006, do not have to meet the requirements of subpart ZZZZ and of subpart A of this part except for the initial notification requirements in 2.1.G.3.b to d above. Stationary emergency RICE with a site rating of more than 500 brake horsepower (hp), for which construction or reconstruction was commenced on or after June 12, 2006 do not have to meet the requirements of subpart ZZZZ and of subpart A of this part except for the initial notification requirements in 2.1.G.3.b to d above and the operating restrictions in 2.1.G.3.e below.

The Permittee shall maintain the applicability determination for exclusion of the emergency RICE listed in Table 2.1.G.3-1 above from the requirements of 40 CFR Part 63, Subpart ZZZZ and Subpart A of this part, on site for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The analyses, or other information, that demonstrates the exemption from the requirements of Subpart ZZZZ and Part A of this Subpart, shall be signed by the person making the determination.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not maintained.

Operating Restrictions. [40 CFR §63.6640 (f)]

f. The Permittee shall operate each emergency stationary ICE in Tables 2.1 G.3-1 through 4 above, according to the requirements in paragraphs (f)(1) through (4) of §63.6640. In order for the engine to be considered an emergency stationary ICE under this Subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of §63.6640, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of §63.6640, the engine will not be considered an emergency engine under this Subpart and shall meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary ICE in emergency situations.

(ii) The Permittee may operate an emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of §63.6640 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of §63.6640 counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(A) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(B) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP–002–3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP–002–3.

(C) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(iii) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in this Section 2.1 G.3.f. are not met. [§63.6640(f)]

Compliance Date [40 CFR § 63.6595 (a)]

g. Beginning May 3, 2013, the Permittee shall comply with the operating limits, maintenance, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1.G.3.j. to 2.1.G.3.p. below for the existing compression ignition (CI) emergency engines listed in Table 2.1.G.3-4.

h. Beginning October 19, 2013, the Permittee shall comply with the operating limits, maintenance, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1.G.3.j. to 2.1.G.3.p. below for the existing spark ignition (CI) emergency engines listed in Table 2.1.G.3-4.

Work Practices Applicable to Table 2.1.G.3-4 RICE (except during startup) [§63.6603 and 63.6640;Table 2c]

i. For each existing emergency generator and fire water pump with a site rating no more than 500 hp, the Permittee shall change oil and filter every 500 hours of operation or annually, whichever comes first.

j. An oil analysis program may be used to extend the time allowed in 2.1.G.3.h. above between oil changes. The analysis program must, at a minimum, analyze the (1) total base number, (2) viscosity, and (3) percent water content. An oil change is not required if all three of the following conditions are meet:
   a. the total base number is greater than or equal to 30 percent of the total base number of the oil when new;
   b. the viscosity of the oil has not changed by more than 20 percent from the viscosity of the oil when new; and
   c. the percent water content (by volume) is less than or equal to 0.5.

   If one of the above limits is exceeded, the owner or operator must change the oil within 2 days of receiving the results of the analysis or before commencing operation, whichever is later. If using an oil analysis program to extend the time between oil changes, the owner or operator must keep

records of the results of the analysis and the oil changes for the engine and include the analysis program in the maintenance plan for the engine.

k. For each existing emergency generator and fire water pump, the Permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first.

l. For each emergency generator and fire water pump, the Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in Sections 2.1 G.3.i. through l. above are not met.

Work Practices Applicable to Table 2.1.G.3-4 RICE (during startup) [40 CFR 63.6625(h)]

m. The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes for each existing emergency generator and fire water pump.

Monitoring/Operation/Maintenance Requirements Applicable to Table 2.1.G.3-4 RICE

n. The Permittee shall operate and maintain the existing stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; *OR* develop and follow a site specific maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good practice for minimizing air emissions.

o. The Permittee shall install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in Section 2.1 G.3.n. and o. above are not met.

Recordkeeping/Reporting Requirements

p. The Permittee shall maintain records of the following:
   i. A copy of each notification and report that is submitted to comply with subpart ZZZZ (Note: existing RICE are not required to submit an initial notification).
   ii. The occurrence and duration of each malfunction of each stationary RICE and records of corrective actions taken during periods of malfunction to minimize emissions.
   iii. A description of the maintenance conducted on each stationary RICE.
   iv. The records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in § 63.6640(f)(2)(ii) or (iii) or § 63.6640(f)(4)(ii), the owner or operator must keep records of the *notification of the emergency situation, and the date, start time, and end time of engine* operation for these purposes.

q. The Permittee shall keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records must be in a suitable form and be readily available for expeditious review.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records required in Section 2.1 G.3.p. and q. above are not maintained or the requirements are not met.

r. The Permittee shall submit a semi-annual compliance report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The first report shall be submitted no later than July 30, 2013. The report must contain a description and the corrective actions taken for all deviations from any operating limitation and any malfunction during the reporting period. If there are no deviations from any operating limitations (work practice requirements), provide a statement that there were no deviations during the reporting period.

Applicability [40 CFR 63.6585, 6590(a)(2)(ii)]

s. For this source (ID No. ES-Gen-13) (new emergency stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions) the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart ZZZZ, "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines" and Subpart A "General Provisions."

Stationary RICE subject to Regulations under 40 CFR Part 60 [15 A NCAC 02Q. 0508(f)]

t. Pursuant to 40 CFR 63.6590(c)(6), this source (ID No. ES-Gen-13) must meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A by meeting the requirements of 40 CFR part 60 Subpart IIII. No further requirements apply for these engines under 40 CFR 63 Subpart ZZZZ and Subpart A.
If the requirements in condition t. are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

4. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. For completion of the two-step significant modification process pursuant to 15A NCAC 02Q .0501(c)(2) or (d)(2), the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of beginning operation of this source **(ID No. ES-FP-3)**.

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

b. The Permittee shall notify the Regional Office in writing of the date of beginning operation of this source **(ID No. ES-FP-3)**, postmarked no later than 30 days after such date.

H. Two No. 2 fuel oil-fired, compression ignition, non-emergency generators

ID Number	Source Description	Size of Generator	Location
ES-006 – **MACT**	No. 2 fuel oil	2000 kW maximum output	Cogeneration Facility
ES-007 – **MACT**	No. 2 fuel oil	2000 kW maximum output	Cogeneration Facility

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	See Multiple Emissions Section 2.2.A	15A NCAC 02D .0501(e)
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity each	15A NCAC 02D .0521
Hazardous air pollutants	Work practice standards, emission limits, performance testing	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ

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

a. Emissions of sulfur dioxide from each emergency generator shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 H. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

a. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from firing No. 2 fuel oil in any generator.

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

a. Visible emissions from the generators (ID Nos. ES-006 and ES-007) shall not be more than 20 percent opacity each 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 found in Section 3. If the results of this test are above the limit provided in Section 2.1 H. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting

c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of No. 2 fuel oil in any generator.

3. 15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For "New" Non-emergency, Compression Ignition, Stationary Reciprocating Internal Combustion Engines

- ES-006 (2000 kW)
- ES-007 (2000 kW)

a. General Provisions [40 CFR §63.6665]

The Permittee shall comply with the requirements of 40 CFR part 63 Subpart A "General Provisions," according to the applicability of Subpart A to such sources, as identified in Table No. 8 in Subpart ZZZZ, "Applicability Of General Provisions to Subpart ZZZZ".

b. Emission Limitations [40 CFR §63.6600(b)]

i. Reduce CO emissions by 70 percent or more at 100 percent load plus or minus 10 percent; or

ii. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 parts per billion by volume (ppbvd) or less at 15 percent O_2.

c. Operating Limitations (using an oxidation catalyst) [40 CFR §63.10(b)(3), §63.6600]

i. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than two inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and

ii. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 degrees Fahrenheit, and less than or equal to 1350 degrees Fahrenheit.

d. General Requirements [40 CFR §63.6605]

i. You must be in compliance with the emission limitations and operating limitations in this Subpart that apply to you at all times, except during periods of startup, shutdown, and malfunction.

ii. If you must comply with emission limitations and operation limitations, you must operate and maintain your stationary RICE, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

e. **Initial Performance Test** [40 CFR §63.6610]

i. You must conduct the initial performance test or other initial compliance demonstrations in Table 4 of this Subpart that apply to you within 180 days after startup. Each performance test must be conducted according to the requirements in 40 CFR §63.7(e). You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR §63.7(e)(1). You must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR §63.7(e)(3). Each test run must last at least 1 hour.

(A) To comply with the requirement to reduce CO emissions, you must measure the O_2 and CO at the inlet and outlet of the control device using a portable CO and O_2 analyzer.

(B) Measurements to determining O_2 must be made at the same time as the measurements for CO concentration using ASTM D6522-00. Methods 3A and 10 may be used as alternatives to ASTM D6522-00. The CO concentration must be at 15% percent O_2, on a dry basis.

(C) To comply with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust, you must:

(1) Select the sampling port location and the number of traverse points using Method 1 or 1A OF 40 CFR PART 60, APPENDIX A. [§63.7(d)(1)(i)] If using a control device the sampling site must be located at the outlet of the control device.

(2) Determine the O_2 concentration of the stationary RICE exhaust at the sampling port location using Method 3 or 3A or 3b of 40 CFR Part 60, Appendix A. Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde concentration.

(3) Measure moisture content of the stationary RICE exhaust at the sampling port location using Method 4 of 40 CFR Part 60, Appendix A, or Test Method 320 of 40 CFR Part 63, Appendix A or ASTM D 6348-03. Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.

(4) Measure formaldehyde at the exhaust of the stationary RICE using Method 320 or 323 of 40 CFR Part 60, Appendix A, or ASTM D6348-03, provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130. Formaldehyde concentration must be at 15 percent O_2, on a dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

If the results of this test are above the limit provided in Section 2.1-H.3.b. above or if the Permittee does not conduct the initial performance test as required in this Section 2.1-H.3.e. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

f. **Monitoring Requirements** [40 CFR §63.6625, §63.6630, §63.6635, and §63.6640]

i. If you are required to install a Continuous Parameter Monitoring System (CPMS) as specified in Table 5 of this Subpart, you must install, operate, and maintain each CPMS according the requirements in §63.8.

ii. You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this Subpart.

iii. You must submit the notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

iv. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously at all times that stationary RICE is operating.

v. You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must however, use all the valid data collected during all other periods.

vi. You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 2a and 2b of this Subpart that apply. These instances are

deviations from the emission and operating limitations in this Subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must re-establish the values of the operating parameters measured during the initial performance test. When you re-establish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to you stationary RICE.

vii. During periods of startup, shutdown, and malfunction you must operate in accordance with your startup, shutdown, and malfunction plan. Consistent with §63.7(e)(1), deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the startup, shutdown, and malfunction plan. For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations.

viii. You must also report each instance in which you did not meet the requirements in Table 8 "General Provisions" of this Subpart.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in Section 2.1 H. 3.f. above are not met.

g. **Recordkeeping** [40 CFR §63.6655 and §63.6650]

i. If you must comply with the emission and operating limitations of this Subpart, you must keep the following records:

(A) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(B) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(C) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

ii. For each CMPS, you must keep following records:

(A) Records described in §63.10(b)(2)(vi) through (ix).

(B) Previous (i.e. superseded) versions of the performance evaluation plan as required §63.8(d)(3).

(C) Requests for alternatives to the relative accuracy test for CPMS as required in 63.8(f)(6)(i), if applicable.

iii. You must keep the records required in Table 6 of this Subpart to show continuous compliance with each emission or operating limitation that applies to you.

iv. *Your records must be in a form suitable and readily available for expeditious review* according to §63.10(b)(1). You must keep each record readily accessible in hard copy or electronic form on site for at least 2 years after the date of each occurrence, measure, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off-site for the remaining 3 years.

v. Each record shall be kept for five years following the date of occurrence, measurement, maintenance, corrective action, report, or record.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these are not maintained or the requirements in this Section 2.1 H.3.g. are not met.

h. **Reporting** [40 CFR §63.6645 and §63.6650]

i. You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.

ii. If you start up your new or reconstructed stationary RICE on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this Subpart.

iii. If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

iv. If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this Subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).
   (A) For each initial compliance demonstration required in Table 5 of this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

v. The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

vi. The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

vii. Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

viii. The Compliance report must contain the following information:
   (A) Company name and address.
   (B) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
   (C) Date of report and beginning and ending dates of the reporting period.
   (D) If you had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in §63.10(d)(5)(i).
   (E) If there are no deviations from any emission or operating limitations, a statement that there were no deviations from the emission or operating limitations during the reporting period.
   (F) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.
   (G) For each deviation from an emission or operating limitation occurring for a stationary RICE where a CMS is used to comply with the emission and operating limitations in this Subpart, include the following information:
      (1) The date and time that each malfunction started and stopped.
      (2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.
      (3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).
      (4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.
      (5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.
      (6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.
      (7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.
      (8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.
      (9) A brief description of the stationary RICE.
      (10) A brief description of the CMS.
      (11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(H) Each affected source that has obtained a Title V operating permit pursuant to 40 CFR Part 70 or 71 must 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 7 of this Subpart 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 or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

I. One natural gas-fired boiler (2.52 million Btu per hour heat input capacity, ID No. ES-SB-6)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	Work practices	15A NCAC 02D .1109 *[CAA § 112(j)]*

1. 15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The initial compliance date for these emission sources and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date.

Inspection and Maintenance [15A NCAC 02Q .0508(f)]

b. The Permittee shall perform an annual inspection of the boiler (ID Nos. ES-SB6) and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burners, and clean or replace any components of the burners as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
   iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the requirements in this Section 2.1 I.1.b. are not met.

c. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required inspection and maintenance records are not maintained.

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

d. *To ensure compliance, each calendar month the Permittee shall create and retain a record of the* amounts of each fuel fired in each the affected source during the previous calendar month. The

monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained or if the boiler or water heater fires a fuel other than natural gas.

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

e. Semiannual Summary Report. The Permittee shall submit a summary report by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The first summary report shall be required on July 30, 2013. The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
   vi. All instances of deviations from the requirements of this permit must be clearly identified.

2.2 – MULTIPLE EMISSION SOURCES AND SPECIFIC LIMITATIONS AND CONDITIONS

A. 15A NCAC 02D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

In order to ensure that combustion sources (emergency generators (ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3)) do not contribute to an exceedance of the 1-hour NO_2 National Ambient Air Quality Standard (NAAQS); the Permittee may only operate these generators (ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48 and ES-Gen-49) for readiness testing when generators (ID Nos. ES-006 and ES-007) are not operating and when readiness testing is not being performed for any other emergency generator, except ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3.

In order to ensure compliance with the annual NO_2 NAAQS, non-emergency generators (ID Nos. ES-006 and ES-007) shall not operate for more than 7,500 hours each on a consecutive 12-months basis.

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

1. The Permittee shall maintain operational records sufficient to demonstrate that combustion sources (emergency generators (ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3) have not operated for readiness testing during the concurrent operation of generators (ID Nos. ES-006 and ES-007) and the performance of readiness testing of any other emergency generator, except ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3. The Permittee shall make these records available to a DAQ authorized representative upon request.

   The Permittee shall maintain records of the hours of operation of non-emergency generators (ID Nos. ES-006 and ES-007) on a monthly basis and make these records available to a DAQ authorized representative upon request.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the above records are not maintained.

B. 15A NCAC 02D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

In order to ensure that the twenty-four hour SO_2 National Ambient Air Quality Standard (NAAQS) is not exceeded, boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) are required to monitor and keep records of SO_2 emissions using a 24-hour block average when firing coal.

- ID No. ES-001-Boiler #6
- ID No. ES-002-Boiler #7

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	1.2 lbs/million Btu heat input per 24-hour block average	15A NCAC 02D .0501(c) 40 CFR Part 60, Subpart Db, 60.42b (a)

Monitoring/Recordkeeping

1. The Permittee shall determine sulfur dioxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 60, Subpart A and Subpart Db, Appendix B, and Appendix F. Compliance with sulfur dioxide emission standards shall be determined by averaging the average 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 shall be summed, and the sum shall be divided by the number of operating hours for which valid data exists.

   A minimum of four data points, equally spaced, shall be required to determine a valid hour. Data availability shall be 95 percent on a yearly basis. If any 24-hour block average exceeds 1.2 pounds per million Btu heat input (388 pounds of SO_2 per hour), the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501 (e).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the requirements in this Section 2.2. B.1. are not met.

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

2. 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 no later than 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.

C. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING (CAM) for Sulfur Dioxide

1. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following.

2. **Background**
   a. Emission Units
      i. Description: Two coal/natural gas/No. 2 fuel oil-fired, circulating fluidized combustion boilers, 323.17 million Btu per hour heat input each.
      ii. Identification: ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7

   b. Applicable Regulation, Emission Limit, and Monitoring Requirements.
      i. Regulations: 15A NCAC 02D .0516 and 15A NCAC 2D .0524 (Subpart Db)
      ii. Emission limits: 2.3 pound SO_2 per million Btu heat input when firing natural gas {15A NCAC 02D .0516}

1.2 pounds SO_2 per million Btu heat input when firing coal {15A CAC 02D .0524, 40 CFR §60.42b(d)} and 0.2 lbs SO_2 per million Btu heat input or a minimum 90% reduction when firing coal and/or No. 2 fuel oil {15A CAC 2D .0524, amended (February 27, 2006) 40 CFR §60.42b(a)}

3. **Monitoring Approach**
NSPS, Subpart Db requires that a Continuous Emissions Monitoring System (CEMs) be installed to monitor the SO_2 emissions from boilers, ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7. This monitoring system satisfies the requirements of CAM in accordance with 40 CFR Part 64, §64.3(d)(1).

D. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING (CAM) for Particulate

1. Per 40 CFR 64 and 15A NCAC 02D .0614 and until February 3, 2013, the Permittee shall comply with the following: Beginning February 3, 2013, particulate emissions from boilers #6 and #7 (ID No. ES-001 and ES-002) are subject to the requirements in Section 2.1.A.4, 15A NCAC 02D .1109: CAA § 112(j); "Case-by-Case MACT for Boilers & Process Heaters" and no longer subject to CAM.

2. **Background**
   a. Emission Units
      i. Description: Two coal/natural gas/No. 2 fuel oil/wood/torrified wood-fired, circulating fluidized combustion boilers, 323.17 million Btu per hour heat input each.
      ii. Identification: ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7

   b. Applicable Regulation, Emission Limit, and Monitoring Requirements.
      i. Regulations: 15A NCAC 02D .0503 and 15A NCAC 02D .0524 (Subpart Db)
      ii. Emission limits:
      0.051 pounds per million Btu heat input {NSPS, 40 CFR §60.43b(a)(1) –Particulate matter}
      0.174 pounds per million Btu heat input {15A NCAC 02D .0503 –PM_{10}}
      iii. Control Technology: Two bagfilters (ID Nos. CD-004 and CD-005)

3. **Monitoring Approach**. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table:

	1
I. Indicator	Visible emissions
Measurement Approach	Visible emissions from the fabric filter will be monitored continuously using COM system on each boiler
II. Indicator Range	An excursion is defined as visible emissions in amounts greater than or equal to 15%. Excursions trigger an inspection, corrective action, and a reporting requirement.
QIP Threshold	The QIP threshold is six excursions in a 6-month reporting period.

	1
III. Performance Criteria	
A. Data Representativeness	Measurements are being made at the emission point (fabric filter outlet) of each boiler
B. Verification of Operational Status	DAHS
C. QA/QC Practices D. Monitoring Frequency	The COM systems shall be calibrated, maintained and operated according to 40 CFR 60, Appendix B, PS1. Data is collected continuously with COM systems.
Data Collection Procedures	Data from the COM system is collected electronically and maintained on the Data Acquisition and Handling System computer along with information on the operating status of the boilers.
Averaging Periods	6-minutes

4. **Justification**
   a. Background. The pollutant-specific emission units are the two coal/natural gas/No. 2 fuel oil/wood/torrified wood-fired -fired boilers used to produce steam. The particulate matter emissions from each boiler are controlled by fabric filters with approximately 36,614 square feet of filter area each.

   b. Rationale for Selection of Performance Indicators. Visible emissions was selected as the performance indicator as a surrogate for PM and PM10 because it is a good indicator of the proper operation and maintenance of the filter units. When the filter units are operating properly, there will not be any visible emissions in the exhaust outlet. Any increase in visible emissions indicates reduced performance of the filter units, therefore, the presence of visible emissions in levels exceeding or equal to 15% is used as a performance indicator.
   c. Rationale for Section of Indicator Ranges. Per operating knowledge of the systems, the facility has selected an indicator range of greater than or equal to 15% opacity. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An increase in visible emissions is indicative of an increase in particulate emissions; and a COMs is a well established monitoring technique for these sources.

      The selected QIP threshold for fabric filter visible emissions is six excursions in a 6-month reporting period. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

5. **Reporting** [15A NCAC 02Q .0508(f)]
   The Permittee shall submit a summary report of all monitoring activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All *instances of deviations for the requirements of this permit must be clearly identified.*

E. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS [40 CFR 60 SUBPART IIII]

- **ES-EG#13 (diesel-fired emergency generator, 2000 kW, 2682 hp)**
- **ES-EG#17 (diesel-fired emergency generator, 1000 kW, 1341 hp)**
- **ES-EG#18 (diesel-fired emergency generator, 1000 kW, 1341 hp)**
- **ES-EG#19 (diesel-fired emergency generator, 2500 kW, 3353 hp)**
- **ES-EG#20 (diesel-fired emergency generator, 2000 kW, 2682 hp)**
- **ES-EG#21 (diesel-fired emergency generator, 1350 kW, 1835 hp)**
- **ES-Gen-2 (diesel-fired emergency generator, 450 kW, 603 hp)**

- **ES-Gen-12 (diesel-fired emergency generator, 150 kW, 230 hp)**
- **ES-Gen-13 (diesel-fired emergency generator, 300 kW, 402 hp)**
- **ES-Gen-43 (diesel-fired emergency generator, 125 kW, 170 hp)**
- **ES-Gen-48 (diesel-fired emergency generator, 500 kW, 680 hp)**
- **ES-Gen-49 (diesel-fired emergency generator, 230 kW, 308 hp)**
- **ES-Gen-71 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-Gen-72 (diesel-fired emergency generator, 30 kW, 40 hp)**
- **ES-Gen-79 (diesel-fired emergency generator, 400 kW, 536 hp)**
- **ES-Gen-80 (diesel-fired emergency generator, 350 kW, 469 hp)**
- **ES-Gen-81 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-Gen-84 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-FP-1 (diesel-fired fire water pump, 57 kW, 77 hp)**
- **ES-FP-3 (diesel-fired fire water pump, 168 kW, 225 hp)**

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

Emission Standards

2. The Permittee shall comply with the following emission standards:

Emission Standards: (ES-EG#13, #17, #18, #20 and #21)
NMHC and NOx (combined): 6.4 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.20 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-EG#19)
NOx : 9.2 g/kW-hr
CO: 11.4 g/kW-br
PM: 0.54 g/kW-hr
HC: 1.3 g/kW-br
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-43)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 5.0 g/kW-hr
PM: 0.3 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-48, ES-Gen-49, ES-79, ES-Gen-80, ES-Gen-81, and ES-Gen-84)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.2 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-71)
HC: 1.3 g/kW-hr
NOx: 9.2 g/kW-hr
CO: 11.4 g/kW-hr
PM: 0.54 g/kW-hr

[§60.4205(a) and Table 1 to the Subpart IIII]

Emission Standards: (ES-Gen-72)
NMHC and NOx (combined): 9.5 g/kW-hr
CO: 5.5 g/kW-hr
PM: 0.80 g/kW-hr
[§60.4205(a) and Table 1 to the Subpart IIII]

Emission Standards: (ES-FP-1)
NMHC and NOx (combined): 10.5 g/kW-hr
CO: 5.0 g/kW-hr
PM: 0.80 g/kW-hr
[§60.4205(c) and Table 4 to the Subpart IIII]

Emission Standards: (ES-FP-3)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.20 g/kW-hr
[§89.112(a) and Table 4 to the Subpart IIII]

3. The Permittee shall use diesel fuel in the CI engine of each emergency generator and fire pump with a sulfur content of less than 15 ppm beginning October 1, 2010. [§60.4207, and §80.510(a) and (b)]

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

4. 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 2.2 E. 2. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

5. The CI ICE of each emergency generator and fire pump shall be equipped with a non-resettable hour meter prior to startup, if the CI ICE does not meet the standards in §60.4204. If the CI engine of each emergency generator and fire pump is not equipped with a non-resettable hour meter prior to startup, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524. [§60.4209(a)]

6. The Permittee shall operate and maintain each stationary CI ICE that achieves the emission standards in §60.4205 over the entire life of the engine according to the manufacturer's emission-related written instructions or procedures developed by the Permittee that are approved by the engine manufacturer. The Permittee may only change engine settings that are permitted by the manufacturer. The Permittee shall also meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section are not met. [§60.4206 and §60.4211(a)]

7. If CI ICEs of emergency generators are required to comply with the emission standards in §60.4205(a), or if the CI engine of fire water pump is manufactured prior to the model years in Table 3 to the Subpart and must comply with the emission standards in §60.4205(c), the Permittee shall demonstrate compliance according to one of the methods specified in §60.4211(b) as included below:

   (A) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
   (B) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
   (C) Keeping records of engine manufacturer data indicating compliance with the standards.

(D) Keeping records of control device vendor data indicating compliance with the standards.
(E) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section 2.2 E.7. are not met. [§60.4211(b)]

8. The Permittee shall purchase 2007 model year and later emergency CI ICE for emergency generators certified to the emission standards in §§60.4205(b), for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications except as provided in §60.4211(g). If the installed CI ICEs of the above emergency generators are not certified to meet the emission standards in §60.4205(b) or the CI ICEs are not configured according to the manufacturer's emission-related specifications (except as provided in §60.4211(g)), the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524. [§60.4211(c)]

9. The Permittee shall operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of §60.4211. In order for the engine to be considered an emergency stationary ICE under this Subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of §60.4211, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of §60.4211, the engine will not be considered an emergency engine under this Subpart and shall meet all requirements for non-emergency engines.

(A) There is no time limit on the use of emergency stationary ICE in emergency situations.
(B) The Permittee may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of §60.4211 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of §60.4211 counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP–002–3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP–002–3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(C) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of §60.4211, the 50 hours per calendar year for nonemergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(AA) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(BB) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(CC) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(DD) The power is provided only to the facility itself or to support the local transmission and distribution system.

(EE) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section 2.2. E.9. are not met. [§60.4211(f]

10. If the Permittee does not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, the Permittee shall demonstrate compliance as follows:

(A) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(B) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission related settings in a way that is not permitted by the manufacturer.

(C) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained

in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section 2.2 E.10. are not met. [§60.4211(g)]

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

11. Starting with the emergency engine model year 2011, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the Permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The Permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if these records are not maintained. [§60.4214(b)]

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

12. No initial notification under §60.7 is required for emergency stationary CI internal combustion engines. [§60.4214(b)]

13. If the Permittee operates the emergency stationary CI ICE with a maximum engine power of 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4211(f)(2)(ii) and (iii), or that operates for the purposes specified in §60.4211(f)(3)(i), the Permittee shall submit an annual report according to the requirements in paragraphs (d)(1) through (3) of §60.4214. [§60.4214(d)]

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

F. 15A NCAC 02D .2400 "Clean Air Interstate Rule" (CAIR)

1. The ozone season allocations of nitrogen oxide allowances shall be determined by the US EPA. The emissions of nitrogen oxides of a source shall not exceed the number of allowances that it has in its compliance account established and administered in accordance with 15A NCAC 02D .2408.

2. Emission measurement requirements:
   - Emission measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NOx Ozone Season source with its emissions limitation according to 40 CFR 96.306(c).

3. Excess Emissions:
   - The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

Monitoring/Reporting/Recordkeeping [15A NCAC 02D .2407]

4. The owner or operator of a CAIR unit shall comply with the monitoring, recordkeeping,and reporting requirements in:
   - 40 CFR 96.306(b) and (e) and in 40 CFR Part 96, Subpart HHHH for each CAIR Ozone Season NOx unit.

Trading Program and Banking [15A NCAC 02D .2408]

5. The United States Environmental Protection Agency shall administer the allowance tracking system according to the procedures in:
   - 40 CFR Part 96, Subpart FFFF and Subpart GGGG for ozone season nitrogen oxides.

6. The owners and operators of each source covered under this Section shall have a compliance account in the EPA administered tracking system that satisfies the requirements of:
   - 40 CFR 96.351 for ozone season nitrogen oxides.

7. Any person may apply to open a general account to hold and transfer allowances by using the procedures and meeting the requirements in:
   - 40 CFR 96.351(b) for ozone season nitrogen oxides and may close that account using the procedures in 40 CFR 96.357.

8. Allowance transfers:
   - Any person who has a compliance or general account established under 40 CFR 96.351 may transfer allowances using the procedures in 40 CFR 96.360.

9. Persons with accounts shall submit information to EPA following the requirements of:
   - 40 CFR 96.352 for ozone season nitrogen oxides.

10. Any person who has a compliance account or a general account may bank allowances for future use or transfer under:
    - 40 CFR 96.355 for ozone season nitrogen oxides.

11. The appeal procedures for decisions of the Administrator are set forth in:
    - 40 CFR 96.308 for ozone season nitrogen oxides.

SECTION 3 - GENERAL CONDITIONS (version 5.1, 08/03/2017)

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

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

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

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to 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. **Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 02Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

H. **Changes Not Requiring Permit Modifications**

1. Reporting Requirements
   Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
   a. changes in the information submitted in the application;
   b. changes that modify equipment or processes; or
   c. changes in the quantity or quality of materials processed.

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

2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;
      iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
      iv. the Permittee shall attach the notice to the relevant permit.
   c. The written notification shall include:
      i. a description of the change;
      ii. the date on which the change will occur;
      iii. any change in emissions; and
      iv. any permit term or condition that is no longer applicable as a result of the change.
   d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. Off Permit Changes [15A NCAC 02Q .0523(b)]
   The Permittee may make changes in the operation or emissions without revising the permit if:
   a. the change affects only insignificant activities and the activities remain insignificant after the change; or
   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 and Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

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

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

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.

2. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
   a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
      i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
         - name and location of the facility;
         - nature and cause of the malfunction or breakdown;
         - time when the malfunction or breakdown is first observed;
         - expected duration; and
         - estimated rate of emissions;
      ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
      iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

Permit Deviations

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

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

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

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

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

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

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

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 02Q .0508(e) and 02Q .0513(b)]
This 15A NCAC 02Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 02Q .0512(b)(1), this 15A NCAC 02Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 02Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 02Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 02Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]
A construction and operating permit shall 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)(4)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(e)]
1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall 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. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** – FEDERALLY-ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

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

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

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

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

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

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
   a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
      i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
      ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
      iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
   b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any

test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 02D .2600 has precedence over all other tests.

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

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

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

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

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

As required by 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are *observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR,* Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

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

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

1. *For modifications made pursuant to 15A NCAC 02Q .0501(c)(2), the Permittee shall file a Title V Air* Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 02Q .0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 02Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA - Air Planning Branch, 61 Forsyth Street SW, Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
   a. a description of the change at the facility;

b. the date on which the change will occur;
c. any change in emissions; and
d. any permit term or condition that is no longer applicable as a result of the change.

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

OO. **Third Party Participation and EPA Review** [15A NCAC 02Q .0521, .0522 and .0525(7)]
For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Acronyms

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

Hines, Andrea

From: Johnson, Terry
Sent: Wednesday, October 3, 2018 5:14 PM
To: Willets, William
Subject: RE: [External] Proposed T5 Renewal Permit: UNC Chapel Hill - Permit No. 03069-T36

OK – thanks for the heads-up. I'll leave the permit in the parallel review track for now and wait until you receive comments to move it to sequential review.

-Terry

From: Willets, William [mailto:william.willets@ncdenr.gov]
Sent: Wednesday, October 3, 2018 4:18 PM
To: Johnson, Terry ; Hughes, David
Cc: Ceron, Heather ; Adams, Yolanda ; Mark Cuilla
Subject: RE: [External] Proposed T5 Renewal Permit: UNC Chapel Hill - Permit No. 03069-T36

Terry,

We recently received a pretty extensive public information request regarding UNC Chapel Hill. It primarily involved sulfur dioxide from the school's coal-fired boilers, modeling of those emissions, a fire-water pump as well as increment tracking and analyses for all of Orange County. I don't know if this has any effect on your decision but I'm certain we will get comments on the draft permit for this application.

William

William D. Willets, P.E.
Chief, Permitting Section
Division of Air Quality
North Carolina Department of Environmental Quality

919 707 8726 office
william.willets@ncdenr.gov

217 W. Jones Street
1641 Mail Service Center
Raleigh, NC 27699-1641

Nothing Compares

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Johnson, Terry <Johnson.Terry@epa.gov>
Sent: Wednesday, October 03, 2018 4:13 PM
To: Willets, William <william.willets@ncdenr.gov>; Hughes, David <david.b.hughes@ncdenr.gov>
Cc: Ceron, Heather <Ceron.Heather@epa.gov>; Adams, Yolanda <Adams.Yolanda@epa.gov>
Subject: [External] Proposed T5 Renewal Permit: UNC Chapel Hill - Permit No. 03069-T36

CAUTION: External email. Do not click links or open attachments unless verified. Send all suspicious email as an attachment to Report Spam.

Hi William and David,

We are in receipt of the proposed Title V renewal permit for UNC Chapel Hill (Permit No. 03069-T36), which also incorporates new boiler scrubber operating parameters based on recent performance test results. We are NOT targeting this proposed permit for review. Please let us know if you receive any comments during the public comment period.

Regards,

--Terry

Terry Johnson
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404-562-8950
Johnson.Terry@epa.gov

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Categories: Red Category

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http://www.epa.gov/40th
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Over 45 Years of Achievements and Milestones
http://www2.epa.gov/earthday

Hines, Andrea

From: Johnson, Terry
Sent: Wednesday, October 3, 2018 4:08 PM
To: Hash, Kathy
Subject: RE: Public Notice Documents for Th University of North Carolina at Chapel Hill 6800043.15A, .15B and .18A

Thanks, Kathy!

From: Hash, Kathy [mailto:kathy.hash@ncdenr.gov]
Sent: Monday, September 24, 2018 10:18 AM
To: Daw, Larry ; JPruitt@unc.edu; Mceachern, Charles ; Ashley Featherstone ; barnetwm@forsyth.cc; Jason.rayfield@mecklenburgcountync.gov; affected State Georgia ; affected state South Carolina ; affected State Tennessee ; affected state Virginia (amber.foster@deq.virginia.gov) ; Shepherd, Lorinda ; Purvis, James ; Johnson, Terry ; Ceron, Heather ; hillaker ; int ; int ; int ; int ; int ; int par ; interested party ; interested party ; interested party ; interested party ; interested party <'comet2000@nc.rr.com'>; interested party ; interested party <'cinjaharris@comporium.net'>; interested party <'bredl@skybest.com'>; interested party ; interested party ; interested party <'bethhenry@carolina.rr.com'>; interested party <'davidmickey@bellsouth.net'>; interested party ; interested party (john.bird@arauco-na.com) ; ip ; ip ; ip ; ip ; ip ; ip ; ip ; ip ; ip ; ip ; Heather Sands ; selc ; Jennifer Sheppard ; tc ; wf
Cc: Hughes, David ; Pullen, Booker
Subject: Public Notice Documents for Th University of North Carolina at Chapel Hill 6800043.15A, .15B and .18A

Please Find attached documents pertaining to the subject application for your review and comments.
Engineer : David Hughes
Newspaper: NCDAQ Website
Date of publication for Public Notice September 25, 2018
Public Comment period ends October 25, 2018
EPA Comment period ends November 9, 2018
Please let me know if you have any questions regarding this matter.
Webmaster, Please place appropriate documents on DAQ website.

Kathy Hash
Administrative Specialist, Division of Air Quality, Permitting Section
North Carolina Department of Environmental Quality
1641 Mail Service Center 919.707.8734 (Office/Fax)
Raleigh, NC 27699-1641 www.ncair.org
kathy.hash@ncdenr.gov

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Hines, Andrea

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Over 45 Years of Achievements and Milestones
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PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT
STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

The North Carolina Division of Air Quality (DAQ) hereby gives notice of its intent to issue an Air Quality Permit to:

The University Of North Carolina at Chapel Hill
1120 Estes Drive Extension
Chapel Hill, North Carolina 27599-1650
Orange County
Application ID: 6800043.15A, .15B and 18A, Permit No.: 03069T36

This facility applied for an Air Quality Title V Operation Permit which meets the requirements specified in 15A North Carolina Administrative Code 2Q.0500.

Persons wishing to submit written comments or request a public hearing regarding the Air Quality Title V Operation Permit are invited to do so. Requests for a public hearing must be in writing and include a statement supporting the need for such a hearing, an indication of your interest in the facility, and a brief summary of the information intended to be offered at such hearing.

Written comments or requests for a public hearing should be postmarked no later than October 25, 2018 and addressed to David Hughes, Division of Air Quality, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641.

All comments received prior to this date will be considered in the final determinations regarding the Air Quality Permit. A public hearing may be held if the Director of the DAQ determines that significant public interest exists or that the public interest will be served.

Interested persons may obtain additional information, including copies of the permit, application, all other relevant supporting materials, and all other materials available to DAQ that are relevant to the permit decision by writing to the above address or calling David Hughes at (919) 707-8411.

Interested persons are encouraged to review these materials during normal business hours at either of the following locations.

NCDEQ
Division of Air Quality
217 West Jones Street, Suite 4000
Raleigh, NC 27603

OR

Raleigh Regional Office
3800 Barrett Drive
Raleigh, NC 27609

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

Hines, Andrea

From: Johnson, Terry
Sent: Wednesday, October 3, 2018 4:13 PM
To: Willets, William; david.b.hughes@ncdenr.gov
Cc: Ceron, Heather; Adams, Yolanda
Subject: Proposed T5 Renewal Permit: UNC Chapel Hill - Permit No. 03069-T36

Hi William and David,

We are in receipt of the proposed Title V renewal permit for UNC Chapel Hill (Permit No. 03069-T36), which also incorporates new boiler scrubber operating parameters based on recent performance test results. We are NOT targeting this proposed permit for review. Please let us know if you receive any comments during the public comment period.

Regards,

--Terry

Terry Johnson
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404-562-8950
Johnson.Terry@epa.gov

http://www.epa.gov/40th
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Over 45 Years of Achievements and Milestones
http://www2.epa.gov/earthday

Hines, Andrea

From: Hash, Kathy <kathy.hash@ncdenr.gov>
Sent: Monday, September 24, 2018 10:18 AM
To: Daw, Larry; JPruitt@unc.edu; Mceachern, Charles; Ashley Featherstone; barnetwm@forsyth.cc; Jason.rayfield@mecklenburgcountync.gov; affected State Georgia; affected state South Carolina; affected State Tennessee; affected state Virginia (amber.foster@deq.virginia.gov); Shepherd, Lorinda; Purvis, James; Johnson, Terry; Ceron, Heather; hillaker; int; int; int; int; int; int par; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party (john.bird@arauco-na.com); ip; ip; ip; ip; ip; ip; ip; ip; ip; ip; Heather Sands; selc; Jennifer Sheppard; tc; wf
Cc: Hughes, David; Pullen, Booker
Subject: Public Notice Documents for Th University of North Carolina at Chapel Hill 6800043.15A, .15B and .18A
Attachments: Public Notice for UNC.pdf; Letter to Region for UNC.pdf; Letter to EPA for UNC.pdf; Letter to Applicant for UNC.pdf; UNC at Chapel Hill AirPermitReview 03069T36_15A_15B_18A.pdf; UNC at Chapell Hill Air Permit 03069T36_15A_15B_18A.pdf

Please Find attached documents pertaining to the subject application for your review and comments.
Engineer : David Hughes
Newspaper: NCDAQ Website
Date of publication for Public Notice September 25, 2018
Public Comment period ends October 25, 2018
EPA Comment period ends November 9, 2018
Please let me know if you have any questions regarding this matter.
Webmaster, Please place appropriate documents on DAQ website.

Kathy Hash
Administrative Specialist, Division of Air Quality, Permitting Section
North Carolina Department of Environmental Quality
1641 Mail Service Center 919.707.8734 (Office/Fax)
Raleigh, NC 27699-1641 www.ncair.org
kathy.hash@ncdenr.gov

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL A. ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

September 21, 2018

Charles McEachern
Raleigh Regional Office
3800 Barrett Drive
Raleigh, NC 27609

SUBJECT: Public Notice of Intent to Issue an Air Quality Permit
Application No. 6800043.15B
The University of North Carolina at Chapel Hill
Facility ID: 6800043, Chapel Hill, Orange County
Draft Air Quality Permit No. 03069T36

Dear Charles McEachern:

Enclosed is a complete Title V docket, except the application, which includes the subject facility's draft air quality permit. This permit will authorize the Permittee to construct and operate in accordance with applicable requirements. The "technical review" which explains how the draft permit was developed and the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT" are also included.

The public notice will be published on the NCDEQ/DAQ website on September 25, 2018 and the public comment period will run from September 25, 2018 to October 25, 2018. Please keep these materials and the permit application accessible for public review during the public comment

Should you have any questions concerning this matter, please contact me at 919-707-8411.

Sincerely,

David Hughes, Environmental Engineer
Division of Air Quality, NCDEQ

Enclosures

cc: Title V File

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL A. ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

September 21, 2018

TO: Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303

SUBJECT: Proposed Air Quality Permit No. 03069T36
The University of North Carolina at Chapel Hill
Facility ID: 6800043, Chapel Hill, NC, Orange County

Attached is a copy of the proposed Air Quality Permit, the technical review and the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT" for the subject Title V facility. The air quality permit authorizes the Permittee to construct and operate in accordance with 15A NCAC 2Q .0501 and 2Q .0300.

The public notice will be published on September 25, 2018 on the NCDEQ/DAQ website and will be emailed to persons on the division's mailing list for air quality permit notices. Any comments received during the public participation process will be included in either the permit and or review. All affected States will be emailed a copy of the public notice or otherwise have been notified.

EPA's forty-five (45) day review period begins upon the receipt of this letter. If no comments are made by the end of the review period, or the EPA notifies the division that they have no comments, we will proceed with final permit issuance.

Should you have any questions or need further information, please contact David Hughes at 919-707-8411 or e-mail David.B.Hughes@ncdenr.gov.

Sincerely,

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

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL A. ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

September 21, 2018

Mr. J. Daw
Environmental Compliance Officer
The University of North Carolina at Chapel Hill
UNC at Chapel Hill
1120 Estes Drive Extension, CB#1650
Chapel Hill, NC 27599

SUBJECT: Public Notice of Intent to Issue an Air Quality Permit
Application No. 6800043.15B
The University of North Carolina at Chapel Hill
Facility ID: 6800043, Chapel Hill, Orange County
Draft Air Quality Permit No. 03069T36

Dear Mr. Daw:

Enclosed is a copy of the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT" for the subject Title V facility. The public notice is scheduled for publication on September 25, 2018 on the NCDEQ/DAQ website and shall be mailed to persons on the division's mailing list for air quality permit notices.

Should you have any questions concerning this matter, please contact David Hughes at 919-707-8411.

Sincerely,

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

Attachments

cc: Title V File
Raleigh Regional Office Files

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

XXXX XX, 2018

Mr. Jonathan Pruitt
Vice Chancellor for Finance and Operations
The University of North Carolina at Chapel Hill
200 E. Cameron Avenue
Campus Box 1000
Chapel Hill, North Carolina 27599-1000

Dear Mr. Pruitt:

SUBJECT: Air Quality Permit No. 03069T36
Facility ID: 6800043
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
Orange County
Fee Class: Title V
PSD Status: Major

In accordance with your completed Air Quality Permit Application for a significant modification, renewal and minor modification of your Title V permit received on May 15, 2015, July 24, 205 and March 19, 2018, we are forwarding herewith Air Quality Permit No. 03069T36 to The University of North Carolina at Chapel Hill, 200 E. Cameron Avenue, CB#1000, Chapel Hill, North Carolina authorizing the construction and operation of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

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

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

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

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

Orange County has triggered increment tracking under PSD for PM-10, NOx, and SO_2. This modification will result in an increase in PM_{10} emissions of 0.07 pounds per hour, NOx emissions of 1.30 pounds per hour, and SO_2 emissions of 0.003 pounds per hour.

This Air Quality Permit shall be effective from XXXX XX, 2018 until XXXX XX, 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 this matter, please contact David B. Hughes at (919) 707-8411 or via e-mail at David.B.Hughes@ncdenr.gov.

Sincerely,

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

Enclosure

c: Mr. Larry Daw (Environmental Compliance Officer)
Ray Stewart, Supervisor, Raleigh Regional Office
Connie Horne (Cover Letter Only)
Central Files

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL A. ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

September 21, 2018

Charles McEachern
Raleigh Regional Office
3800 Barrett Drive
Raleigh, NC 27609

SUBJECT: Public Notice of Intent to Issue an Air Quality Permit
Application No. 6800043.15B
The University of North Carolina at Chapel Hill
Facility ID: 6800043, Chapel Hill, Orange County
Draft Air Quality Permit No. 03069T36

Dear Charles McEachern:

Enclosed is a complete Title V docket, except the application, which includes the subject facility's draft air quality permit. This permit will authorize the Permittee to construct and operate in accordance with applicable requirements. The "technical review" which explains how the draft permit was developed and the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT" are also included.

The public notice will be published on the NCDEQ/DAQ website on September 25, 2018 and the public comment period will run from September 25, 2018 to October 25, 2018. Please keep these materials and the permit application accessible for public review during the public comment

Should you have any questions concerning this matter, please contact me at 919-707-8411.

Sincerely,

David Hughes, Environmental Engineer
Division of Air Quality, NCDEQ

Enclosures

cc: Title V File

NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: XXXX XX, 2018

Region: Raleigh Regional Office
County: Orange
NC Facility ID: 6800043
Inspector's Name: Stanley Williams
Date of Last Inspection: 08/30/2017
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): The University of North Carolina at Chapel Hill

Facility Address:
The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599

SIC: 8221 / Colleges And Universities, Nec
NAICS: 61131 / Colleges, Universities, and Professional Schools

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 15A NCAC 02D .0501, .0503, .0504, .0515, .0516, .0521, and .0614
NSPS: 15A NCAC 02D .0524 – Subpart Db, Subpart Y & Subpart IIII
NESHAP: 15A NCAC 02D .1109 112(j) and .1111 Subpart ZZZZ & Subpart DDDDD
PSD: N/A
PSD Avoidance: N/A
NC Toxics: N/A
112(r): N/A
Other: N/A

Contact Data

Facility Contact	Authorized Contact	Technical Contact
J. Daw Environmental Compliance Officer (919) 962-6666 UNC at Chapel Hill Chapel Hill, NC 27599+1650	Jonathan Pruitt Vice Chancellor, Finance and Operations (919) 962-3795 UNC at Chapel Hill Chapel Hill, NC 27599+1000	J. Daw Environmental Compliance Officer (919) 962-6666 UNC at Chapel Hill Chapel Hill, NC 27599+1650

Application Data

Application Number: 6800043.15A, 15B & 18A
Date Received: 05/15/15, 07/24/15 & 03/19/18
Application Type: Renewal/Modifications
Application Schedule: Renewal/TV-Significant/TV-Minor

Existing Permit Data

Existing Permit Number: 03069/T35
Existing Permit Issue Date: 03/22/2018
Existing Permit Expiration Date: 03/31/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2016	239.85	286.72	2.82	60.20	11.82	12.13	10.75 [Hydrogen chloride (hydrochlori]
2015	236.71	375.22	2.20	59.50	14.06	16.37	15.05 [Hydrogen chloride (hydrochlori]
2014	176.66	294.44	1.76	51.65	12.88	15.08	13.92 [Hydrogen chloride (hydrochlori]
2013	188.80	372.97	2.27	55.13	11.96	7.85	6.60 [Hydrogen chloride (hydrochlori]
2012	159.35	398.25	2.93	64.10	11.91	7.67	6.23 [Hydrogen chloride (hydrochlori]

Review Engineer: David B. Hughes Review Engineer's Signature: Date: XXXX XX, 2018	Comments / Recommendations: Issue 03069/T36 Permit Issue Date: XXXX XX, 2018 Permit Expiration Date: XXXX XX, 2023

I. Purpose of Applications

Application No. 6800043.15B

This permitting action is a renewal of an existing Title V permit pursuant to 02Q .0513. The existing Title V permit (**03069T35**) was issued on **March 22, 2018**, with an expiration date of **March 31, 2021**. The renewal application **6800043.15B** was received on **July 24, 2015**, or at least nine months prior to the original expiration date **April 30, 2016**. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

Application No. 6800043.15A

Air Permit Application No. **6800043.15A** was received on **May 18, 2015** for a significant modification to Boilers ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7 15A NCAC 02D .1109 112(j) Boiler MACT operating limits. The University of North Carolina at Chapel Hill (UNC-CH) is required to conduct 112(j) compliance performance tests on Boiler Nos. 6 and 7 at the Cogeneration Facility. These two (2) boilers are equipped with limestone injection/baghouse air pollution control systems for the control of acid gases and particulate matter (PM), including hydrogen chloride (HCl), mercury (Hg), and other hazardous metals regulated by the 112(j) Boiler MACT. During the 112(j) performance tests, UNC-CH is required to monitor the concurrent limestone injection rates and oxygen (O_2) trim concentrations to establish 112(j) operating limits to be monitored for continuous compliance demonstrations with the 112(j) emissions limits for HCl-equivalents, Hg, and carbon monoxide (CO). The University's Title V air permit (#03069T32) stipulates that the University submit a permit modification application to incorporate the limestone injection rate and O_2 trim concentration operating limits into the Title V permit within 60-days following the N.C. Division of Air Quality's (DAQ) approval of the 112(j) performance test report.

Three (3) separate 112(j) performance tests were performed. The initial 112(j) performance tests on Boiler Nos. 6 and 7 were conducted on July 9-10, 2013. Compliance with all the 112(j) emission limits was demonstrated during the July 2013 tests. However, because the boilers were operated at only approximately 55% steam load during the July 2013 tests, DAQ deferred official written approval of these tests to avoid requiring the University to submit a permit application to incorporate limestone injection rate and O_2 trim concentration operating limits into the permit that would be based on <90% operating load conditions. Because of the low operating load conditions that were achievable during the initial July 2013 performance tests, the University conducted a second round of 112(j) performance tests on March 4-5, 2014 with both boilers operated at >90% operating steam load. The intent of this testing was to obtain data to set the required limestone injection rate and O_2 trim concentration operating limits based on testing of the boilers at >90% operating steam load conditions. Compliance with the 112(j) emission limits for PM, Hg, and HCl was again demonstrated during the March 2014 tests. However, during the March 2014 testing, the test contractor inadvertently failed to record the CO concentrations measured during the tests. As a result, the University scheduled a third round of 112(j) performance tests conducted on December 17-18, 2014 after campus steam demand increased to allow testing for all 112(j) regulated pollutants at >90%

steam load operating conditions. Compliance with the 112(j) emission limits for PM, Hg, HCl and CO was again demonstrated during the December 2014 tests.

The proposed emission limits are based on the July 2013, March 2014, and December 2014 112(j) performance tests. The University proposes to base the Hg and HCl-equivalent control sorbent injection rate operating limit on the highest coal to sorbent feed rate ratio at which compliance was demonstrated during the three (3) performance tests. Since Boiler Nos. 6 and 7 are identical units, the University proposes a maximum **9.53 lb/lb coal/wood to limestone feed rate** ratio as the limestone injection Hg and HCl-equivalent operating limit for both boilers based on the value (9.53 lb/lb for Hg and 9.53 lb/lb for HCl-equivalent) from the April 5, 2014 Hg and HCl performance test on Boiler 7.

As promulgated by EPA in the reissued federal Boiler MACT [§63.7525(a)(2)], the surrogate O_2 operating limit must be set at the minimum percent oxygen by volume that is established during CO emission limit performance test(s). The O_2 operating limit must be based on the lowest hourly average oxygen concentration measured (lowest of three 1-hr test runs during CO test). Based on the December 17-18, 2014 test results, the University proposes a minimum **3.74% O_2 trim concentration** 30-day average operating limit for CO continuous compliance monitoring for both identical Boiler Nos. 6 and 7.

Application No. 6800043.18A

Air Permit Application No. 6800043.18A was received on **March 19, 2018** for a minor modification pursuant to 15A NCAC 02Q .0515 to add a dry sorbent injection system (DSI) (ID Nos. CD-004.3 and CD-005.3) on each of ES-001-Boiler #6 and ES-002-Boiler #7 to supplement the existing hydrogen chloride (HCl) control provided by the limestone injection/baghouse systems to ensure compliance with the 15A NCAC 02D .1111 Maximum Achievable Control Technology (MACT) 40 CFR 63, Subpart DDDDD HCl emission limit. See Section VIII. for a description of the addition of the two DSI systems.

UNC-CH has also requested that the current 15A NCAC 02D 112(j) Case-by-Case MACT permit conditions applicable to all six (6) on campus boilers (ID Nos. ES-001-Boiler #6, ES-002-Boiler #7, ES-003-#8, ES-004-Boiler #9, ES-005-Boiler #10 and ES-SB-6) be replaced with a generic interim permit condition requiring compliance of the boilers with 15A NCAC 02D .1111 MACT 40 CFR 63, Subpart DDDDD. DAQ has decided that the 112(j) permit conditions for each boiler will remain in the permit since all six boilers will still be subject to 112(j) conditions until May 19, 2019. However, 40 CFR 63, Subpart DDDDD Boiler MACT language will be added to the permit since all six boilers will be subject to those permit conditions as of May 20, 2019. The Boiler MACT language was drafted by Joe Voelker of Raleigh Central Office (RCO) for each boiler. The language used for each boiler depended on several factors; (1) size of the boiler, (2) fuel type, (3) do the boilers have O_2 auto trim system? (4) subcategories 63.7499 for boilers #6 and #7, (5) do the No.2 fuel oil boilers (#6, #7, #8, #9 and #10) use ultra-low sulfur? and (6) do the No. 2 fuel oil boilers burn No.2 fuel oil during gas curtailment?

II. Facility Description

UNC-CH operates a 760-acre campus located in Chapel Hill, North Carolina. The University's principal sources of regulated air pollutant emissions include a Co-generation facility on Cameron Avenue near the main campus, a Steam Plant on Manning Drive near the UNC Hospitals complex and a Landfill gas (LFG)-fired generator and LFG flare at the landfill. The facility is a nonprofit educational public university that consists of numerous combustion sources including boilers, hot water heaters, emergency generators, fire pumps, etc. It also consists of some non-combustion

sources such as coal handling, crushing and storage equipment, and ash handling, storage and loading equipment, and a few storage tanks.

III. History/Background/Application Chronology

May 18, 2015 – Permit application **6800043.15A** received as a Title V significant modification application. The application was deemed complete for processing.

July 24, 2015 – Permit application **6800043.15B** received as a Title V renewal application. The application was deemed complete for processing.

June 16, 2016 – Permit **03069T34** issued as a Title V minor modification. This was the first modification post original expiration date (April 30, 2016). Permit **03069T34** was given a new 5-year life set to expire on the earlier of March 31, 2021 or the renewal of Permit **03069T33**.

August 30, 2017 – Stanley Williams of the Raleigh Regional Office (RRO) completed the annual compliance inspection of the facility.

March 19, 2018 – Permit application **6800043.18A** received as a Title V minor modification application. The application was deemed complete for processing.

March 22, 2018 – Permit **03069T35** issued as a Title V Part 1 significant modification.

June 12, 2018 – David B. Hughes e-mailed Larry Daw of UNC-CH with a question about the two Dry Sorbent Systems that each consist of a sorbent storage silo with a bin vent filter and weigh/feed hoppers with bin vent filters, blowers, piping and injection nozzles for Boilers #6 and #7 and four questions about the six boilers. The sorbent storage silos and weigh/feed hoppers are insignificant sources excluded from permitting under 15A NCAC 02Q .0503(B). The first question was what ID Nos. did they want to assign to the sorbent storage silos and weigh/feed hoppers? The four questions about the six boilers were to determine what type of 15A NCAC 02D .1111 MACT 5D language to use for each boiler. *Timothy Aucoin of UNC-CH called David B. Hughes on **June 13, 2018** with the ID Nos. for the insignificant sources. ID Nos. IES-SB-18 and IES-SB-19 for the sorbent storage silos, Boiler #6 and #7 respectively and ID Nos. IES-SB-20 and IES-SB-21 for the weigh/feed hoppers, Boiler #6 and #7 respectively. He also answered all four questions pertaining to the six boilers.*

June 16, 2018 – David B. Hughes e-mailed Stanley Williams of RRO asking him if the facility had been documenting and maintaining the NOx emissions for the last 5 years per 15A NCAC 02D .0530(u). *Stanley Williams replied via e-mail on **June 19, 2018** that the facility had been documenting and maintaining the NOx emissions for the last 5 years. Therefore, 15A NCAC 02D .0530(u) may be removed from the Permit.*

XXXX XX, 2018 - DRAFT permit sent to Permittee, Supervisor and RRO for comment. Stanley Williams of RRO states via e-mail on **September 17, 2018** that he has reviewed the draft permit and his comments were discussed with UNC-CH and incorporated with their comments. Samir Parekh of RCO states via e-mail on **August 30, 2018** that he has reviewed the draft permits and had comments on the Compliance Assurance Monitoring (CAM) section. The Permittee provided comments on draft permit via e-mail on **September 6, 2018**.

DAQ made all of the changes that were requested by the Permittee except for changing the 3-hour block to a 30-day rolling average in Section 2.1 4.k.vii and 2.1 4.k.vii (15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters). The Permittee requested to change compliance based on a 30-day rolling average of monitoring data consistent with §112(d) of the Clean Air Act (CAA). Since Boilers (Nos. ES-001-Boiler #6 and ES-002-Boiler #7) are subject to 112(j) until May 19, 2019 and three 1-hour runs were done to show compliance with 112(j), DAQ has decided to keep the 3-hour block language in the permit. The 112(d) MACT regulations will be in effect May 20, 2019 with compliance being based on the 30-day rolling average.

IV. Permit Modifications/Changes and ESM Discussion

Page	Section	Description of Change
Attachment	Insignificant activities	-revised dates, names, permit revision number -added sorbent storage silos IES-SB-18 and IES-SB-19 to Boilers #6 and #7 respectively -added weigh/feed hoppers IES-SB-20 and IES-SB-21 to Boilers #6 and #7 respectively
Cover	---	-amended all dates and permit revision numbers
All	Header	-amended permit revision number
8	Section 1 Table	-Permittee requested that Dry Sorbent Injection System (DSI) ID No. CD-004.3 be added as a control device to Boiler #6 and that DSI ID No. CD-005.3 be added as a control device to Boiler #7. -removed Emergency generator (ID No. ES-Gen-38) located at the North Side Chiller
9	2.1 A	-added Dry Sorbent Injection Systems (ID Nos. CD-004.3 and CD-005.3).
31	2.1 A Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D.
32	2.1 A.4	-added shell language for 15A NCAC .02D .1109 112(j); Case by Case MACT.
33	2.1 A.4.c	-corrected cross reference
34	2.1 A.4.e	-added sorbent injection rate of 9.53 lb coal (and/or wood) to ensure compliance with mercury and HCl-equivalent limitations.
34	2.1 A.4.i	-added O_2 trim concentration of 3.74% O_2 to ensure compliance with CO limitations.
38	2.1 A.4.j.vi	-corrected cross reference
44	2.1 A.4.k	-corrected cross reference
48	2.1 A.4.l	-corrected cross reference
48 & 49	2.1 A.4.r	-corrected cross reference
53	2.1 A.5	-removed 15A NCAC 02D .0530(u)
	2.1 A.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 B Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D
	2.1 B.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 C Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D
	2.1 C.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 G.3-2 Table	-removed Emergency generator (ID No. ES-Gen-38) located at the North Side Chiller

Page	Section	Description of Change
	2.1 G.3.f	-updated language for Operating Restrictions for 15A NCAC 02D .1111 MACT 4Z
	2.1 I.2	-added 15A NCAC 02D .1111 MACT 5D
---	2.2 F	-removed 15A NCAC 02D .2400 "Clean Air Interstate Rule" (CAIR)
	3	-updated shell conditions (v5.3, 08/21/2018)

There were only minor, non-significant modifications to the equipment descriptions needed in Title V Equipment Editor (TVEE).

V. Regulatory Review

The facility is currently subject to the following regulations:

15A NCAC 02D .0501, Compliance with Emission Control Standards
15A NCAC 02D .0503, Particulate Emissions from Fuel Burning Indirect Heat Exchangers
15A NCAC 02D .0515, Particulates from Miscellaneous Industrial Process
15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources
15A NCAC 02D .0521, Control of Visible Emissions
15A NCAC 02D .0524, New Source Performance Standards (40 CFR 60 Subpart Db), (40 CFR 60, Subpart Y), and (40 CFR 60, Subpart IIII)
15A NCAC 02D .1109, 112(j); Case-by-Case MACT for Boilers and Process Heaters
15A NCAC 02D .1111, Maximum Achievable Control Technology (40 CFR 63, Subpart ZZZZ) and (40 CFR 63, Subpart DDDDD)
15A NCAC 02D .0614, Compliance Assurance Monitoring

A regulatory review for these current permit conditions will not be included in this document. These conditions have been modified as necessary to bring them up to date with the current shell conditions.

VI. NSPS, NESHAPS/MACT, PSD, 112(r), CAM, CAIR

NSPS – The Permittee is subject to 15A NCAC 02D .0524: New Source Performance Standards and 40 CFR Part 60, Subpart Db "Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units" for Boilers (ID Nos. ES-001-Boiler #6, ES-002-Boiler #7, ES-003-Boiler #8, ES-004-Boiler #9 and ES-005-Boiler #10), 15A NCAC 0524: NSPS and 40 CFR Part 60, Subpart Y "Standards of Performance for Coal Preparation and Processing Plants" for One coal handling, conveying, crushing and storage system, and 40 CFR Part 60, Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. 40 CFR Part 60, Subpart IIII regulation applies to owners or operators of compression ignition (CI) reciprocating internal combustion engines (RICE) manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1. 2006. Diesel-fired generators (ID Nos. ES-EG#13, ES-EG#17, ES-EG#18, ES-EG#19, ES-EG#20, ES-EG#21, ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, ES-Gen-71, ES-Gen-72, ES-Gen-79, ES-Gen-80, ES-Gen-81, ES-84) and diesel-fired water pumps (ID Nos. ES-FP-1 and ES-FP-3) are all subject to 40 CFR 60, Subpart IIII. The permit renewal/modification does not affect this status.

NESHAPS/MACT – The six Boilers (ID Nos. ES-001-Boiler #6, ES-002-Boiler #7, ES-003-Boiler #8, ES-004-Boiler #9, ES-Boiler #10 and ES-SB-6) are all subject to 15A NCAC 02D .1109 112(j); Case-by-Case MACT for Boilers and Process Heaters until **May 19, 2019**. The six Boilers will be

subject to 15A NCAC 02D .1111: Maximum Achievable Technology (MACT) and 40 CFR Part 63 Subpart DDDDD "National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" on **May 20, 2019**. The Permittee is also subject to 15A NCAC 02D .1111: MACT and 40 CFR Part 63 Subpart ZZZZ, "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines". 40 CFR Part 63 applies to RICE located at a major or area source of hazardous air pollutants (HAP). There are Eighty-two diesel-fired, compression ignition, emergency generators; Two natural gas-fired, spark ignition, emergency generators, Three No. 2 fuel oil-fired fire water pumps and Two No. 2 fuel oil-fired, compression ignition, non-emergency generators that are subject to 40 CFR 63, Subpart ZZZZ. This permit renewal/modification does not affect this status.

PSD – The Permittee is an existing major source for NOx and SO_2 because of the large boilers at the University's Cogeneration Facility. The University is excluded from mandatory federal PSD modeling requirements as a "not for profit educational institution" under 40 CFR section 52.21(i)(1)(vi).

15A NCAC 02Q .0317: Avoidance Condition for 15A NCAC 02D .0530: Prevention of Significant Deterioration was removed in Air Permit No. 03069T31 on May 16, 2013 and replaced with regulation 15A NCAC 02D .0530(u): Prevention of Significant Deterioration. 15A NCAC 02D .0530(u) 2.1 A.5.c requires that the Permittee maintain records of actual emissions of NO_x in tons per year on a calendar year basis for **five years** following the resumption of regular operation after commencement of burning mixture of wood/torrified wood and coal (up to 20% wood/terrified wood and up to 80% coal, both on a heat input basis) in each boiler (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7). The Permittee shall make the information, documented and maintained in this Section 2.1 A.5.c., available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530(u) if these records are not maintained. The five year period has expired and Stanley Williams of RRO has confirmed that UNC-CH has been documenting and maintaining the NO_x emissions for the last five years. Therefore, as part of this renewal 15A NCAC 02D .0530(u) will be removed from the permit.

112(r) – The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store one or more of the regulated substances in quantities above the thresholds in the Rule. This permit renewal/modification does not affect this status.

CAM

40 CFR 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility that have pre-controlled emissions above the major source threshold and use a control device to meet an applicable standard. The control devices that are subject to CAM are Bagfilter (ID No. CD-004) for Boiler (ID No. ES-001-Boiler #6) and Bagfilter (ID No. CD-005) for Boiler (ID No. ES-002-Boiler #7). The CAM requirements were added to the permit during the renewal (T19). See Booker Pullen's Air Permit Review, Application No. 6800043.04C issued October 3, 2006 for CAM determination. No new control devices have been added since the original analysis was conducted. The permit renewal/modification does not affect the CAM requirements in the permit.

CAIR

The Clean Air Interstate Rules ("CAIR") were originally implemented under 40 CFR Part 52 and included in North Carolina's SIP under 15A NCAC 02D .2400. According to 40 CFR 52.35(f) and 52.36(e), CAIR no longer applies as of January 1, 2015. Furthermore, North Carolina has allowed the

rules under 02D .2400 to expire. Therefore, CAIR no longer applies to this facility. References to CAIR will be removed from the permit.

The Cross-State Air Pollution Rule ("CSAPR", 40 CFR Part 97, Subparts AAAAA, BBBBB, and CCCCC) was planned as a replacement for CAIR. CSAPR was originally scheduled to take effect on January 1, 2012, but was challenged and initially vacated by the DC Circuit Court. Legal issues were finally resolved in April 2014, when the US Supreme Court reversed that decision. Because the regulation was delayed by court proceedings, the effective date of the rule was moved to January 1, 2015.

CSAPR explicitly only applies to sources considered large electric generators and that produce electricity for sale (for example, see 40 CFR 97.404(a)(1)). UNC-CH does not sell electricity produced by the generators, so this facility is not subject to CSAPR.

VII. Facility Wide Air Toxics

Under 15A NCAC 02Q .0702(a)(27)(B), sources subject to a MACT regulation under 40 CFR Part 63 are excluded from the requirements to obtain a permit to emit Toxic Air Pollutants (TAPs). NCAC 02D .1100: Control of Toxic Air Pollutants (TAP) limits and NCAC 02Q .0711: Emission Rates Requiring a Permit (TPER) limits for MACT sources were removed in Air Permit 03069T32. See Jeff Twisdale's Air Permit Review, Application No. 6800043.14A issued September 10, 2014 for removal analysis.

Previously, the Permittee made a facility-wide demonstration that TAP emissions are either below its respective TPER listed in 15A NCAC 02Q .0711 or is in compliance with its modeled emission rate. The facility shall continue to be operated in such a manner that any new, existing or increased actual emission of any TAP do not exceed the TPERs without first evaluating and determining whether an air permit to construct would be required. This permit renewal/modification does not affect this status.

VIII. Dry Sorbent Injection Systems (ID Nos. CD-004.3 and CD-005.3)

The North Carolina Department of Environmental Quality's (DEQ) current 15A NCAC 02D .1109 112(j); Case-by-Case MACT for Boilers and Process Heaters and 40 CFR 63, Subpart DDDDD both present emission limits for HCl for Boiler Nos. 6 and 7 at the Cogeneration Facility when these units are firing coal and/or wood-based fuels. The current 112(j) HCl emission limit for Boiler Nos. 6 and 7 is a risk-based standard of a maximum 435.5 lb/hr of HCl-equivalent emissions from the common stack serving both boilers. The federal Boiler MACT 5D limit for both boilers when firing coal and/or wood-based fuels effective May 20, 2019 is a much more stringent limit of 0.022 lb/million Btu (lb/MMBtu) of heat input. By comparison, at the maximum firing rate of 323.17 MMBtu/hr for each boiler, the federal Boiler MACT 5D 0.022 lb/MMBtu HCl limit is equivalent to a maximum of only 7.11 lb/hr from each boiler, with a total of 14.22 lb/hr of HCl from the common stack, versus the currently allowed 112(j) MACT HCl limit of 435.5 lb/hr. Boiler Nos. 6 and 7 are currently equipped with limestone (CaCO3) injection systems (ID Nos. CD-004.1 and CD-005.1) and baghouses (ID Nos. CD-004.2 and CD-005.2) for the control of sulfur dioxide (SO_2) at $\geq$90% control in compliance with New Source Performance Standards (NSPS) 40 CFR 60, Subpart Db. The existing limestone injection systems and baghouses also provide some limited HCl control. However, a review of the available emission test data for HCl emissions from Boiler Nos. 6 and 7 indicates that the existing limestone injection/baghouse control systems may have difficulty meeting the Boiler MACT 5D 0.022 lb/MMBtu (14.22 lb/hr) limit, when the units are firing moderate to high chlorine content coals. Therefore, the University plans to enter into a design/build contract with an engineering/construction

firm for the installation of the DSI systems on each Boiler Nos. 6 and 7. The design/build contract will allow for ongoing concurrent detailed system design and equipment installation under the minor permit modification, and will facilitate completion of the project by May 20, 2019. The two (2) DSI systems on Boiler Nos. 6 and 7 will each consist of a sorbent storage silo (ID Nos. IES-SB-18 and IES-SB-19) with a ben vent filter, weigh/feed hoppers (ID Nos. IES-SB-20 and IES-SB-21) with bin vent filters, rotary air locks, blowers, piping, and injection nozzles to inject the sorbent into the boiler exhaust ductwork before the existing baghouses. The University plans on using commercially available calcium hydroxide [$Ca(OH)_2$] sorbent, typically referred to as hydrated lime. However, the University may choose to use a proprietary enhanced $Ca(OH)_2$ sorbent to reduce the amount of sorbent actually required to meet the 0.022 lb/MMBtu (14.22 lb/hr) Boiler MACT 5D HCl limit.

The required sorbent injection rate to achieve the HCL emission limit on each boiler is dependent on several factors including the coal/wood firing rate, the coal/wood heating value, the chlorine content of the coal/wood, the sorbent residence time, scavenging of sorbent by other pollutants (SO_2), and sorbent particle size. Because of the inherent inefficiency (<100%) in any control system, excess sorbent above the stoichiometric amount to react with a given amount of HCl is generally required to achieve a desired control efficiency. The required excess sorbent is often quantified as the stoichiometric rate which is the ratio of the sorbent actually required to the theoretical sorbent required to react with the acid gas. The preliminary design capacity of the proposed DSI system on each of Boiler Nos. 6 and 7 is a maximum injection rate of 400 lb/hr of sorbent. The Boiler MACT will require that actual sorbent injection rate during HCl compliance tests be used to establish surrogate sorbent injection operating limits to monitor for demonstrating continuous compliance with HCL 0.022 lb/MMBtu (14.22 lb/hr) limit. The format of the sorbent injection rate operating limits will be in units of the maximum lb coal/lb sorbent. The actual sorbent injection rates required to meet the 30-day rolling average Boiler MACT HCl limits on a continuing basis are expected to be lower than the 400 lb/hr capacity of each system. The initial performance test to establish the sorbent injection rate operating limits must be performed within 180-days after May 20, 2019.

The existing emission control systems on Boiler Nos. 6 and 7 include limestone injection (ID Nos. CD-004.1 and CD-005.1) into the boiler furnaces for acid control, with baghouses (ID Nos. CD-004.2 and CD-005.2) on the boiler exhausts to control PM. Both Boiler Nos. 6 and 7 are currently equipped with a limestone injection continuous parameter monitoring system (CPMS) that measures the concurrent coal/wood: limestone feed rate ratios. With installation of the DSI systems, a duct sorbent injection CPMS will also be installed on each boiler to monitor the coal/wood: duct sorbent injection rate ratios.

While each DSI system constitutes an emission control device, the sorbent storage silos (ID Nos. IES-SB-18 and IES-SB-19), weigh/feed hoppers (ID Nos. IES-SB-20 and IES-SB-21), and associated bin vent filters also constitute a potential source of PM. However, calculations included in the application show that maximum potential uncontrolled PM10 emissions (0.412 ton/yr) from these sources are well below the 5.0 ton/yr permitting exclusion threshold presented in Rule 15A NCAC 02Q .0503(8). Therefore, the sorbent storage silos and weigh/feed hoppers are considered Insignificant sources.

IX. Potential Emissions from Dry Sorbent Injection Systems

The six (6) boilers at the University subject to the Boiler MACT 5D emit numerous regulated criteria and hazardous/toxic air pollutants. With the addition of the DSI systems, there will be no changes in emissions from Boiler Nos. 8, 9, 10 and ES-SB-6. The only boilers with any proposed equipment modifications (DSI installation) potentially affecting current emission rates are Boiler Nos. 6 and 7.

The Boiler MACT 5D will result in new emission limits for only four (4) pollutants, filterable PM, HCl, Hg, and CO. With installation of the proposed DSI systems on Boiler Nos. 6 and 7, there will be no change in the current CO emission rates. The new Boiler MACT 5D limit for coal combustion will be 130 ppmvd corrected to 3% O_2, 3 run average or 230 ppmvd corrected to 3% O_2, 30-day rolling average. Previous performance tests indicate actual CO concentrations of only 25-35 ppmvd corrected to 7% O_2 from these boilers when firing 100% coal.

There will be no potential increase in Hg emissions with installation of the DSI systems. However, it is conceivable that sorbent injection into the exhaust ductwork, which will provide more particles for condensation nuclei for Hg compounds, with subsequent capture by the baghouses, could potentially reduce HG emissions. The initial Hg performance tests after installation of the DSI systems will indicate whether there is any significant reduction in Hg emissions. The new Boiler MACT 5D Hg limit for coal combustion will be 5.7E-06 lb/MMBtu. Previous performance tests indicate current Hg emission rates of only 2.75E-07-4.30E-07 lb/MMBtu from these boilers when firing 100% coal.

The DSI systems to be installed on Boiler Nos. 6 and 7 are for the primary purpose of reducing HCl emissions to ensure compliance with the Boiler MACT 5D 0.022 lb/MMBtu. The previous performance tests indicate current HCl emission rates that range from 0.013-0.122 lb/MMBtu. The variation in HCl emissions is primarily due to the variation in the chlorine content of the coals burned during the tests. Calculations show a maximum potential uncontrolled HCl emission rate of 0.165 lb/MMBtu based on combustion of a 12,500 Btu/lb coal with a 2,000 ppmwt. chlorine content. The minimum combined HCl control efficiency to meet the 0.022 lb/MMBtu limit for this worse-case coal required by the existing limestone injection systems (into the furnace) and the add-on DSI systems is 86.6%. The initial Boiler MACT 5D performance tests will be used to establish the necessary limestone injection and duct sorbent injection rate operating limit(s) to ensure compliance with the new HCl limit.

The only pollutant with a potential emissions increase resulting from the installation of the proposed DSI system is filterable PM. This potential increase is due to increased reacted and unreacted sorbent dust loadings to the baghouses, and insignificant PM emissions from the new DSI sorbent storage silos and weigh/feed hoppers. The calculated potential controlled PM emissions from the silos are based on a maximum potential 400 lb/hr (1,752 ton/yr) sorbent use rate per boiler and an AP-42 (§11.12) emission factor of 0.00099 lb/ton for controlled PM. The AP-42 emission factor is for pneumatically loaded (air conveyed) elevated cement storage silos equipped with bin vent filters at concrete batch plants. Based on the maximum annual sorbent loading rate and the AP-42 emission factor, potential filterable PM emission increases associated with each new sorbent storage silo would be only 1.73 lb/yr. Potential filterable PM emissions from the weigh/feed hoppers would be even lower since these unit will not be pneumatically loaded. At the maximum 400 lb/hr potential sorbent injection rate and worse-case uncontrolled HCl emissions associated with a 12,500 Btu/lb coal with a 2,000 ppmwt. chlorine content at the maximum firing rate of each boiler (323.17 MMBtu/hr), the calculated increased reacted and unreacted filterable PM loadings to each baghouse is a maximum of 423.3 lb/hr. At an assumed 99.8% control efficiency for each baghouse, controlled filterable PM emissions could potentially increase by 0.847 lb/hr. At the maximum 323.17 MMBtu/hr firing rate of each boiler, the 0.847 lb/hr increase is equivalent to 0.0026 lb/MMBtu. Previous performance test indicate current PM emission rates of only 0.0025-0.0040 lb/MMBtu from these boilers when firing 100% coal. If the filterable PM after installation of the DSI increased by the potential 0.0026 lb/MMBtu calculated, the new total filterable PM would be a maximum of only 0.0066 lb/MMBtu versus the Boiler MACT 5D limit of 0.04 lb/MMBtu. While the calculated potential increase is low, it is also believed that any actual increase would be insignificant due to the nature of the baghouse air filtering process. It is well documented that the dust cake on baghouse bags actually performs the air filtration process and not the bags themselves. Typically, a given baghouse on a particular source

(consistent filter cake composition) will have a consistent penetration rate (gr/dscf) that does not vary with the dust loading to the baghouse. Because of this factor, controlled emissions from the baghouses would not be expected to have any significant increase in controlled emissions associated with installation of the DSI. However, the increased dust loadings to the baghouses may require more frequent bag cleaning.

X. Facility Emissions Review

See Table in the header for a summary of the actual emissions as reported to DAQ from the years 2012 to 2016.

Orange County has triggered increment tracking under PSD for PM-10, NOx, and SO_2. This modification will result in an increase in PM_{10} emissions of 0.07 pounds per hour, NOx emissions of 1.30 pounds per hour, and SO_2 emissions of 0.003 pounds per hour.

XI. Stipulation Review

The facility was last inspected by Stanley Williams on **August 30, 2017**. Based on his observations the facility appeared to be in compliance with their Title V permit requirements.

XII. Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521.

XIV. Conclusions, Comments, and Recommendations

A professional engineer's seal was submitted with the applications for this renewal/modification.

A zoning consistency determination was submitted with the applications required for this renewal/modification.

RRO recommends issuance of the permit and was sent a DRAFT permit prior to issuance (See Section III of this document for a discussion).

RCO concurs with RRO's recommendation to issue the renewal/modified air permit.

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

XXXX XX, 2018

Mr. Jonathan Pruitt
Vice Chancellor for Finance and Operations
The University of North Carolina at Chapel Hill
200 E. Cameron Avenue
Campus Box 1000
Chapel Hill, North Carolina 27599-1000

Dear Mr. Pruitt:

SUBJECT: Air Quality Permit No. 03069T36
Facility ID: 6800043
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
Orange County
Fee Class: Title V
PSD Status: Major

In accordance with your completed Air Quality Permit Application for a significant modification, renewal and minor modification of your Title V permit received on May 15, 2015, July 24, 205 and March 19, 2018, we are forwarding herewith Air Quality Permit No. 03069T36 to The University of North Carolina at Chapel Hill, 200 E. Cameron Avenue, CB#1000, Chapel Hill, North Carolina authorizing the construction and operation of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

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

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

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

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

Orange County has triggered increment tracking under PSD for PM-10, NOx, and SO_2. This modification will result in an increase in PM_{10} emissions of 0.07 pounds per hour, NOx emissions of 1.30 pounds per hour, and SO_2 emissions of 0.003 pounds per hour.

This Air Quality Permit shall be effective from XXXX XX, 2018 until XXXX XX, 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 this matter, please contact David B. Hughes at (919) 707-8411 or via e-mail at David.B.Hughes@ncdenr.gov.

Sincerely,

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

Enclosure

c: Mr. Larry Daw (Environmental Compliance Officer)
Ray Stewart, Supervisor, Raleigh Regional Office
Connie Horne (Cover Letter Only)
Central Files

ATTACHMENT
The University of North Carolina at Chapel Hill
Air Quality Permit No. 03069T36

Insignificant Activities Pursuant to 15A NCAC 02Q .0503(8)

ID No.	Source Description
IES-51	Sterilizers – Dental School
IES-53	Enclosed sorbent railcar dump pit, located in the Railcar Unloading Building (ID No. 020)
IES-SB-1	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-2	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-3	Water heater (0.300 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-4	Water heater (0.399 MMBtu/hr; natural gas-fired), located at Brooks Hall
IES-SB-5	Water heater (1.442 MMBtu/hr; natural gas-fired), located at Cheek Clark Building
IES-SB-7	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building
IES-SB-8	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building
IES-SB-9	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Henry Stadium
IES-SB-10	Water heater (0.750 MMBtu/hr; natural gas-fired), located at Henry Stadium
IES-SB-11	Water heater (0.450 MMBtu/hr; natural gas-fired), located at Hickerson House
IES-SB-12	Water heater (0.595 MMBtu/hr; natural gas-fired), located at Hill Commercial
IES-SB-13	Water heater (0.270 MMBtu/hr; natural gas-fired), located at Hill Annex
IES-SB-14	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Medical Research Building B
IES-SB-16	Water heater (0.900 MMBtu/hr; natural gas-fired), located at McCaskill Soccer
IES-SB-17	Water heater (0.900 MMBtu/hr; natural gas-fired), located at 135.5 East Franklin
IES-SB-18	Sorbent Storage Silo with a bin vent filter, located at Cogeneration Facility
IES-SB-19	Sorbent Storage Silo with a bin vent filter, located at Cogeneration Facility
IES-SB-20	Weigh/Feed Hopper with bin vent filters, blowers, piping and injection nozzles, located at Cogeneration Facility
IES-SB-21	Weigh/Feed Hopper with bin vent filters, blowers, piping and injection nozzles, located at Cogeneration Facility

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

ATTACHMENT
Table of Changes

The following changes were made to the The University of North Carolina at Chapel Hill's Air Quality Permit No. 03069T35:

Page No.	Section	Description of Changes
Attachment	Insignificant Activities	-Revised dates, names, permit revision number. -added sorbent storage silos IES-18 and IES-19 to Boilers #6 and #7 respectively. -added weigh/feed hoppers IES-20 and IES-21 to Boilers #6 and #7 respectively.
Cover	---	-amended permit revision number and all dates
All	Header	-amended permit revision number
8	Section 1 Table	-Permittee requested that Dry Sorbent Injection System (DSI) ID No. CD-004.3 be added as a control device to Boiler #6 and that DSI ID No. CD-005.3 be added as a control device to Boiler #7. -removed Emergency generator (ID No. ES-Gen-38) located at the North Side Chiller
9	2.1 A	-added Dry Sorbent Injection Systems (ID Nos. CD-004.3 and CD-005.3).
9	2.1 A Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D.
31	2.1 A.4	-updated shell language for 15A NCAC 02D .1109 112(j); Case by Case MACT.
32	2.1 A.4.c	-corrected cross reference
33	2.1 A.4.e	-added sorbent injection rate of 9.53 lb coal (and/or wood) to ensure compliance with mercury and HCl-equivalent limitations.
34	2.1 A.4.i	-added O_2 trim concentration of 3.74% O_2 to ensure compliance with CO limitations.
34	2.1 A.4.j.vi	-corrected cross reference
38	2.1 A.4.k	-corrected cross reference
44	2.1 A.4.l	-corrected cross reference
48	2.1 A.4.r	-corrected cross reference
	2.1 A.5	-removed 15A NCAC 02D .0530(u)
	2.1 A.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 B Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D
	2.1 B.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 C Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D
	2.1 C.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 G.3-2 Table	-removed Emergency generator (ID No. ES-Gen-38) located at the North Side Chiller
	2.1 G.3.f	-updated language for Operating Restrictions for 15A NCAC 02D .1111 MACT 4Z

	2.1 I.2	-added 15A NCAC 02D .1111 MACT 5D
---	2.2 F	-removed 15A NCAC 02D .2400 "Clean Air Interstate Rule" (CAIR)
	3	-updated shell conditions (v5.3, 08/21/2018)

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

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date	Expiration Date
03069T36	03069T35	XXXX XX, 2018	XXXX XX, 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:	**The University Of North Carolina at Chapel Hill**
Facility ID:	**6800043**
Facility Site Location: **City, County, State, Zip:**	**1120 Estes Drive Extension** **Chapel Hill, Orange County, North Carolina 27599-1650**
Mailing Address: **City, State, Zip:**	**200 E. Cameron Avenue, Campus Box 1000** **Chapel Hill, North Carolina 27599-1000**
Application Number: **Complete Application Date:**	**6800043.15A, 6800043.15B and 6800043.18A** **May 18, 2015, July 24, 2015 and March 19, 2018**
Primary SIC Code: **Division of Air Quality,** **Regional Office Address:**	**8221** **Raleigh Regional Office** **3800 Barrett Drive** **Raleigh, North Carolina 27609**

Permit issued this the XXth of XXXX, 2018.

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

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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:

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
		Boilers and Heaters		
3, 10-19, 44-47	ES-001-Boiler #6[a, b] **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **MACT DDDDD**	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI) /torrified wood (non-CISWI)[a] -fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity	CD-004.2 CD-004.1 CD-004.3	One bagfilter with 36,614 square feet of filter surface area Calcium carbonate injection system Dry Sorbent Injection System
3, 10-19, 44-47	ES-002-Boiler #7[a, b] **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **MACT DDDDD**	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI) /torrified wood (non-CISWI)[a] -fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity	CD-005.2 CD-005.1 CD-005.3	One bagfilter with 36,614 square feet of filter surface area Calcium carbonate injection system Dry Sorbent Injection System
3, 20-23	ES-003-Boiler #8 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **MACT DDDDD** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 338 million Btu per hour heat input capacity	None	None
3, 23-26	ES-004-Boiler #9 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **MACT DDDDD** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity	None	None
3, 23-26	ES-005-Boiler #10 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **MACT DDDDD** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity	None	None
3, 43, 44	ES-SB-6 **2D .1109** **Case by Case MACT** **MACT DDDDD**	One natural gas-fired boiler; 2.52 million Btu per hour heat capacity located at Davie Hall	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
	One coal handling, conveying, crushing, and storage system consisting of: NSPS, Subpart Y			
3, 26-28	ES-010.1 **NSPS Y**	One enclosed railcar dump pit	CD-018	Wet spray dust suppression systems (100 gal per min. injection rate in each hopper)
3, 26-28	ES-010.2 **NSPS Y**	One enclosed railcar dump pit		
3, 26-28	ES-010.3 **NSPS Y**	One enclosed railcar dump pit		
3, 26-28	ES-1 **NSPS Y**	One coal silo	CD-011	One bagfilter with 533 square feet of filter surface area
4, 26-28	ES-2 **NSPS Y**	One coal silo	CD-012	One bagfilter with 533 square feet of filter surface area
4, 26-28	ES-3.1 **NSPS Y**	One silo feed conveyor	CD-019	One bagfilter with 1598 square feet of filter surface area
4, 26-28	ES-3.2 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-3.3 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-3.4 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-3.5 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-010A **NSPS Y**	One coal crusher building	CD-013	One bagfilter with 1330 square feet of filter surface area
	One ash handling, storage, and loading system consisting of:			
4, 28-30	ES-030	One ash storage silo equipped with dry loadout system	CD-031	One bagfilter with 577 square feet of filter surface area
4, 28-30	ES-030A	Enclosed wet ash loadout system	CD-032	Water injection system (8.64 gal per min. injection rate)
	Storage Tanks			
4, 30	ES-T-001	One No. 2 fuel oil storage tank (500,000 gallons capacity)	None	None
4, 30	ES-T-002	One No. 2 fuel oil storage tank (500,000 gallon capacity)	None	None
4, 30	ES-T-003	One No. 2 fuel oil storage tank (184,200 gallon capacity) located at the Manning Drive Steam Plant	None	None
4, 30	ES-T-004	One No. 2 fuel oil storage tank (184,200 gallon capacity) located at the Manning Drive Steam Plant	None	None
	Emergency Generators and Fire Pumps			
4, 31-38	ES-EG#1 **MACT ZZZZ**	One diesel-fired emergency generator (900 kW), located at the EPA Building	None	None
4, 31-38	ES-EG#2 **MACT ZZZZ**	One diesel-fired emergency generator (1600 kW), located at the Thurston Bowles Building	None	None
4, 31-38	ES-EG#3 **MACT ZZZZ**	One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building	None	None
4, 31-38	ES-EG#4 **MACT ZZZZ**	One diesel-fired emergency generator (1000 kW) located at Taylor Hall	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
4, 31-38	ES-EG#5 **MACT ZZZZ**	One diesel-fired emergency generator (910 kW) located at the Neuroscience Research Building	None	None
4, 31-38	ES-EG#6 **MACT ZZZZ**	One diesel-fired emergency generator (1500 kW) located at the Medical Biomolecular Research Building	None	None
5, 31-38	ES-EG#7 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,250 kW) located at the Michael Hooker Research Center	None	None
5, 31-38	ES-EG#8 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (800 kW) located at Chapman Hall	None	None
5, 31-38	ES-EG#9 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,000 kW) located at the Caudill Labs	None	None
5, 31-38	ES-EG#10 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (800 kW) located at Bondurant Hall	None	None
5, 31-38	ES-EG#11 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,750 kW) located at the Burnett-Womack Building	None	None
5, 31-38	ES-EG#12 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,250 kW) located at the Mary Ellen Jones Building	None	None
5, 31-38, 47-52	ES-EG#13 **MACT ZZZZ, NSPS IIII, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the Genetic Medicine Building	None	None
5, 31-38	ES-EG#14 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (900 kW) located at the 440 West Franklin Building	None	None
5, 31-38	ES-EG#15 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the Rams Head Center	None	None
5, 31-38	ES-EG#16 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the ITS Building	None	None
5, 31-38, 47-52	ES-EG#17 **MACT ZZZZ, NSP IIII**	One diesel-fired emergency generator (1,000 kW) located at the Brinkhous-Bullitt Building	None	None
5, 31-38, 47-52	ES-EG#18 **MACT ZZZZ, NSPS IIII**	One diesel-fired emergency generator (1000 kW) located at Venable Hall	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
5, 31-38, 47-52	ES-EG#19 **MACT ZZZZ, NSPS IIII**	One diesel-fired emergency generator (2500 kW) located at the Imaging Research Building	None	None
5, 31-38, 47-52	ES-EG#20 **MACT ZZZZ, NSPS IIII**	One diesel-fired emergency generator (2000 kW) located at the Genomic Science Building	None	None
6, 31-38, 47-52	ES-EG#21 **MACT ZZZZ, NSPS IIII**	One diesel-fired emergency generator (1,250 kW) located at the Dental Research Building.	None	None
6, 31-38	ES-Gen-1 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Ackland Art Museum	None	None
6, 31-38, 47-52	ES-Gen-2 **MACT ZZZZ, NSPS IIII**	Emergency generator (500 kW, diesel-fired), located at Ambulatory Care Center	None	None
6, 31-38	ES-Gen-3 **MACT ZZZZ**	Emergency generator (30 kW, diesel-fired), located at Avery Dorm	None	None
6, 31-38	ES-Gen-4 **MACT ZZZZ**	Emergency generator (20 kW, diesel-fired) located at the Cheek/Clark Building	None	None
6, 31-38	ES-Gen-7 **MACT ZZZZ**	Emergency generator (35 kW, diesel-fired), located at Security Services Building	None	None
6, 31-38	ES-Gen-8 **MACT ZZZZ**	Emergency generator (350 kW, diesel-fired), located at Carmichael Dorm	None	None
6, 31-38	ES-Gen-9 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at Carolina Inn	None	None
6, 31-38	ES-Gen-10 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at the Center for Dramatic Art	None	None
6, 31-38	ES-Gen-11 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Craige Dorm	None	None
6, 31-38, 44, 47-52	ES-Gen-12 **MACT ZZZZ, NSPS IIII**	Emergency generator (150 kW, diesel-fired), located at Craige Parking Deck	None	None
6, 31-38, 44, 47-52	ES-Gen-13 **MACT ZZZZ NSPS IIII**	Emergency generator (300 kW, diesel-fired), located at the Davie Hall	None	None
6, 31-38	ES-Gen-14 **MACT ZZZZ**	Emergency generator (210 kW, diesel-fired), located at the Davis Library	None	None
6, 31-38	ES-Gen-15 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the Ehringhaus Dorm	None	None
6, 31-38	ES-Gen-18 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Fetzer Gym	None	None
6, 31-38	ES-Gen-19 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at Fordham Hall	None	None
6, 31-38	ES-Gen-20 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Cardinal Deck	None	None
6, 31-38	ES-Gen-21 **MACT ZZZZ**	Emergency generator (40 kW, natural gas-fired), located at the Old Dental School Building	None	None
6, 31-38	ES-Gen-22 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at Hill Alumni Center	None	None
6, 31-38	ES-Gen-23 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Hinton James Dorm	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
6, 31-38	ES-Gen-24 **MACT ZZZZ**	Emergency generator (80 kW, diesel-fired), located at Kenan Center	None	None
6, 31-38	ES-Gen-25 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Kenan Field (North)	None	None
7, 31-38	ES-Gen-26 **MACT ZZZZ**	Emergency generator (30 kW, diesel-fired), located at the Kenan Field (North-new)	None	None
7, 31-38	ES-Gen-27 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Kenan Field (South)	None	None
7, 31-38	ES-Gen-28 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at Kenan Football Center	None	None
7, 31-38	ES-Gen-29 **MACT ZZZZ**	Emergency generator (45 kW, diesel-fired), located at the Kenan Chemistry Lab	None	None
7, 31-38	ES-Gen-30 **MACT ZZZZ**	Emergency generator (535 kW, diesel-fired), located at the Lineberger Building Addition	None	None
7, 31-38	ES-Gen-31 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the McGavran Greenberg Building	None	None
7, 31-38	ES-Gen-32 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at the MacNider Hall	None	None
7, 31-38	ES-Gen-33 **MACT ZZZZ**	Emergency generator (175 kW, diesel-fired), located at the McColl Building	None	None
7, 31-38	ES-Gen-35 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at the Morehead Chemistry Lab	None	None
7, 31-38	ES-Gen-36 **MACT ZZZZ**	Emergency generator (30 kW, natural gas-fired), located at the Morehead Planetarium	None	None
7, 31-38	ES-Gen-37 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Morrison Dorm	None	None
7, 31-38	ES-Gen-39 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at Parker Dorm	None	None
7, 31-38	ES-Gen-40 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at Phillips Hall	None	None
7, 31-38	ES-Gen-41 **MACT ZZZZ**	Emergency generator (20 kW, diesel-fired), located at Security Services Building	None	None
7, 31-38	ES-Gen-42 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at the Dean Smith Center	None	None
7, 31-38, 44, 47-52	ES-Gen-43 **MACT ZZZZ*, NSPS IIII**	Emergency generator (125 kW, diesel-fired), located at the Medical Research Building B	None	None
7, 31-38	ES-Gen-44 **MACT ZZZZ**	Emergency generator (275 kW, diesel-fired), located at Tarrson Hall	None	None
7, 31-38	ES-Gen-45 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Tate-Turner-Kuralt Building	None	None
7, 31-38	ES-Gen-46 **MACT ZZZZ**	Emergency generator (260 kW, diesel-fired), located at Taylor Student Health Services	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
7, 31-38	ES-Gen-47 **MACT ZZZZ**	Emergency generator (50 kW, diesel-fired), located at Van Hecke-Wettach Hall	None	None
8, 31-38, 44, 47-52	ES-Gen-48 **MACT ZZZZ, NSPS IIII**	Emergency generator (500 kW, diesel-fired), located at Kenan Stadium	None	None
8, 31-38, 44, 47-52	ES-Gen-49 **MACT ZZZZ, NSPS IIII**	Emergency generator (230 kW, diesel-fired), located at the Wilson Library Stacks	None	None
8, 31-38	ES-Gen-50 **MACT ZZZZ**	Emergency generator (600 kW, diesel-fired), located at Beard Hall	None	None
8, 31-38	ES-Gen-57 **MACT ZZZZ**	Emergency generator (600 kW, diesel-fired), located at the Bioinformatics Building	None	None
8, 31-38	ES-Gen-58 **MACT ZZZZ**	Emergency generator (230 kW, diesel-fired), located at the Carrington Building	None	None
8, 31-38	ES-Gen-59 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at the Glaxo Building	None	None
8, 31-38	ES-Gen-60 **MACT ZZZZ**	Emergency generator (148 kW, diesel-fired), located at the Health Sciences Library	None	None
8, 31-38	ES-Gen-61 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at the Knapp Building	None	None
8, 31-38	ES-Gen-62 **MACT ZZZZ**	Emergency generator (300 kW, diesel-fired), located at the RB House Library	None	None
8, 31-38	ES-Gen-67 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at Memorial Hall	None	None
8, 31-38	ES-Gen-68 **MACT ZZZZ**	Emergency generator (105 kW, diesel-fired), located at the Dogwood Deck	None	None
8, 31-38, 47-52	ES-Gen-71 **MACT ZZZZ, NSPS IIII**	Emergency generator (110 kW, diesel-fired), located at the Global Education Building	None	None
8, 31-38, 47-52	ES-Gen-72 **MACT ZZZZ, NSPS IIII**	Emergency generator (30 kW, diesel-fired), located at the Hamilton Hall	None	None
8, 31-38	ES-Gen-74 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the Joyner, Alexander Dorms	None	None
8, 31-38	ES-Gen-75 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the McIver, Kenan, Alderman Dorms	None	None
8, 31-38	ES-Gen-76 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at the Northeast Chiller	None	None
8, 31-38	ES-Gen-77 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at the Jackson Circle Parking Deck	None	None
8, 31-38, 47-52	ES-Gen-79 **MACT ZZZZ, NSPS IIII**	Emergency generator (300 kW, diesel-fired), located at the Carmichael Auditorium	None	None
8, 31-38, 47-52	ES-Gen-80 **MACT ZZZZ, NSPS IIII**	Emergency generator (300 kW, diesel-fired), located at the Hinton James Dorm	None	None
8, 31-38, 47-52	ES-Gen-81 **MACT ZZZZ, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Physicians Office Building	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
8, 31-38, 47-52	ES-Gen-84 **MACT ZZZZ, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Bell Tower Parking Deck	None	None
9, 31-38, 47-52	ES-FP-1 **MACT ZZZZ, NSPS IIII**	Fire water pump (77 Hp, diesel-fired), located at Kenan Stadium	None	None
9, 31-38	ES-FP-2 **MACT ZZZZ**	Fire water pump (110 Hp, diesel-fired), located at McColl Building	None	None
9, 31-38, 44, 47-52	ES-FP-3*** **MACT ZZZZ*, NSPS IIII****	Fire water pump (225 Hp, diesel-fired), located at Davis Library	None	None
Non-emergency generators (operated 7,500 hours per year)				
9, 38-44	ES-006 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One No. 2 fuel oil-fired, compression ignition, generator (2,000 kW) located at the Cogeneration Facility	None	None
9, 38-44	ES-007 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One No. 2 fuel oil-fired, compression ignition, generator (2,000 kW) located at the Cogeneration Facility	None	None

*** MACT Subpart ZZZZ (new classification)**
**** NSPS Subpart IIII (new classification)**
*** This emission source (ID No. ES-FP-3) is listed as a 15A NCAC 02Q .0501(c)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation in accordance with General Condition NN.1. The permit shield described in General Conditions R does not apply and compliance certification as described in General Condition P is not required.

a. As per the application and for the purpose of NC Toxics applicability, the Permittee is allowed to only combust unadulterated wood/wood pellets and torrified wood generated from unadulterated wood with no process additives, up to 20% of heat input rate of each boiler.

b. As per the application and for the purpose of CISWI NSPS applicability, the Permittee is allowed to only combust wood and torrified wood that is not "solid waste".

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 - Emission Source(s) and Control Devices(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 testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. Two coal/natural gas/No. 2 fuel oil/wood (non-CISWI)[a, b]/torrified wood (non-CISWI)[a]-fired, circulating fluidized combustion boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) with associated bagfilters (ID Nos. CD-004 and 005), calcium carbonate injection systems (ID Nos. CD-004.1 and CD-005.1) and dry sorbent injection systems (ID Nos. CD-004.3 and CD-005.3)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E_c = [(0.276)(Q_w) + (0.174)(Q_o)]/Q_t$ E_c = emission limit (lbs/million Btu); Q_w = actual wood heat input; Q_o = actual heat input other than wood heat input; and $Q_t = Q_w + Q_o$	15A NCAC 02D .0503
Particulate matter	**Coal alone or in combination with No. 2 fuel, wood, or torrified wood:** 0.051 lbs/million Btu heat input each boiler **Wood and/or Torrified Wood alone or in combination with No. 2 fuel or natural gas:** 0.10 lbs/million Btu heat input each boiler	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.43b (a)(1) and (c)
Particulate matter	Operation standards See Multiple Emission Section 2.2 D	15A NCAC 02D .0614 Compliance Assurance Monitoring
Sulfur dioxide	Firing of coal and fuel oil, alone or in combination 0.2 lbs sulfur dioxide per million Btu heat input -or- Sulfur dioxide emissions shall not be in excess of ten percent of the potential sulfur dioxide emission rate (90 percent reduction) and shall not contain sulfur dioxide in excess of the rate calculated by the following formula $E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$ E_s = sulfur dioxide emission limit (lbs/million Btu) K_a = 1.20 lbs/million Btu K_b = 0.80 lbs/million Btu H_a = heat input from the combustion of coal H_b = heat input from the combustion of oil	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.42b(a)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 02D .0516
Sulfur dioxide	See Multiple Emissions Section 2.2 B	15A NCAC 02D .0501(c)
Sulfur dioxide	See Multiple Emissions Section 2.2 C	15A NCAC 02D .0614 Compliance Assurance Monitoring
Nitrogen dioxide	**Coal-firing only** 0.60 lbs/million Btu heat input	15A NCAC 02D .0524

Regulated Pollutant	Limits/Standards	Applicable Regulation
		40 CFR Part 60, Subpart Db §60.44b(a)
Nitrogen dioxide	**Natural gas/No. 2 fuel oil-firing only** 0.10 lb/million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.44b(a)
Nitrogen dioxide	**Combined fuel firing** $E_n = \frac{[(EL_{go}\ H_{go}) + (EL_c\ H_c)]}{H_{go} + H_c}$ E_n = nitrogen oxides emission limit (lb/million Btu) EL_{go} = 0.10 lb/million Btu H_{go} = heat input from the combustion of natural gas or distillate fuel (lb/million Btu) EL_c = 0.60 lb/million Btu H_c = heat input from the combustion of coal	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.44b (b)
Hazardous air pollutants	**From coal firing:** • Filterable PM: 0.08 lb/MMBtu • Mercury (Hg): 3.0E-06 lb/MMBtu • Hydrogen Chloride-Equivalent (HCl): 435.5 lb/hr • CO: 133 ppmvd, corrected to 7% O_2 **From No. 2 fuel oil firing:** • Filterable PM: 0.014 lb/MMBtu • Mercury (Hg): 3.0E-06 lb/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2 **From wood or torrified wood firing:** • Filterable PM: 0.39 lb/MMBtu • Mercury (Hg): 5.0E-06 lb/MMBtu • Hydrogen Chloride-Equivalent (HCl): 435.5 lb/hr • CO: 834 ppmvd, corrected to 7% O_2	15A NCAC 02D .1109 *[CAA § 112(j)]*
Hazardous air pollutants	**From coal firing:** • Hydrochloric Acid (HCl): 2.2E-02 lb/MMBtu • Mercury (Hg): 5.7E-06 lb/MMBtu • CO: 130 ppmvd corrected to 3% O_2, 3 run average • CO: 230 ppmvd, corrected to 3% O_2, 30-day rolling average • Filterable PM: 4.02E-02 lb/MMBtu • Total Suspended Metals (TSM): 5.3E-05 lb/MMBtu **From No. 2 fuel oil firing:** • Hydrochloric Acid (HCl): 1.1E-03 lbs/MMBtu • Mercury (Hg): 2.0e-06 lbs/MMBtu • CO: 130 ppmvd, corrected to 3% O_2 • Filterable PM: 7.9E-03 lb/MMBtu • Total Suspended Metals (TSM): 6.2E-05 lb/MMBtu	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD

Regulated Pollutant	Limits/Standards	Applicable Regulation
	From wood or torrified wood firing: • Hydrochloric Acid (HCl): 2.2E-02 lb/MMBtu • Mercury (Hg): 5.7e-06 lb/MMBtu • CO: 470 ppmvd corrected to 3% O_2 • Filterable PM: 1.1E-01 lb/MMBtu • Total Suspended Metals (TSM): 1.2E-03 lb/MMBtu	

1. **15A NCAC 02D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emissions of particulate matter from these boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)** shall not exceed an allowable emission rate as calculated by the following equation:

$$Ec = [(0.276)(Qw) + (0.174)(Qo)]/Qt$$

Where;
Ec = emission limit for combined firing (pound per million Btu);
Qw = actual wood heat input (including torrified wood);
Qo = actual heat input other than wood heat input; and
Qt = Qw + Qo

Testing [NCAC 2Q .0508(f)]

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

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

c. To ensure compliance, the Permittee shall follow the NSPS monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 A. 2. f through h below. In addition to any other recordkeeping required by 40 CFR 60.48b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas fired during **each month.** The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if these monitoring requirements are not complied with or these records are not kept.

d. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 A.1.c 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 .0524: NSPS 40 CFR PART 60 SUBPART Db**
   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 Db, including Subpart A "General Provisions."

Emission Limitations [15A NCAC 02D .0524]

b. **Particulate Matter –**
   i. The maximum particulate emissions from the firing of coal alone or in combination with No. 2 fuel oil, wood and/or torrified wood shall not exceed 0.051 pounds per million Btu heat input.
   ii. The maximum particulate emissions from the firing of wood and/or torrified wood alone or in combination with No. 2 fuel oil and/or natural gas shall not exceed 0.10 pounds per million Btu heat input.

c. **Sulfur Dioxide** - The maximum sulfur dioxide emissions from the firing of coal and fuel oil, alone or in combination with wood and/or torrified shall not be in excess of 0.2 pounds per million Btu heat input ***or*** ten percent of the potential sulfur dioxide emission rate (ninety percent reduction) and shall not contain sulfur dioxide in excess of the rate calculated by the following formula:

$$E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$$

E_s = sulfur dioxide emission limit (lbs/million Btu heat input)
K_a = 1.20 lbs/million Btu heat input
K_b = 0.80 lbs/million Btu heat input
H_a = heat input from the combustion of coal in million Btu
H_b = heat input from the combustion of oil in million Btu

d. **Nitrogen Dioxide -**
   i. The maximum nitrogen dioxide emissions when firing coal shall not exceed 0.60 pounds per million Btu heat input for boilers with a low heat release rate.
   ii. The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.10 pounds per million Btu heat input for boilers with a low heat release rate.
   iii. When firing combined fuels in boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)**, compliance is achieved in accordance with the formula listed in 40 CFR 60.44b (b).

e. **Opacity** - When firing coal, No. 2 fuel oil, or natural gas, each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

f. A continuous emissions monitor for sulfur dioxide, nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60, Appendix B "Performance Specifications", and Appendix F "Quality Assurance Procedures." The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these requirements are not complied with.

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

g. In addition to any other recordkeeping required by 40 CFR 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each day** when firing coal or No. 2 fuel oil. 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. In addition to any other reporting required by 40 CFR 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
   i. Any excess emission reports as measured by the continuous emission monitoring systems (CEMS) and continuous opacity monitoring systems (COMS), postmarked on or before January 30, April 30, July 30, and October 30 of each calendar year for the preceding three-month period. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
   ii. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 A.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. In addition to any other recordkeeping required by 40 CFR 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas fired during **each month** in boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 A.3.c above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 19, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 20, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)**:

Pollutant	Emission Limits For Each Fuel Fired In Boilers #6 and #7[2]			
	Coal	Wood/Torrified Wood	No. 2 Fuel Oil	Natural Gas
Filterable PM	0.08 lb/MMBtu	0.39 lb/MMBtu	0.014 lb/MMBtu	
Mercury (Hg):	3.0e-06 lb/MMBtu	5.0e-06 lb/MMBtu	3.0e-06 lb/MMBtu	
Hydrogen Chloride-equivalent (HCl)[1]:	435.5 lbs/hr	435.5 lbs/hr		
Carbon Monoxide (CO): 30-day average corrected to 7% oxygen	133 ppmvd,	834 ppmvd,	30 ppmvd,	66 ppmvd,

1. HCl-equivalent is defined by the following equation:

$$E = E_{HCl} + E_{Cl2}*(RfC_{HCl}/RfC_{Cl2})$$

Where:
E = HCl-equivalent emission rate (in lbs/hr);
E_{HCl} = Hydrogen chloride emission rate (in lbs/hr);
E_{Cl2} = Chlorine emission rate (in lbs/hr);
RfC_{HCl} = Reference concentration for HCl (20 $\mu g/m^3$); and
RfC_{Cl2} = Reference concentration for Cl_2 (0.20 $\mu g/m^3$)

2. Weighted Emission Limit Based on Heat Input of Fuel
When two or more fuels are fired in the boiler and each represent at least 10% of the heat input to the boiler, the emission limit shall be proportional to heat input of each fuel. For example, the

CO emission limitation, in ppmvd, corrected to 7% O_2, measured on a 30-day average, is calculated as follows:

$$E_{CO} = [(834)(W) + (133)(C) + 30(DFO) + 66(NG)]/(W + C + DFO + NG)$$

Where:
E_{CO} = CO emission limitation in ppmvd, corrected to 7% oxygen
W = heat input of wood and torrified wood in million Btus per hour;
C = heat input of coal in million Btus per hour,
DFO = heat input of distillate No. 2 fuel oil in million Btu per hour; and
NG = heat input of natural gas in million Btus per hour.

c. The emissions limitations for a specific fuel type in Section 2.1 A.4.b. above shall only apply when the Permittee fires at least 10% of that fuel in the boiler on a 12-month rolling average heat input basis. If the Permittee fires less than 10% of a specific fuel in the boiler, the respective emissions limitations and the associated testing, monitoring, and recordkeeping for that particular fuel shall not apply. However, the Permittee shall retain records of the fuels fired in the boiler in accordance with Section 2.1 A.4.r. below.

Operating Standards

d. To ensure compliance with the filterable PM and mercury limitations, while firing coal/wood the exhaust from the boiler stack shall not be greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

e. To ensure compliance with the mercury and HCl-equivalent limitations while firing coal, the Permittee shall maintain the sorbent injection rate at 9.53 lb coal (and/or wood)/lb sorbent injection.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the Permittee does not maintain the sorbent injection rate (lb coal(and/or wood) fired/lb sorbent injection) at or below the operating limit.

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

f. No testing is required to demonstrate compliance with the emissions limitations associated with the firing of natural gas and No. 2 fuel oil.

g. Annual Testing. The Permittee must conduct all applicable performance tests on an annual basis, unless it meets the requirements listed in i. through iii. below. Annual performance tests, if required, must be completed between 11 and 13 months after the previous performance test.
   i. The Permittee may conduct performance tests less often for a given pollutant if the performance tests for at least 3 consecutive years show the emission rate is less than or equal to 80 percent of the allowable emission limit. In this case, the Permittee need not conduct a performance test for that pollutant for the next 2 years, but must conduct a performance test during each third year and no more than 36 months after the previous performance test.
   ii. If the affected boiler or process heater continues to remain at or below 80 percent of the allowable emission rate, the Permittee may conduct performance tests every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.
   iii. If a performance test shows emissions at greater than 80% of the allowable limit, the Permittee must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.

The Permittee must report the results of performance test within 60 days after the completion of the performance tests or fuel analyses. This report should also verify that the operating limits for the affected sources have not changed or provide documentation of revised operating parameters.

The Permittee shall be deemed in non-compliance with 15A NCAC 02D .1109 if the required annual tests are not conducted, or if the results of any tests exceed the limits in Section 2.1 A.4.b. above.

h. **Site-Specific Monitoring Plan** [15A NCAC 02Q .0508(f)]
The Permittee must develop a site-specific monitoring plan for each required continuous monitoring system (CMS). The plan shall be submitted to the NC DAQ-SSCB at least 60 days before the initial performance evaluation of the CMS. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the Permittee does not develop a site-specific monitoring plan for each CMS.

Monitoring [15A NCAC 02Q .0508(f)] **For limits associated with Coal and Wood-Firing Only.**

i. The Permittee shall install, operate, and maintain an oxygen analyzer system as defined in 40 CFR 63.7575.
To ensure compliance with the CO limitations while firing coal, the Permittee shall maintain an O_2 trim concentration at a minimum of 3.74% O_2. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the Permittee does not maintain the O_2 trim concentration at or above this operating limit or does not install, operate, and maintain an oxygen analyzer system.

j. The Permittee must install, operate, certify and maintain the continuous opacity monitoring system (COMS) according to the procedures listed below.
   i. The COMS must be installed, operated, and maintained according to PS 1 of 40 CFR 60, Appendix B.
   ii. Conduct a performance evaluation of the COMS according to the requirements in 40 CFR 63.8 and according to PS 1 of 40 CFR 60, Appendix B.
   iii. As specified in 40 CFR 63.8(c)(4)(i), the COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
   iv. The COMS data must be reduced as specified in 40 CFR 63.8(g)(2).
   v. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.
   vi. Include in the site-specific monitoring plan, required pursuant to Section 2.1.A.4.h. above, procedures and acceptance criteria for operating and maintaining the COMS according to the requirements in 40 CFR 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.
   vii. Operate and maintain the COMS according to the requirements in the monitoring plan and the requirements of 40 CFR 63.8(e). Identify periods the COMS is out-of-control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.
   viii. Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.

k. The Permittee must install, operate, and maintain continuous parameter monitoring systems (CPMS) to monitor sorbent injection rate at the limestone injections systems according to the procedures listed below.
   i. Locate the devices in a position that provide a representative measurement of the total sorbent injection rate.
   ii. Install and calibrate the devices in accordance with manufacturer's procedures and specifications.
   iii. At least annually, calibrate the device in accordance with the manufacturer's procedures and specifications.
   iv. The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. A valid hour of data must have a minimum of four successive cycles of operation.
   v. Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), conduct all monitoring in continuous operation at all times that the affected unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
   vi. For purposes of calculating data averages, the Permittee may not use data recorded during

monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. The Permittee must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

vii. Determine the 3-hour block average of all recorded readings, except as provided in paragraph vi. above.

viii. Record the results of each inspection, calibration, and validation check.

ix. Operation above the established operating limits on a 3-hour average basis shall constitute a violation of established operating limits.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the monitoring requirements in Sections 2.1 A.4. i through k above are not complied with.

Boiler Inspection and Maintenance [15A NCAC 02Q .0508(f)]
For No. 2 Fuel Oil and Natural Gas-Firing Only

l. If less than 10% coal and less than 10% wood or torrified wood is fired in a boiler on a 12-month average heat input basis and the Permittee has not performed the monitoring in Section 2.1 A.4 i through k above, the Permittee shall perform an annual inspection of the boiler and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

i. Inspect the burners, and clean or replace any components of the burners as necessary;

ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,

iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.

iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the boilers are not inspected or the tune-up is not performed or these requirements are not complied with.

m. The results of any required annual burner 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 of each recorded action;

ii. The results of each inspection; and,

iii. The results of any maintenance performed on the boilers.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required boiler inspection and maintenance records are not maintained.

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

n. The Permittee shall maintain a copy of each notification and report required by this standard, including all documentation supporting any Notification of Compliance Status.

o. The Permittee shall maintain records of performance tests or other compliance demonstrations, CMS performance evaluations, and opacity observations.

p. For each required CEMS, CPMS, and COMS, the Permittee shall maintain the following records:

i. All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);

ii. A record of each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);

iii. All CMS calibration checks; and,

iv. All adjustments and maintenance performed on CMS;
Maintain records of all monitoring data and calculated averages for applicable operating limits, including opacity, carbon monoxide, and sorbent injection rate used to demonstrate compliance with the standard.

q. For each affected source, the Permittee shall maintain records of monthly fuel use by each affected source, including the type(s) of fuel fired and amount(s) used.

r. If the Permittee limits the firing of a specific fuel to less than 10% on 12-month average heat input basis, he shall create and retain the following records at least once per calendar month:

i. Record the fuel use by each affected source, including the type(s) of fuel and amount(s) used, during the previous calendar month; and,
ii. Calculate the 12-month average heat input from each fuel for each affected source during the previous 12-month period.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the records in Sections 2.1 A.4. n through r above are not maintained.

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

s. Notification of Compliance Status. The Permittee must submit a Notification of Compliance Status that meets the requirements of 40 CFR 63.9(h)(2)(ii) before the close of business on the 60th day following the completion of the final required performance test and/or other initial compliance demonstration. The Notification of Compliance Status report must contain the following information, as applicable:
   i. A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.
   ii. Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.
   iii. Identification of whether the facility is complying with the PM emission limit or the alternative TSM emission limit.
   iv. Identification of whether the facility demonstrated compliance with each applicable emission limit through performance testing or fuel analysis.
   v. Identification of whether the facility plans to demonstrate compliance by emissions averaging.
   vi. A certification signed by the Responsible Official that the facility has met all applicable emission limits and work practice standards.
   vii. A summary of the CO emissions monitoring data and the maximum CO emission levels recorded during the performance test to show that the facility has met any applicable work practice standard.
   viii. If the affected source fires only gaseous fuel and/or distillate fuel oil, include a certification of such that is signed by the Responsible Official.

t. Semiannual Summary Report. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 A.4.i through r above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.
   The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable;
   vi. A signed statement indicating that no new types of fuel were fired in the affected sources;
   vii. Identification of any startup, shutdown, or malfunction events that were reported in accordance with 15A NCAC 02D .0535;
   viii. If there are no deviations with this standard, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period;
   ix. If there were no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CMSs were out of control during the reporting period; and,
   x. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, §63.7490(d), §63.7499(c)]

a. For these boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7** controlled by bagfilters **(ID Nos. CD-004 and CD-005)** with calcium carbonate injection systems **(ID Nos. CD-004.1 and CD-005.1)** and dry sorbent injection systems **(ID Nos. CD-004.3 and CD-005.3)**, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" (Subpart 5D) and Subpart A "General Provisions." The Permittee shall comply with the CAA §112(j) standard in Section 2.1 A.4 through **May 19, 2019**. The Permittee shall be subject to the requirements of this standard starting **May 20, 2019**. Note that the requirements of this standard may require action on behalf of the Permittee prior to **May 20, 2019**.

Definitions and Nomenclature [§63.7575]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63 Subpart A General Provisions [§63.7565]

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to Subpart 5D.

Compliance Date [§63.7510(e), §63.56(b)]]

d. The Permittee shall:
   i. Complete the initial tune up and the one-time energy assessment as required in Section 2.1 A.5.w through aa no later than **May 20, 2019**.
   ii. Complete the initial compliance requirements in Section 2.1 A.5.j no later than **November 16, 2019** and according to the applicable provisions in §63.7(a)(2).

General Compliance Requirements [§63.7505(a), §63.7500]

e. At all times the affected unit(s) is operating, the Permittee shall be in compliance with the emission standards in Section 2.1 A.5.g, except during periods of startup and shutdown. During startup and shutdown, the Permittee shall comply only with items 5 and 6 of Table 3 of Subpart 5D. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

f. At all times, then Permittee shall operate and maintain any affected source (as defined in §63.7490), 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 Administrator that 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.

Emission Limits [15A NCAC 02Q .0508(f), §63.7500(a)(1), Table 2]

g. i. The affected unit(s) shall meet the following emission limits:

Pollutant	Emission Limit
Hydrochloric Acid(HCl)	2.2E-02 lb per MMBtu of heat input
Mercury (Hg)	5.7E-06 lb per MMBtu of heat input
Carbon monoxide (CO)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3 run average or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)
Filterable Particulate Matter(PM) or Total Suspended Metals (TSM)	4.02E-02 lb per MMBtu of heat input* or 5.3E-05 lb per MMBtu of heat input

* PM limit is expressed as a 30-day rolling average if using a PM CEMS according to §63.7540(a)(19)

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

h. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test(s) are above the limit given in Section 2.1 A.5.g above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Notifications [15A NCAC 02Q .0508(f), §§63.7545(d), 63.7530]

i. The Permittee shall submit the following notifications:
   i. The Permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.
   ii. For the initial compliance demonstration for each affected source, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all affected sources at the facility The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of §63.7545 as applicable.

   [§§63.9(h)(2)(ii), 63.10(d)(2), 63.7545(e)]
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these notification requirements are not met.

Initial compliance requirements [15A NCAC 02Q .0508(f), §63.7510]

j. The Permittee shall demonstrate compliance with the limits in Section 2.1 A.5.g by conducting initial performance test(s) and fuel analyses, establishing operating limits and conducting continuous monitoring system (CMS) evaluation(s) as necessary according to §§63.7510, 63.7525 and 63.7530. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Subsequent compliance requirements [15A NCAC 02Q .0508(f), §63.7515]

k. The Permittee shall conduct subsequent performance tests and fuel analyses as necessary according to §63.7515.
l. The Permittee shall demonstrate continuous compliance with each emission limit and operating limit that applies according to §63.7540.
m. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5.k through l are not met.

Monitoring requirements [15A NCAC 02Q .0508(f), §63.7525]

n. The Permittee shall install, operate, and maintain an oxygen trim system, as defined in §63.7575.
o. The Permittee shall install, certify, maintain and operate a PM CEMS, according to §63.7525(b).
p. The Permittee shall install, certify, maintain and operate a monitoring system to measure sorbent injection rate, according to §63.7525(i).
q. The Permittee shall meet the requirements for all monitoring systems as applicable according to §63.7525.
r. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5.n through q are not met.

Operating Limits [15A NCAC 02Q .0508(f), §63.7500, Table 4 to Subpart 5D]

s. The Permittee shall maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during most recent performance test.
t. The Permittee shall operate the oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test. [§63.7525(a)(7)]
u. The Permittee shall maintain the minimum sorbent injection rate as defined in §63.7575.

v. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5.s through u are not met.

Work Practice Standards [15A NCAC 02Q .0508(f)]

w. The Permittee shall conduct a tune-up of the source(s) every 5 years as specified below. The Permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up.
   i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary, The Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months;
   ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
   iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);
   iv. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; and
   v. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

   [§§63.7500(a), §63.7540(a)(10), (12)]

x. Each tune-up shall be conducted no more than 61 months after the previous tune-up. [40CFR 63.7515(d)]

y. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [§63.7540(a)(13), §63.7515(g)]

z. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5 w through y are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(f)]

aa. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in 40 CFR 63 Subpart 5D, Table 3, Item 4, with the extent of the evaluation for items (a) to (e) in Table 3, Item 4 appropriate for the on-site technical hours listed in §63.7575: [§63.7500(a)(1), Table 3] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Recordkeeping Requirements [15A NCAC 02Q .0508(f), §63.7555]

bb. The Permittee shall:
   i. Keep a copy of each notification and report submitted to comply with Subpart 5D, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted.
   [§§63.7555(a)(1), 63.10(b)(2)(xiv)]
   ii. Keep records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations. [§63.10(b)(2)(viii)]
   iii. Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (A) through (C) below:
      A. The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
      B. A description of any corrective actions taken as a part of the tune-up; and
      C. the type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
      [§63.7540(a)(10)(vi)]

iv. For each CEMS, COMS, and continuous monitoring system, keep records according to paragraphs (b)(1) through (5) of §63.7555.
v. Keep records required in Table 8 of Subpart 5D including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies.
vi. Keep the applicable records in paragraphs (d)(1) through (13) of §63.7555.

cc. The Permittee shall:
i. Maintain records in a form suitable and readily available for expeditious review;
ii. Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
iii. 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 offsite for the remaining 3 years.
[§63.7560, §63.10(b)(1)]

dd. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5.bb through dd are not met.

Reporting Requirements [15A NCAC 02Q .0508(f), §63.7550]

ee. The Permittee shall submit a compliance report to the DAQ on a semi-annual basis, 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.
i. The first compliance report shall be postmarked on or before **July 30, 2019** and cover the period from **May 20, 2019** through **June 30, 2019**.
ii. The compliance reports shall also be submitted electronically to the EPA via the procedures in §63.7550(h).

ff. The compliance report shall contain:
i. The information in §63.7550(c) as applicable.
ii. For each deviation from an emission limit or operating limit, the report shall contain the information in§§63.7550(d) and (e) as applicable.

gg. Within 60 days after the date of completing each performance test (defined in §63.2) including any associated fuel analyses and/or CEMS performance evaluation (defined in §63.2) as required by Subpart 5D, the Permittee shall submit the results to the DAQ pursuant to 63.10(d)(2) and to the EPA via the procedures in §63.7550(h).

hh. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5.ee through gg are not met.

B. One natural gas/No. 2 fuel oil-fired boiler (ID No. ES-003-Boiler #8)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	**Natural gas or No. 2 fuel oil firing** 0.174 lb/million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	**No. 2 fuel oil-firing only** Burn low sulfur fuel 0.5 percent sulfur content by weight or less	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.42b (j)
Sulfur dioxide	**Natural gas firing only** 2.3 lb/million Btu per heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.43b (f) and (g)
Nitrogen dioxide	0.20 lb/million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db§60.44b (a)(1)
Nitrogen dioxide	See Multiple Emissions Section 2.2	15A NCAC 02D .2400 **(CAIR)**

Hazardous air pollutants	**From No. 2 fuel oil firing:** • Filterable PM: 0.014 lb/MMBtu • Mercury (Hg): 3.0e-06 lb/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2	15A NCAC 02D .1109 *[CAA § 112(j)]*
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Hydrochloric Acid (HCl) : 1.1E-03 lb/MMBtu • Mercury (Hg): 2.0e-06 lb/MMBtu • CO: 130 ppmvd, corrected to 3% O_2 • Filterable PM: 7.9E-09 lb/MMBtu • Suspended Metals (TSM): 6.2E-05 lb/MMBtu	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD

1. **15A NCAC 02D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emissions of particulate matter from the combustion of natural gas or No. 2 fuel oil, that are discharged from this boiler **(ID No. ES-003-Boiler #8)** into the atmosphere shall not exceed 0.174 pounds per million Btu heat input.

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 B.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

   Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]
   c. In addition to any other recordkeeping required by 40 CFR §60.48b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas and No. 2 fuel oil fired during **each month** in boiler **(ID No. ES-003-Boiler #8)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if these records are not maintained.

   Reporting [15A NCAC 02Q .0508(f)]
   d. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 B.1.c 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 .0524: NSPS 40 CFR PART 60 SUBPART Db - *WHEN FIRING NO. 2 FUEL OIL***
   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 Db, including Subpart A "General Provisions."

   Emission Limitations [15A NCAC 02D .0524]
   b. **Sulfur Dioxide** - The maximum sulfur content of No. 2 fuel oil fired in boiler **(ID No. ES-003-Boiler #8)** shall not exceed 0.5 sulfur percent by weight.
   c. **Nitrogen Dioxide** - The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.20 pounds per million Btu heat input for boilers with a high heat release rate.
   d. **Opacity** - When firing No. 2 fuel oil or natural gas, this boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

e. A continuous emissions monitor for nitrogen dioxide and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and Appendix F "Quality Assurance Procedures." The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the continuous emissions monitor is not installed, maintained, tested, and operated as required.

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

f. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each month** when firing No. 2 fuel oil. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

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

g. In addition to any other reporting required by 40 CFR § 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
   i. any excess opacity emission reports as measured by the continuous emission monitor (CEM) postmarked on or before January 30, April 30, July 30, and October 30 of each calendar year for the preceding three-month period. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
   ii. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from boiler **(ID No. ES-003-Boiler #8)** shall not exceed 2.3 pounds per million Btu heat input when firing natural gas. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 B.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amount of natural gas fired during **each month** in boiler **(ID No. ES-003-Boiler #8)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 B.3.c above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 19, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 20, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boiler **(ID No. ES-003-Boiler #8)**:
   i. From No. 2 fuel oil firing:

(A) Filterable PM: 0.014 lbs/MMBtu
(B) Mercury (Hg): 3.0e-06 lbs/MMBtu
(C) Carbon Monoxide (CO): 30 ppmvd, corrected to 7% oxygen

ii. From natural gas firing:
(A) Carbon Monoxide (CO): 66 ppmvd, corrected to 7% oxygen

Boiler Inspection and Maintenance [15A NCAC 02Q .0508(f)]

c. The Permittee shall perform an annual inspection of the boiler and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burners, and clean or replace any components of the burners as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
   iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the boiler is not inspected or tuned-up as required.

d. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required boiler inspection and maintenance records are not maintained.

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

e. To ensure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in the affected boiler during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if these records are not maintained or if the boiler fires a fuel other than natural gas or No. 2 fuel oil.

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

f. Semiannual Summary Report. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 B.4.c through e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.

   The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
   vi. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, §63.7490(d), §63.7499(q, u)]

a. For the existing sources(s) designed to burn light liquid fuel with a heat input capacity 10 million Btu per hour or greater, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" (Subpart 5D) and Subpart A "General Provisions." The Permittee shall comply with the CAA §112(j) standard in Section 2.1. B.4 through **May 19, 2019**. The Permittee shall be subject to the requirements of this standard starting **May 20, 2019**. Note that the requirements of this standard may require action on behalf of the Permittee prior to **May 20, 2019**.

Definitions and Nomenclature [§63.7575]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63 Subpart A General Provisions [§63.7565]

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to Subpart 5D.

Compliance Date [§63. 7510(e), §63.56(b)]

d. The Permittee shall:
   i. Complete the initial tune up and the one-time energy assessment (i.e., Section 2.1 B.5. q through w) no later than **May 20, 2019**.
   ii. Complete the initial compliance requirements in Section 2.1 B.5.j no later than **November 16, 2019** and according to the applicable provisions in §63.7(a)(2).

General Compliance Requirements [§63.7505(a), §63.7500]

e. At all times the affected unit(s) is operating, the Permittee shall be in compliance with the emission standards in Section 2.1 B.5.g, except during periods of startup and shutdown. During startup and shutdown, the Permittee shall comply only with items 5 and 6 of Table 3 of Subpart 5D.

f. At all times, then Permittee shall operate and maintain any affected source (as defined in §63.7490), 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 Administrator that 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.

Emission Limits [15A NCAC 02Q .0508(f), §63.7500(a)(1), Table 2]

g. The affected units shall meet the following emission limits:

Pollutant	Emission Limit
Hydrochloric Acid(HCl)	1.1E-03 lb per MMBtu of heat input
Mercury (Hg)	2.0E-06 lb per MMBtu of heat input
Carbon monoxide (CO)	130 ppm by volume on a dry basis corrected to 3 percent oxygen
Filterable Particulate Matter(PM) or Total Suspended Metals (TSM)	7.9E-03 lb per MMBtu of heat input or 6.2E-05 lb per MMBtu of heat input

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

h. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test(s) are above the limit given in Section 2.1 B.5.g above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Notifications [15A NCAC 02Q .0508(f), §§63.7545, 63.7530]

i. The Permittee shall submit the following notifications:
   i. The Permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.
   ii. For the initial compliance demonstration for each affected source, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all affected sources at the facility The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of §63.7545 as applicable.

   [§§63.9(h)(2)(ii), 63.10(d)(2), 63.7545(e)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these notification requirements are not met.

Initial compliance requirements [15A NCAC 02Q .0508(f), §63.7510]

j. The Permittee shall demonstrate compliance with the limits in Section 2.1 B.5.g by conducting initial performance test(s) and fuel analyses, establishing operating limits and conducting continuous monitoring system (CMS) evaluation(s) as necessary according to §§63.7510, 63.7525 and 63.7530. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Subsequent compliance requirements [15A NCAC 02Q .0508(f), §63.7515]

k. The Permittee shall conduct subsequent performance tests and fuel analyses as necessary according to §63.7515.
   i. If the affected boiler or process heater combusts ultra-low sulfur ***liquid fuel***, the Permittee does not need to conduct further performance tests (stack tests or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the emission limits in Section 2.1 B.5.g providing the Permittee demonstrates ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis.
   ii. If the Permittee intends to use a fuel other than ultra-low sulfur ***liquid fuel***, natural gas, refinery gas, or other gas 1 fuel, the Permittee shall conduct new performance tests within 60 days of burning the new fuel type.

l. The Permittee shall demonstrate continuous compliance with each emission limit and operating limit that applies according to §63.7540.

m. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.k through l are not met.

Monitoring requirements [15A NCAC 2Q .0508(f), §63.7525]

n. The Permittee shall install, operate, and maintain an oxygen trim system, as defined in §63.7575.

o. The Permittee shall meet the requirements for all monitoring systems as applicable according to §63.7525.

p. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.n through o are not met.

Operating Limits [15A NCAC 02Q .0508(f), §63.7500, Table 4 to Subpart 5D]

q. The Permittee shall maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during most recent performance test.

r. The Permittee shall operate the oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test. [§63.7525(a)(7)]

s. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.q through r are not met.

Work Practice Standards [15A NCAC 02Q .0508(f)]

t. The Permittee shall conduct a tune-up of the source(s) every five years as specified below. The Permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up.
   i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months;
   ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
   iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);
   iv. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; and
   v. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

   [§§63.7500(a), §63.7540(a)(10),(12)]

u. Each tune-up shall be conducted no more than 61 months after the previous tune-up. [40CFR 63.7515(d)]

v. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [§63.7540(a)(13), §63.7515(g)]

w. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.t through v are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(f)]

xi. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in Subpart 5D, Table 3, with the extent of the evaluation for items (a) to (e) in Table 3 appropriate for the on-site technical hours listed in §63.7575: An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. [§63.7500(a)(1), Table 3] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Recordkeeping Requirements [15A NCAC 02Q .0508(f), §63.7555]

y. The Permittee shall:
   i. Keep a copy of each notification and report submitted to comply with Subpart 5D, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted.

   [§§63.7555(a)(1), 63.10(b)(2)(xiv)]

   ii. Keep records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations. [§63.10(b)(2)(viii)]
   iii. Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (A) through (C) below:
      A. The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
      B. A description of any corrective actions taken as a part of the tune-up; and
      C. The type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

   [§63.7540(a)(10)(vi)]

iv. For each CEMS, COMS, and continuous monitoring system, keep records according to paragraphs (b)(1) through (5) of §63.7555.
v. Keep records required in Table 8 of Subpart 5D including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies.
vi. Keep the applicable records in paragraphs (d)(1) through (13) of §63.7555.

z. The Permittee shall:
i. Maintain records in a form suitable and readily available for expeditious review;
ii. Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
iii. 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 offsite for the remaining 3 years.
[§63.7560, §63.10(b)(1)]

aa. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.y through z are not met.

Reporting Requirements [15A NCAC 02Q .0508(f), §63.7550]

bb. The Permittee shall submit a compliance report to the DAQ on a semi-annual basis, 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.
i. The first compliance report shall be postmarked on or before **July 30, 2019** and cover the period from **May 20, 2019** through **June 30, 2019**.
ii. The compliance reports shall also be submitted electronically to the EPA via the procedures in §63.7550(h).

cc. The compliance report shall contain:
i. The information in §63.7550(c) as applicable.
ii. For each deviation from an emission limit or operating limit, the report shall contain the information in§§63.7550(d) and (e) as applicable.

dd. Within 60 days after the date of completing each performance test (defined in §63.2) including any associated fuel analyses and/or CEMS performance evaluation (defined in §63.2) as required by Subpart 5D, the Permittee shall submit the results to the DAQ pursuant to 63.10(d)(2) and to the EPA via the procedures in §63.7550(h).

ee. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.bb through dd are not met.

C. Two natural gas/No. 2 fuel oil-fired boilers (ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10) located at the Manning Drive Steam Plant

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	**Natural gas or No. 2 fuel oil firing** 0.164 lb/million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	**No. 2 fuel oil-firing only** Burn low sulfur fuel 0.3 percent sulfur content by weight or less	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.42b (j)
Sulfur dioxide	**Natural gas firing only** 2.3 lb/million Btu per heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.43b(f) and (g)

Nitrogen dioxide	0.20 lb/million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.44b (a)(1)
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Filterable PM: 0.014 lb/MMBtu • Mercury (Hg): 3.0e-06 lb/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2	15A NCAC 02D .1109 *[CAA § 112(j)]*
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Hydrochloric Acid (HCl): 1.1E-03 lb/MMBtu • Mercury (Hg): 2.0e-06 lb/MMBtu • CO: 130 ppmvd, corrected to 3% O_2 • Filterable PM: 7.9E-09 lb/MMBtu • Suspended Metals (TSM): 6.2E-05 lb/MMBtu	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD

1. **15A NCAC 02D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS - *NATURAL GAS OR NO. 2 FUEL OIL FIRING***
   a. Emissions of particulate matter from the combustion of natural gas or No. 2 fuel oil that are discharged from boilers **(ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10)** into the atmosphere shall not exceed 0.164 pounds per million Btu heat input.

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

   Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]
   c. No monitoring, recordkeeping, or reporting is required for particulate emissions from the firing of natural gas or No. 2 fuel oil in these sources **(ID Nos. Es-004-Boiler #9 and ES-005-Boiler #10)**.

2. **15A NCAC 02D .0524: NSPS 40 CFR PART 60 SUBPART Db - *WHEN FIRING NO. 2 FUEL OIL* (For boilers installed after February 28, 2005)**
   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 Db, including Subpart A "General Provisions."

   Emission Limitations [15A NCAC 02D .0524]
   b. **Sulfur Dioxide** - The maximum sulfur content of No. 2 fuel oil fired in each boiler **(ID No. ES-004-Boiler #9 or ES-005-Boiler#10)** shall not exceed 0.3 sulfur percent by weight.

   c. **Nitrogen Dioxide** - The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.20 pounds per million Btu heat input for boilers with a high heat release rate.

   d. **Particulate** – Boilers **(ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10)** will burn fuel oil that contains no more than 0.3 weight percent sulfur, or will burn natural gas that does not have a PM standard under §60.43b, and these boilers do not use a post-combustion technology to reduce SO_2 or PM emissions. Therefore, these boilers are not subject to the PM limits under §60.43b(h)(1).

   e. **Opacity** - When firing No. 2 fuel oil or natural gas, each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

f. i. A continuous emissions monitor for nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and Appendix F "Quality Assurance Procedures."

ii. The owner or operator of an affected facility who elects to demonstrate that the affected facility combust only very low sulfur oil under §60.42b (j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b.

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

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

g. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each month** when firing No. 2 fuel oil. 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. In addition to any other reporting required by 40 CFR § 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:

i. Any excess opacity emission reports as measured by the continuous emission monitor (CEM), postmarked on or before January 30, and July 30 each calendar year for the preceding **six-month period**. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.

ii. The owner or operator of an affected facility who elects to demonstrate that the affected facility combust only very low sulfur oil under §60.42b (j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b.

iii. The owner or operator of each affected facility subject to the sulfur dioxide, particulate matter, and/or nitrogen oxides emissions limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

iv. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from boilers **(ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10)** while firing natural gas shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 C.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of natural gas in these sources **(ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10)**.

4. **15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters**
   a. The Permittee shall comply with this CAA §112(j) standard until **May 19, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 20, 2019**.
   b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boilers **(ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10)**:
      i. From No. 2 fuel oil firing:
         (A) Filterable PM: 0.014 lbs/MMBtu
         (B) Mercury (Hg): 3.0e-06 lbs/MMBtu
         (C) Carbon Monoxide (CO): 30 ppmvd, corrected to 7% oxygen
      ii. From natural gas firing:
         (A) Carbon Monoxide (CO): 66 ppmvd, corrected to 7% oxygen

   Boiler Inspection and Maintenance [15A NCAC 02Q .0508(f)]
   c. The Permittee shall perform an annual inspection of the boilers and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
      i. Inspect the burners, and clean or replace any components of the burners as necessary;
      ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
      iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
      iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

      The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the boilers are not inspected or tune-up is not performed or these requirements are not complied with.
   d. The results of any required annual burner 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 of each recorded action;
      ii. The results of each inspection; and,
      iii. The results of any maintenance performed on the boilers.

      The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required boiler inspection and maintenance records are not maintained.

   Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]
   e. To ensure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in the affected boilers during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if these records are not maintained or if either boiler fires a fuel other than natural gas or No. 2 fuel oil.

   Reporting [15A NCAC 02Q .0508(f)]
   f. Semiannual Summary Report. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 C.4.c through e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.
      The report shall include the following:
      i. Company name and address;
      ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
      iii. Date of report and beginning and ending dates of the reporting period;
      iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with

units of measure;

v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,

vi. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, §63.7490(d), §63.7499(q, u)]

a. For the existing sources(s) designed to burn light liquid fuel with a heat input capacity 10 million Btu per hour or greater, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" (Subpart 5D) and Subpart A "General Provisions." The Permittee shall comply with the CAA §112(j) standard in Section 2.1. C.4 through **May 19, 2019**. The Permittee shall be subject to the requirements of this standard starting **May 20, 2019**. Note that the requirements of this standard may require action on behalf of the Permittee prior to **May 20, 2019**.

Definitions and Nomenclature [§63.7575]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63 Subpart A General Provisions [§63.7565]

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to Subpart 5D.

Compliance Date [§63. 7510(e), §63.56(b)]

d. The Permittee shall:

i. Complete the initial tune up and the one-time energy assessment (i.e., Section 2.1 C.5. q through w) no later than **May 20, 2019**.

ii. Complete the initial compliance requirements in Section 2.1 C.5.j no later than **November 16, 2019** and according to the applicable provisions in §63.7(a)(2).

General Compliance Requirements [§63.7505(a), §63.7500]

e. At all times the affected unit(s) is operating, the Permittee shall be in compliance with the emission standards in Section 2.1 C.5.g, except during periods of startup and shutdown. During startup and shutdown, the Permittee shall comply only with items 5 and 6 of Table 3 of Subpart 5D.

f. At all times, then Permittee shall operate and maintain any affected source (as defined in §63.7490), 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 Administrator that 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.

Emission Limits [15A NCAC 02Q .0508(f), §63.7500(a)(1), Table 2]

g. The affected units shall meet the following emission limits:

Pollutant	Emission Limit
Hydrochloric Acid(HCl)	1.1E-03 lb per MMBtu of heat input
Mercury (Hg)	2.0E-06 lb per MMBtu of heat input
Carbon monoxide (CO)	130 ppm by volume on a dry basis corrected to 3 percent oxygen

Pollutant	Emission Limit
Filterable Particulate Matter(PM) or Total Suspended Metals (TSM)	7.9E-03 lb per MMBtu of heat input or 6.2E-05 lb per MMBtu of heat input

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

h. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test(s) are above the limit given in Section 2.1 C.5.g above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Notifications [15A NCAC 02Q .0508(f), §§63.7545, 63.7530]

i. The Permittee shall submit the following notifications:
   i. The Permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.
   ii. For the initial compliance demonstration for each affected source, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all affected sources at the facility The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of §63.7545 as applicable.

   [§§63.9(h)(2)(ii), 63.10(d)(2), 63.7545(e)]
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these notification requirements are not met.

Initial compliance requirements [15A NCAC 02Q .0508(f), §63.7510]

j. The Permittee shall demonstrate compliance with the limits in Section 2.1 C.5.g by conducting initial performance test(s) and fuel analyses, establishing operating limits and conducting continuous monitoring system (CMS) evaluation(s) as necessary according to §§63.7510, 63.7525 and 63.7530. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Subsequent compliance requirements [15A NCAC 02Q .0508(f), §63.7515]

k. The Permittee shall conduct subsequent performance tests and fuel analyses as necessary according to §63.7515.
   i. If the affected boiler or process heater combusts ultra-low sulfur ***liquid fuel***, the Permittee does not need to conduct further performance tests (stack tests or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the emission limits in Section 2.1 C.5.g providing the Permittee demonstrates ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis.
   ii. If the Permittee intends to use a fuel other than ultra-low sulfur ***liquid fuel***, natural gas, refinery gas, or other gas 1 fuel, the Permittee shall conduct new performance tests within 60 days of burning the new fuel type.

l. The Permittee shall demonstrate continuous compliance with each emission limit and operating limit that applies according to §63.7540.

m. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.k through l are not met.

Monitoring requirements [15A NCAC 2Q .0508(f), §63.7525]

n. The Permittee shall install, operate, and maintain an oxygen trim system, as defined in §63.7575.

o. The Permittee shall meet the requirements for all monitoring systems as applicable according to §63.7525.

p. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.n through o are not met.

Operating Limits [15A NCAC 02Q .0508(f), §63.7500, Table 4 to Subpart 5D]

q. The Permittee shall maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during most recent performance test.

r. The Permittee shall operate the oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test. [§63.7525(a)(7)]

s. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.q through r are not met.

Work Practice Standards [15A NCAC 02Q .0508(f)]

t. The Permittee shall conduct a tune-up of the source(s) every five years as specified below. The Permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up.

   i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months;

   ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

   iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);

   iv. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; and

   v. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

   [§§63.7500(a), §63.7540(a)(10),(12)]

u. Each tune-up shall be conducted no more than 61 months after the previous tune-up. [40CFR 63.7515(d)]

v. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [§63.7540(a)(13), §63.7515(g)]

w. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.t through v are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(f)]

xii. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in Subpart 5D, Table 3, with the extent of the evaluation for items (a) to (e) in Table 3 appropriate for the on-site technical hours listed in §63.7575: An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. [§63.7500(a)(1), Table 3] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Recordkeeping Requirements [15A NCAC 02Q .0508(f), §63.7555]

y. The Permittee shall:

   i. Keep a copy of each notification and report submitted to comply with Subpart 5D, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted.

   [§§63.7555(a)(1), 63.10(b)(2)(xiv)]

   ii. Keep records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations. [§63.10(b)(2)(viii)]

iii. Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (A) through (C) below:
   A. The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
   B. A description of any corrective actions taken as a part of the tune-up; and
   C. The type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

[§63.7540(a)(10)(vi)]

iv. For each CEMS, COMS, and continuous monitoring system, keep records according to paragraphs (b)(1) through (5) of §63.7555.

v. Keep records required in Table 8 of Subpart 5D including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies.

vi. Keep the applicable records in paragraphs (d)(1) through (13) of §63.7555.

z. The Permittee shall:
   i. Maintain records in a form suitable and readily available for expeditious review;
   ii. Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
   iii. 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 offsite for the remaining 3 years.

[§63.7560, §63.10(b)(1)]

aa. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.y through z are not met.

Reporting Requirements [15A NCAC 02Q .0508(f), §63.7550]

bb. The Permittee shall submit a compliance report to the DAQ on a semi-annual basis, 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.
   i. The first compliance report shall be postmarked on or before **July 30, 2019** and cover the period from **May 20, 2019** through **June 30, 2019**.
   ii. The compliance reports shall also be submitted electronically to the EPA via the procedures in §63.7550(h).

cc. The compliance report shall contain:
   i. The information in §63.7550(c) as applicable.
   ii. For each deviation from an emission limit or operating limit, the report shall contain the information in§§63.7550(d) and (e) as applicable.

dd. Within 60 days after the date of completing each performance test (defined in §63.2) including any associated fuel analyses and/or CEMS performance evaluation (defined in §63.2) as required by Subpart 5D, the Permittee shall submit the results to the DAQ pursuant to 63.10(d)(2) and to the EPA via the procedures in §63.7550(h).

ee. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.bb through dd are not met.

D. One coal handling, conveying, crushing, and storage system consisting of:

* **Three enclosed railcar dump pits (ID Nos. ES-010.1, 010.2, & 010.3) with associated wet dust suppression systems (ID No. CD-018),**
* **One coal silo (ID No. ES-1) with associated bagfilter (ID No. CD-011),**
* **One coal silo (ID No. ES-2) with associated bagfilter (ID No. CD-012),**

* **One coal crusher building (ID No. ES-010A) with associated bagfilter (ID No. CD-013)**
* **Five silo feed conveyors (ID Nos. ES-3.1, 3.2, 3.3, 3.4, & 3.5) with associated bagfilter (ID No. CD-019)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ $P < 30$ tpy; $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy Where: E = allowable particulate emission rate (lbs/hr) P= process weight rate in tons/hr	15A NCAC 02D .0515
Visible emissions	20 percent opacity	15A NCAC 02D .0524 **40 CFR Part 60, Subpart Y**

1. **15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**
   a. Emissions of particulate matter from the coal handling, conveying, crushing, and storage system shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad P < 30 \text{ tpy; and}$$
$$E = 55.0 \times P^{0.11} - 40 \quad P \geq 30 \text{ tpy}$$

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 provided by the equation in Section 2.1 D.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 coal handling, conveying, crushing, and storage system shall be controlled by bagfilters **(ID Nos. CD-011, 012, 013, and 019)** as described above. To ensure compliance, the Permittee shall perform the following inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturing's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly external visual inspection of the system ductwork and material collection units for leaks; and
   ii. an annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters structural integrity to be performed.

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

d. The records of inspection and maintenance shall be maintained in a logbook, updated on a monthly basis (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 findings of each inspection; and

iii. the records of any maintenance performed on any control device; and
iv. any variance from manufacturing'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 records of any maintenance performed on any control device within 30 days of receipt of a written request by the DAQ.
f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1 D.1.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0524: 40 CFR PART 60, SUBPART Y - CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the coal handling, conveying, crushing, and storage system shall not be more than 20 percent opacity when in operation.

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 provided in Section 2.1 D.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

c. The Permittee may operate the three enclosed railcar dump pits **(ID No. 010)** without concurrent operation of the wet spray dust suppression system (100 gallons per minute water injection rate, **ID No. 018**) during times when the received coal contains sufficient moisture to prevent visible emissions from exceeding 20 percent opacity. During unloading operations when the wet suppression system is not in use, a currently certified visible emissions observer (EPA Method 9) shall observe the building vent emissions and record observations in a logbook (written or electronic format). The water sprays shall be turned on when any one opacity reading exceeds twenty percent. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring requirements are not complied with.

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

d. The records of the monitoring shall be maintained in a logbook, updated on a monthly basis (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 findings 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 records 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)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 D.2.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

E. One ash handling, storage, and loading system consisting of:

* **One ash storage silo equipped with dry loadout system (ID No. ES-030) and associated bagfilter (ID No. CD-031)**
* **One wet loadout system (ID No. ES-030A) with water injection system (ID No. CD-032)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ $P < 30$ tpy; $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy Where: E = allowable particulate emission rate in lbs/hr P = process weight rate in tons/hr	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 the ash handling, storage, and loading system shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad P < 30 \text{ tpy; and}$$
$$E = 55.0 \times P^{0.11} - 40 \quad P \geq 30 \text{ tpy}$$

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 provided in Section 2.1 E.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 ash storage silo shall be controlled by a bagfilter (ID No. CD-031). To ensure compliance, the Permittee shall perform inspections and maintenance consisting of routine bag cleaning and replacement and pulse air system check, as recommended by the manufacturer. In addition to the manufacturer's recommendations, the inspection and maintenance requirement shall include the following:
   i. a monthly external 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 bagfilters structural integrity to be performed during the period of seasonal down time.

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

d. The records of inspection and maintenance shall be maintained in a logbook, updated on a monthly basis (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 findings of each inspection; and
   iii. the records of any maintenance performed on any control device.

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 records of any maintenance performed on any control device within 30 days of receipt of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1 E.1.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.

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

a. Visible emissions from the ash handling, storage, and loading system shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 E.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 day when the system is in operation, the Permittee shall observe the emission points of this source for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission sources is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. If visible emissions from this source are observed to be above normal, the Permittee shall either:

(A) take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or

(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 above-normal emissions are not corrected per c.i. (A) above;

(B) the demonstration in c.i. (B) above cannot be made; or

(C) the daily observation are not conducted per c.i. above.

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

d. The records of the monitoring shall be maintained in a logbook, updated on a monthly basis (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 findings 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 records 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 activities given in Section 2.1 E.2.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the

preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

F. Four No. 2 fuel oil storage tanks (ID Nos. ES-T-001 through T-004)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile organic compounds	No applicable requirements	None

G. Eighty-one diesel-fired, compression ignition, emergency generators; Two natural gas-fired, spark ignition, emergency generators; and Three No. 2 fuel oil-fired fire water pumps

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	See Multiple Emissions Section 2.2 A.	15A NCAC 02D .0501(c)
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity each	15A NCAC 02D .0521
Multiple pollutants	See Multiple Emissions Section 2.2 E. **(ID Nos. ES-Gen-2, ES-EG#13, ES-EG-#17 to ES-EG-#20, ES-Gen#21, ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, ES-Gen-71, ES-Gen-72, ES-Gen-79 to ES-Gen-81, ES-Gen-84, ES-FP-1, and ES-FP-3 only)**	15A NCAC 02D .0524 [40 CFR Part 60, Subpart IIII]
Hazardous air pollutants	Operate as an emergency use only engine.	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ
Hazardous air pollutants	Comply with work practices beginning May 3, 2013 for existing CI emergency generators with a site rating no more than 500 hp and beginning October 19, 2013 for existing SI emergency generators with a site rating no more than 500 hp.	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ
Hazardous air pollutants	New Stationary RICE with a site rating of equal to or less than 500 brake HP, which commenced construction on or after June 12, 2006, *subject to Regulations under 40 CFR Part 60* must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part. **(ID No. ES-Gen-13 only)**	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ [63.6590(c)]

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

a. Emissions of sulfur dioxide from each emergency generator and fire water pump shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

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

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from firing diesel fuel in any emergency generator or fire water pump.

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

a. Visible emissions from the emergency generators and fire water pumps shall not be more than 20 percent opacity each 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 provided in Section 2.1 G.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting

c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of diesel fuel in any emergency generator or fire water pump.

3. 15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines (RICE)

Table 2.1.G.3-1: New and Reconstructed Emergency RICE > 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#7	Diesel-fired	1250 kW	Michael Hooker Research Center
ES-EG#8	Diesel-fired	800 kW	Chapman Hall
ES-EG#9	Diesel-fired	1000 kW	Caudill Labs
ES-EG#10	Diesel-fired	800 kW	Bondurant Hall
ES-EG#11	Diesel-fired	1750 kW	Burnett-Womack Building
ES-EG#12	Diesel-fired	1250 kW	Mary Ellen Jones Building
ES-EG#13	Diesel-fired	2000 kW	Genetic Medicine Building
ES-EG#14	Diesel-fired	900 kW	440 West Franklin Building
ES-EG#15	Diesel-fired	2000 kW	Rams Head Center
ES-EG#16	Diesel-fired	2000 kW	ITS Building
ES-EG#17	Diesel-fired	1000 kW	Brinkhouse-Bullitt Building
ES-EG#18	Diesel-fired	1000 kW	Venable Hall
ES-EG#19	Diesel-fired	2500 kW	Imaging Research Building
ES-EG#20	Diesel-fired	2000 kW	Genomic Science Building
ES-EG#21	Diesel-fired	1250 kW	Dental Research Building
ES-Gen-2	Diesel-fired	500 kW	Ambulatory Care Center
ES-Gen-48	Diesel-fired	500 kW	Kenan Stadium
ES-Gen-76	Diesel-fired	500 kW	Northeast Chiller

Table 2.1.G.3-2: Existing Emergency RICE > 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#1	Diesel-fired	900 kW	EPA Building
ES-EG#2	Diesel-fired	1600 kW	Thurston Bowles Building
ES-EG#3	Diesel-fired	728 kW	Lineberger Cancer Research Bldg
ES-EG#4	Diesel-fired	1000 kW	Taylor Hall
ES-EG#5	Diesel-fired	910 kW	Neuroscience Research Building
ES-EG#6	Diesel-fired	1500 kW	Medical Biomolecular Research
ES-Gen-30	Diesel-fired	535 kW	Lineberger Building Addition
ES-Gen-40	Diesel-fired	500 kW	Phillips Hall
ES-Gen-50	Diesel-fired	600 kW	Beard Hall
ES-Gen-57	Diesel-fired	600 kW	Bioinformatics Building
ES-Gen-59	Diesel-fired	500 kW	Glaxo Building

Table 2.1.G.3-3: New and Reconstructed Emergency RICE ≤ 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-12	Diesel-fired	150 kW	Craige Parking Deck
ES-Gen-13	Diesel-fired	300 kW	Davie Hall
ES-Gen-43	Diesel-fired	125 kW	Medical Research Building B
ES-Gen-49	Diesel-fired	230 kW	Wilson Library Stacks
ES-Gen-71	Diesel-fired	110 kW	Global Education Building
ES-Gen-72	Diesel-fired	30 kW	Hamilton Hall
ES-Gen-79	Diesel-fired	300 kW	Carmichael Auditorium
ES-Gen-80	Diesel-fired	300 kW	Hinton James Dorm
ES-Gen-81	Diesel-fired	250 kW	Physicians Office Building
ES-Gen-84	Diesel-fired	250 kW	Bell Tower Parking Deck
ES-FP-1	Diesel-fired	77 Hp	Kenan Stadium
ES-FP-3	Diesel-fired	225 Hp	Davis Library

Table 2.1.G.3-4: Existing Emergency RICE ≤ 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-1	Diesel-fired	25 kW	Ackland Art Museum
ES-Gen-3	Diesel-fired	30 kW	Avery Dorm
ES-Gen-4	Diesel-fired	20 kW	Cheek/Clark Building
ES-Gen-7	Diesel-fired	35 kW	Security Services Building
ES-Gen-8	Diesel-fired	350 kW	Carmichael Dorm
ES-Gen-9	Diesel-fired	60 kW	Carolina Inn
ES-Gen-10	Diesel-fired	25 kW	Center for Dramatic Art
ES-Gen-11	Diesel-fired	250 kW	Craige Dorm
ES-Gen-14	Diesel-fired	210 kW	Davis Library
ES-Gen-15	Diesel-fired	250 kW	Ehringhaus Dorm

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-18	Diesel-fired	150 kW	Fetzer Gym
ES-Gen-19	Diesel-fired	125 kW	Fordham Hall
ES-Gen-20	Diesel-fired	150 kW	Cardinal Deck
ES-Gen-21	Nat. gas- fired	40 kW	Old Dental School Building
ES-Gen-22	Diesel-fired	100 kW	Hill Alumni Center
ES-Gen-23	Diesel-fired	250 kW	Hilton James Dorm
ES-Gen-24	Diesel-fired	80 kW	Kenan Center
ES-Gen-25	Diesel-fired	25 kW	Kenan Field (North)
ES-Gen-26	Diesel-fired	30 kW	Kenan Field (North-New)
ES-Gen-27	Diesel-fired	25 kW	Kenan Field (South)
ES-Gen-28	Diesel-fired	100 kW	Kenan Football Center
ES-Gen-29	Diesel-fired	45 kW	Kenan Chemistry Lab
ES-Gen-31	Diesel-fired	250 kW	McGavran Greenberg Building
ES-Gen-32	Diesel-fired	100 kW	MacNider Hall
ES-Gen-33	Diesel-fired	175 kW	McColl Building
ES-Gen-35	Diesel-fired	125 kW	Morehead Chemistry Lab
ES-Gen-36	Nat. gas-fired	30 kW	Morehead Planetarium
ES-Gen-37	Diesel-fired	250 kW	Morrison Dorm
ES-Gen-39	Diesel-fired	60 kW	Parker Dorm
ES-Gen-41	Diesel-fired	20 kW	Security Services Building
ES-Gen-42	Diesel-fired	125 kW	Dean Smith Center
ES-Gen-44	Diesel-fired	275 kW	Tarrson Hall
ES-Gen-45	Diesel-fired	150 kW	Tate-Turner-Kuralt Building
ES-Gen-46	Diesel-fired	260 kW	Taylor Student Health Services
ES-Gen-47	Diesel-fired	50 kW	Van Hecke-Wettach Hall
ES-Gen-58	Diesel-fired	230 kW	Carrington Building
ES-Gen-60	Diesel-fired	148 kW	Health Sciences Library
ES-Gen-61	Diesel-fired	60 kW	Knapp Building
ES-Gen-62	Diesel-fired	300 kW	RB House Library
ES-Gen-67	Diesel-fired	125 kW	Memorial Hall
ES-Gen-68	Diesel-fired	105 kW	Dogwood Deck
ES-Gen-74	Diesel-fired	250 kW	Joyner, Alexander Dorms
ES-Gen-75	Diesel-fired	250kW	McIver, Kenan, Alderman Dorms
ES-Gen-77	Diesel-fired	100 kW	Jackson Circle Parking Deck
ES-FP-2	Diesel-fired	110 Hp	McColl Building

a. The Permittee shall meet the requirements of 40 CFR 63 Subpart ZZZZ for emergency generators (ID Nos. ES-Gen-12, ES-Gen-13, and ES-Gen-49) and diesel-fired fire water pump (ID No. ES-FP-3) by meeting the requirements in 40 CFR 60, Subpart IIII for compression ignition engines. No further requirements shall apply to RICE of the emergency generators (ID Nos. ES-Gen-12, ES-Gen-13, and ES-Gen-49) and diesel-fired fire water pump (ID No. ES-FP-3) under 40 CFR 63. [§63.6590(c)]

Initial Notification [40 CFR §63.9]

b. The Permittee shall comply with the initial notification requirements of 40 CFR part 63 Subpart A "General Provisions," according to the applicability of Subpart A to such sources, as identified in

Table No. 8 in Subpart ZZZZ, "Applicability of General Provisions to Subpart ZZZZ" for each affected emergency generator and fire water pump no later than 120 days after Initial start-up. The notification requirements do not apply to the existing emergency RICE listed in Tables 2.1.G.3-2 and 2.1.G.3-4 above. [40 CFR §63.6645(a)]

c. In accordance with 40 CFR §63.9 (b)(2), the initial notification shall be submitted not later than 120 calendar days after startup of the emergency generator or fire water pump and shall provide the following information:
   i. The name and address of the owner or operator;
   ii. The address (i.e., physical location) of the affected source;
   iii. An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;
   iv. A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted;
   v. A statement of whether the affected sources are a major source or an area source.

d. The Permittee shall submit the initial notification to the following agencies:
   i. North Carolina Division of Air Quality, Permitting Section,
   ii. North Carolina Division of Air Quality, Regional Office Supervisor, and
   iii. EPA-Region IV.

Recordkeeping Requirement For Applicability Determination [40 CFR §63.10(b)(3)]

e. Stationary emergency RICE with a site rating of more than 500 brake horsepower (hp), for which construction or reconstruction was commenced on or after December 19, 2002 and prior to June 12, 2006, do not have to meet the requirements of subpart ZZZZ and of subpart A of this part except for the initial notification requirements in 2.1.G.3.b to d above. Stationary emergency RICE with a site rating of more than 500 brake horsepower (hp), for which construction or reconstruction was commenced on or after June 12, 2006 do not have to meet the requirements of subpart ZZZZ and of subpart A of this part except for the initial notification requirements in 2.1.G.3.b to d above and the operating restrictions in 2.1.G.3.e below.

The Permittee shall maintain the applicability determination for exclusion of the emergency RICE listed in Table 2.1.G.3-1 above from the requirements of 40 CFR Part 63, Subpart ZZZZ and Subpart A of this part, on site for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The analyses, or other information, that demonstrates the exemption from the requirements of Subpart ZZZZ and Part A of this Subpart, shall be signed by the person making the determination.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not maintained.

Operating Restrictions. [40 CFR §63.6640 (f)]

f. The Permittee shall operate each emergency stationary ICE in Tables 2.1 G.3-1 through 4 above, according to the requirements in paragraphs (i) through (iii) below. In order for the engine to be considered an emergency stationary ICE under this Subpart, any operation other than emergency operation, maintenance and testing, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (i) through (iii) below is prohibited. If you do not operate the engine according to the requirements in paragraphs (i) through (iii) below, the engine will not be considered an emergency engine under this Subpart and shall meet all requirements for non-emergency engines.

   i. There is no time limit on the use of emergency stationary ICE in emergency situations.

   ii. The Permittee may operate an emergency stationary ICE for any combination of the purposes specified in paragraph (A) below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (iii) below counts as part of the 100 hours per calendar year allowed by this paragraph (f).

(A) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

iii. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(ii) of this section. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in this Section 2.1 G.3.f. are not met. [§63.6640(f)]

Compliance Date [40 CFR § 63.6595 (a)]

g. Beginning May 3, 2013, the Permittee shall comply with the operating limits, maintenance, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1.G.3.j. to 2.1.G.3.p. below for the existing compression ignition (CI) emergency engines listed in Table 2.1.G.3-4.

h. Beginning October 19, 2013, the Permittee shall comply with the operating limits, maintenance, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1.G.3.j. to 2.1.G.3.p. below for the existing spark ignition (CI) emergency engines listed in Table 2.1.G.3-4.

Work Practices Applicable to Table 2.1.G.3-4 RICE (except during startup) [§63.6603 and 63.6640;Table 2c]

i. For each existing emergency generator and fire water pump with a site rating no more than 500 hp, the Permittee shall change oil and filter every 500 hours of operation or annually, whichever comes first.

j. An oil analysis program may be used to extend the time allowed in 2.1.G.3.h. above between oil changes. The analysis program must, at a minimum, analyze the (1) total base number, (2) viscosity, and (3) percent water content. An oil change is not required if all three of the following conditions are meet:

   i. the total base number is greater than or equal to 30 percent of the total base number of the oil when new;

   ii. the viscosity of the oil has not changed by more than 20 percent from the viscosity of the oil when new; and

   iii. the percent water content (by volume) is less than or equal to 0.5.

   If one of the above limits is exceeded, the owner or operator must change the oil within 2 days of receiving the results of the analysis or before commencing operation, whichever is later. If using an oil analysis program to extend the time between oil changes, the owner or operator must keep records of the results of the analysis and the oil changes for the engine and include the analysis program in the maintenance plan for the engine.

k. For each existing emergency generator and fire water pump, the Permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first.

l. For each emergency generator and fire water pump, the Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in Sections 2.1 G.3.i. through l. above are not met.

Work Practices Applicable to Table 2.1.G.3-4 RICE (during startup) [40 CFR 63.6625(h)]

m. The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes for each existing emergency generator and fire water pump.

Monitoring/Operation/Maintenance Requirements Applicable to Table 2.1.G.3-4 RICE

n. The Permittee shall operate and maintain the existing stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; *OR* develop and follow a site specific maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good practice for minimizing air emissions.

o. The Permittee shall install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in Section 2.1 G.3.n. and o. above are not met.

Recordkeeping/Reporting Requirements

p. The Permittee shall maintain records of the following:
   i. A copy of each notification and report that is submitted to comply with subpart ZZZZ (Note: existing RICE are <u>not</u> required to submit an initial notification).
   ii. The occurrence and duration of each malfunction of each stationary RICE and records of corrective actions taken during periods of malfunction to minimize emissions.
   iii. A description of the maintenance conducted on each stationary RICE.
   iv. The records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in § 63.6640(f)(2)(ii) or (iii) or § 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

q. The Permittee shall keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records must be in a suitable form and be readily available for expeditious review.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records required in Section 2.1 G.3.p and q above are not maintained or the requirements are not met.

r. The Permittee shall submit a semi-annual compliance report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The first report shall be submitted no later than July 30, 2013. The report must contain a description and the corrective actions taken for all deviations from any operating limitation and any malfunction during the reporting period. If there are no deviations from any operating limitations (work practice requirements), provide a statement that there were no deviations during the reporting period.

<u>Applicability</u> [40 CFR 63.6585, 6590(a)(2)(ii)]

s. For this source (ID No. ES-Gen-13) (new emergency stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions) the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart ZZZZ, "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines" and Subpart A "General Provisions."

<u>Stationary RICE subject to Regulations under 40 CFR Part 60</u> [15 A NCAC 02Q. 0508(f)]

t. Pursuant to 40 CFR 63.6590(c)(6), this source (ID No. ES-Gen-13) must meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A by meeting the requirements of 40 CFR part 60 Subpart

IIII. No further requirements apply for these engines under 40 CFR 63 Subpart ZZZZ and Subpart A.

If the requirements in condition t. are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

4. **15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT**

Permitting [15A NCAC 02Q .0504(d)]

a. For completion of the two-step significant modification process pursuant to 15A NCAC 02Q .0501(c)(2) or (d)(2), the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of beginning operation of this source **(ID No. ES-FP-3)**.

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

b. The Permittee shall notify the Regional Office in writing of the date of beginning operation of this source **(ID No. ES-FP-3)**, postmarked no later than 30 days after such date.

H. Two No. 2 fuel oil-fired, compression ignition, non-emergency generators

ID Number	Source Description	Size of Generator	Location
ES-006 – MACT	No. 2 fuel oil	2000 kW maximum output	Cogeneration Facility
ES-007 – MACT	No. 2 fuel oil	2000 kW maximum output	Cogeneration Facility

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	See Multiple Emissions Section 2.2.A	15A NCAC 02D .0501(c)
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity each	15A NCAC 02D .0521
Hazardous air pollutants	Work practice standards, emission limits, performance testing	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ

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

a. Emissions of sulfur dioxide from generators **(ID Nos. ES-006 and ES-007)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

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

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from firing No. 2 fuel oil in any generator.

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

a. Visible emissions from the generators **(ID Nos. ES-006 and ES-007)** shall not be more than 20 percent opacity each 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 provided in Section 2.1 H.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting

c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of No. 2 fuel oil in generators **(ID Nos. ES-006 and ES-007)**.

3. 15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For "New" Non-emergency, Compression Ignition, Stationary Reciprocating Internal Combustion Engines

- ES-006 (2000 kW)
- ES-007 (2000 kW)

a. General Provisions [40 CFR §63.6665]

The Permittee shall comply with the requirements of 40 CFR part 63 Subpart A "General Provisions," according to the applicability of Subpart A to such sources, as identified in Table No. 8 in Subpart ZZZZ, "Applicability Of General Provisions to Subpart ZZZZ".

b. Emission Limitations [40 CFR §63.6600(b)]

i. Reduce CO emissions by 70 percent or more at 100 percent load plus or minus 10 percent; or

ii. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 parts per billion by volume (ppbvd) or less at 15 percent O_2.

c. Operating Limitations (using an oxidation catalyst) [40 CFR §63.10(b)(3), §63.6600]

i. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than two inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and

ii. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 degrees Fahrenheit, and less than or equal to 1350 degrees Fahrenheit.

d. General Requirements [40 CFR §63.6605]

i. You must be in compliance with the emission limitations and operating limitations in this Subpart that apply to you at all times, except during periods of startup, shutdown, and malfunction.

ii. If you must comply with emission limitations and operation limitations, you must operate and maintain your stationary RICE, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

e. Initial Performance Test [40 CFR §63.6610]

i. You must conduct the initial performance test or other initial compliance demonstrations in Table 4 of this Subpart that apply to you within 180 days after startup. Each performance test must be conducted according to the requirements in 40 CFR §63.7(e). You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR §63.7(e)(1). You must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR §63.7(e)(3). Each test run must last at least 1 hour.

(A) To comply with the requirement to reduce CO emissions, you must measure the O_2 and CO at the inlet and outlet of the control device using a portable CO and O_2 analyzer.

(B) Measurements to determining O_2 must be made at the same time as the measurements for CO concentration using ASTM D6522-00. Methods 3A and 10 may be used as alternatives to ASTM D6522-00. The CO concentration must be at 15% percent O_2, on a dry basis.

(C) To comply with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust, you must:

(1) Select the sampling port location and the number of traverse points using Method 1 or 1A OF 40 CFR PART 60, APPENDIX A. [§63.7(d)(1)(i)] If using a control device the sampling site must be located at the outlet of the control device.

(2) Determine the O_2 concentration of the stationary RICE exhaust at the sampling port location using Method 3 or 3A or 3b of 40 CFR Part 60, Appendix A. Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde concentration.

(3) Measure moisture content of the stationary RICE exhaust at the sampling port location using Method 4 of 40 CFR Part 60, Appendix A, or Test Method 320 of 40 CFR Part 63, Appendix A or ASTM D 6348-03. Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.

(4) Measure formaldehyde at the exhaust of the stationary RICE using Method 320 or 323 of 40 CFR Part 60, Appendix A, or ASTM D6348-03, provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130. Formaldehyde concentration must be at 15 percent O_2, on a dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

If the results of this test are above the limit provided in Section 2.1 H.3.b above or if the Permittee does not conduct the initial performance test as required in this Section 2.1 H.3.e above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

f. <u>Monitoring Requirements</u> <u>[40 CFR §63.6625, §63.6630, §63.6635, and §63.6640]</u>

i. If you are required to install a Continuous Parameter Monitoring System (CPMS) as specified in Table 5 of this Subpart, you must install, operate, and maintain each CPMS according the requirements in §63.8.

ii. You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this Subpart.

iii. You must submit the notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

iv. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously at all times that stationary RICE is operating.

v. You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must however, use all the valid data collected during all other periods.

vi. You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 2a and 2b of this Subpart that apply. These instances are deviations from the emission and operating limitations in this Subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must re-establish the values of the operating parameters measured during the initial performance test. When you re-establish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to you stationary RICE.

vii. During periods of startup, shutdown, and malfunction you must operate in accordance with your startup, shutdown, and malfunction plan. Consistent with §63.7(e)(1), deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the startup, shutdown, and malfunction plan. For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations.

viii. You must also report each instance in which you did not meet the requirements in Table 8 "General Provisions" of this Subpart.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in Section 2.1 H. 3.f. above are not met.

g. **Recordkeeping** [40 CFR §63.6655 and §63.6650]

i. If you must comply with the emission and operating limitations of this Subpart, you must keep the following records:
   (A) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).
   (B) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
   (C) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

ii. For each CMPS, you must keep following records:
   (A) Records described in §63.10(b)(2)(vi) through (ix).
   (B) Previous (i.e. superseded) versions of the performance evaluation plan as required §63.8(d)(3).
   (C) Requests for alternatives to the relative accuracy test for CPMS as required in 63.8(f)(6)(i), if applicable.

iii. You must keep the records required in Table 6 of this Subpart to show continuous compliance with each emission or operating limitation that applies to you.

iv. Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1). You must keep each record readily accessible in hard copy or electronic form on site for at least 2 years after the date of each occurrence, measure, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off-site for the remaining 3 years.

v. Each record shall be kept for five years following the date of occurrence, measurement, maintenance, corrective action, report, or record.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these are not maintained or the requirements in this Section 2.1 H.3.g are not met.

h. **Reporting** [40 CFR §63.6645 and §63.6650]

i. You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.

ii. If you start up your new or reconstructed stationary RICE on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this Subpart.

iii. If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

iv. If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this Subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).
   (A) For each initial compliance demonstration required in Table 5 of this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

v. The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

vi. The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

vii. Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

viii. The Compliance report must contain the following information:

(A) Company name and address.

(B) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(C) Date of report and beginning and ending dates of the reporting period.

(D) If you had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in §63.10(d)(5)(i).

(E) If there are no deviations from any emission or operating limitations, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(F) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(G) For each deviation from an emission or operating limitation occurring for a stationary RICE where a CMS is used to comply with the emission and operating limitations in this Subpart, include the following information:

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(H) Each affected source that has obtained a Title V operating permit pursuant to 40 CFR Part 70 or 71 must 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 7 of this Subpart 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 or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

I. One natural gas-fired boiler (ID No. ES-SB-6)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	Work practices	15A NCAC 02D .1109 *[CAA § 112(j)]*

1. **15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters**
   a. The initial compliance date for these emission sources and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date.

   Inspection and Maintenance [15A NCAC 02Q .0508(f)]
   b. The Permittee shall perform an annual inspection of the boiler (ID Nos. ES-SB6) and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
      i. Inspect the burners, and clean or replace any components of the burners as necessary;
      ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
      iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
      iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

      The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the requirements in this Section 2.1 I.1.b are not met.
   c. The results of any required annual burner 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 of each recorded action;
      ii. The results of each inspection; and,
      iii. The results of any maintenance performed on the boilers.

      The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required inspection and maintenance records are not maintained.

   Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]
   d. To ensure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in each the affected source during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained or if the boiler or water heater fires a fuel other than natural gas.

   Reporting [15A NCAC 02Q .0508(f)]
   e. Semiannual Summary Report. The Permittee shall submit a summary report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.

      The report shall include the following:
      i. Company name and address;
      ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
      iii. Date of report and beginning and ending dates of the reporting period;
      iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;

v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
vi. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, .7490(d), .7499(l)]

a. For the existing sources(s) designed to burn gas 1 fuels with a heat input capacity of less than or equal to 5 million Btu per hour, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD, "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions."
   i. The Permittee shall comply with the CAA §112(j) standard in Section I.1 through **May 19, 2019**. The Permittee shall be subject to the requirements of this standard starting **May 20, 2019**. Note that the requirements of this standard may require action on behalf of the Permittee prior to **May 20, 2019**.

Definitions and Nomenclature [40 CFR 63.7575]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63 Subpart A General Provisions [40 CFR 63.7565]

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to 40 CFR Part 63, Subpart DDDDD.

Compliance Date [40 CFR 63.7510(e), 63.56(b)]

d. The Permittee shall complete the initial tune up and the one-time energy assessment no later than **May 20, 2019.**

Notifications [40 CFR 63.7545(e), 63.7530(e), (f)]

e. The Permittee shall submit a Notification of Compliance Status. The notification must be signed by a responsible official and submitted by **July 19, 2019**. The notification shall contain the following:
   i. A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, and description of the fuel(s) burned.
   ii. the following certification(s) of compliance, as applicable:
   (A)- "This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR 63 Subpart DDDDD at the site according to the procedures in.40 CFR 63.7540(a)(10)(i) through (vi)' [i.e., Sections 2.1 I.2.f.i through v and l.ii]; and
   (B)- "This facility has had an energy assessment performed according to 40 CFR 63.7530(e)" [i.e., Section 2.1 I.2.k] and is an accurate depiction of the facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

Work Practice Standards [15A NCAC 02Q .0508(f)]

f. The Permittee shall conduct a tune-up of the boiler every five years as specified below:
   i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months.
   ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
   iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown).

iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject.

v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

[40CFR 63.7500(a), (e), 63.7540(a)(10), (a)(12)]

g. Each 5-year tune-up shall be conducted no more than 61 months after the previous tune-up. [40CFR 63.7515(d)]

h. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR 63.7540(a)(13), 63.7515(g)]

i. At all times, you must 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 Administrator that 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. [40 CFR 63.7500(a)(3)]

j. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Sections 2.1 I.2.f through i are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(f)]

k. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in 40 CFR 63 Subpart DDDDD, Table 3, with the extent of the evaluation for items (a) to (e) in Table 3 appropriate for the on-site technical hours listed in §63.7575: [§63.7500(a)(1), Table 3] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Recordkeeping Requirements [15A NCAC 02Q .0508(f), 40 CFR 63.7555]

l. The Permittee shall keep the following:

i. A copy of each notification and report submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status, or 5-year compliance report that has been submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.7555(a)(1)]

ii. Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (A) through (C) below:

(A) The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after tune-up of the boiler or process heater;

(B) A description of any corrective actions taken as a part of the tune-up; and

(C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

[40 CFR 63.7540(a)(10)(vi)]

iii. The associated records for Sections 2.1 I.2.e through k.

m. The Permittee shall:

i. maintain records in a form suitable and readily available for expeditious review;

ii. keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and

iii. 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 offsite for the remaining 3 years.

[40 CFR 63.7560, 63.10(b)(1)]

n. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if records are not maintained as described in Sections 2.1 I.2.l through m.

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

o. The Permittee shall submit compliance reports to the DAQ on a 5-year basis. The first report shall cover the period beginning on **May 20, 2019** and ending on **December 31, 2023**. Subsequent 5-year reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance reports postmarked on or before January 31.[40 CFR 63.7550(a), (b)]

p. The compliance report must also be submitted electronically via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/).) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in §63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [40 CFR 63.7550(h)(3)]

q. The compliance report must contain the following information:
   i. Company name and address;
   ii. Process unit information, emissions limitations, and operating parameter limitations;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. Include the date of the most recent tune-up for each unit required according to Section 2.1 I.2.f. Include the date of the most recent burner inspection if it was not done on a 5-year basis and was delayed until the next scheduled or unscheduled unit shutdown.
   v. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

   [40 CFR 63.7550(a) and (c), Table 9]

r. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Sections 2.1 I.2.o through q are not met.

2.2 – MULTIPLE EMISSION SOURCES AND SPECIFIC LIMITATIONS AND CONDITIONS

A. 15A NCAC 02D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

In order to ensure that combustion sources (emergency generators **ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3)** do not contribute to an exceedance of the 1-hour NO_2 National Ambient Air Quality Standard (NAAQS); the Permittee may only operate these generators **(ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49,** and fire water pump **ES-FP-3)** for readiness testing when generators **(ID Nos. ES-006 and ES-007)** are not operating and when readiness testing is not being performed for any other emergency generator, except **ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49,** and fire water pump **ES-FP-3**.

In order to ensure compliance with the annual NO_2 NAAQS, non-emergency generators **(ID Nos. ES-006 and ES-007)** shall not operate for more than 7,500 hours each on a consecutive 12-months basis.

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

1. The Permittee shall maintain operational records sufficient to demonstrate that combustion sources (emergency generators **ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3)** have not operated for readiness testing during the concurrent operation of generators **(ID Nos. ES-006 and ES-007)** and the performance of readiness testing of any other emergency generator, except **ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49,** and fire water pump **ES-FP-3**. The Permittee shall make these records available to a DAQ authorized representative upon request.

The Permittee shall maintain records of the hours of operation of non-emergency generators **(ID Nos. ES-006 and ES-007)** on a monthly basis and make these records available to a DAQ authorized representative upon request.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the above records are not maintained.

B. 15A NCAC 02D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

In order to ensure that the twenty-four hour SO_2 National Ambient Air Quality Standard (NAAQS) is not exceeded, boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)** are required to monitor and keep records of SO_2 emissions using a 24-hour block average when firing coal.

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	1.2 lbs/million Btu heat input per 24-hour block average	15A NCAC 02D .0501(c) 40 CFR Part 60, Subpart Db, 60.42b (a)

Monitoring/Recordkeeping

1. The Permittee shall determine sulfur dioxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 60, Subpart A and Subpart Db, Appendix B, and Appendix F. Compliance with sulfur dioxide emission standards shall be determined by averaging the average 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 shall be summed, and the sum shall be divided by the number of operating hours for which valid data exists.

   A minimum of four data points, equally spaced, shall be required to determine a valid hour. Data availability shall be 95 percent on a yearly basis. If any 24-hour block average exceeds 1.2 pounds per million Btu heat input (388 pounds of SO_2 per hour), the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501 (e).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the requirements in this Section 2.2. B.1. are not met.

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

2. 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 posted 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.

C. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING (CAM) for Sulfur Dioxide

1. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following.

2. **Background**
   a. Emission Units
      i. Description: Two coal/natural gas/No. 2 fuel oil-fired, circulating fluidized combustion boilers, 323.17 million Btu per hour heat input each.
      ii. Identification: ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7

b. Applicable Regulation, Emission Limit, and Monitoring Requirements.
   i. Regulations: 15A NCAC 02D .0516 and 15A NCAC 2D .0524 (Subpart Db)
   ii. Emission limits: 2.3 pound SO_2 per million Btu heat input when firing natural gas {15A NCAC 02D .0516}

   1.2 pounds SO_2 per million Btu heat input when firing coal {15A CAC 02D .0524, 40 CFR §60.42b(d)} and 0.2 lbs SO_2 per million Btu heat input or a minimum 90% reduction when firing coal and/or No. 2 fuel oil {15A CAC 2D .0524, amended (February 27, 2006) 40 CFR §60.42b(a)}

3. **Monitoring Approach**
   NSPS, Subpart Db requires that a Continuous Emissions Monitoring System (CEMs) be installed to monitor the SO_2 emissions from boilers, ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7. This monitoring system satisfies the requirements of CAM in accordance with 40 CFR Part 64, and §64.2(b)(vi).

D. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING (CAM) for Particulate

1. Per 40 CFR 64 and 15A NCAC 02D .0614 and until February 3, 2013, the Permittee shall comply with the following: Beginning February 3, 2013, particulate emissions from boilers #6 and #7 (ID No. ES-001 and ES-002) are subject to the requirements in Section 2.1.A.4, 15A NCAC 02D .1109: CAA § 112(j); "Case-by-Case MACT for Boilers & Process Heaters" and no longer subject to CAM.

2. **Background**
   a. Emission Units
      i. Description: Two coal/natural gas/No. 2 fuel oil/wood/torrified wood-fired, circulating fluidized combustion boilers, 323.17 million Btu per hour heat input each.
      ii. Identification: ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7

   b. Applicable Regulation, Emission Limit, and Monitoring Requirements.
      i. Regulations: 15A NCAC 02D .0503 and 15A NCAC 02D .0524 (Subpart Db)
      ii. Emission limits:
         0.051 pounds per million Btu heat input {NSPS, 40 CFR §60.43b(a)(1) –Particulate matter}
         0.174 pounds per million Btu heat input {15A NCAC 02D .0503 –PM_{10}}
      iii. Control Technology: Two bagfilters (ID Nos. CD-004 and CD-005)

3. **Monitoring Approach**. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table:

	1
I. Indicator	Visible emissions
Measurement Approach	Visible emissions from the fabric filter will be monitored continuously using COM system on each boiler
II. Indicator Range	An excursion is defined as visible emissions in amounts greater than or equal to 15%. Excursions trigger an inspection, corrective action, and a reporting requirement.
QIP Threshold	The QIP threshold is six excursions in a 6-month reporting period.

	1
III. Performance Criteria	
A. Data Representativeness	Measurements are being made at the emission point (fabric filter outlet) of each boiler
B. Verification of Operational Status	DAHS
C. QA/QC Practices	The COM systems shall be calibrated, maintained and operated according to 40 CFR 60, Appendix B, PS1.
D. Monitoring Frequency	Data is collected continuously with COM systems.
Data Collection Procedures	Data from the COM system is collected electronically and maintained on the Data Acquisition and Handling System computer along with information on the operating status of the boilers.
Averaging Periods	6-minutes

4. **Reporting** [15A NCAC 02Q .0508(f), 40 CFR 64.9]
The Permittee shall submit a summary report of all monitoring activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations for the requirements of this permit must be clearly identified.

The report shall also include the following information, as applicable:
i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
ii. Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

E. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS [40 CFR 60 SUBPART IIII]

- **ES-EG#13 (diesel-fired emergency generator, 2000 kW, 2682 hp)**
- **ES-EG#17 (diesel-fired emergency generator, 1000 kW, 1341 hp)**
- **ES-EG#18 (diesel-fired emergency generator, 1000 kW, 1341 hp)**
- **ES-EG#19 (diesel-fired emergency generator, 2500 kW, 3353 hp)**
- **ES-EG#20 (diesel-fired emergency generator, 2000 kW, 2682 hp)**
- **ES-EG#21 (diesel-fired emergency generator, 1350 kW, 1835 hp)**
- **ES-Gen-2 (diesel-fired emergency generator, 450 kW, 603 hp)**
- **ES-Gen-12 (diesel-fired emergency generator, 150 kW, 230 hp)**
- **ES-Gen-13 (diesel-fired emergency generator, 300 kW, 402 hp)**
- **ES-Gen-43 (diesel-fired emergency generator, 125 kW, 170 hp)**
- **ES-Gen-48 (diesel-fired emergency generator, 500 kW, 680 hp)**
- **ES-Gen-49 (diesel-fired emergency generator, 230 kW, 308 hp)**
- **ES-Gen-71 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-Gen-72 (diesel-fired emergency generator, 30 kW, 40 hp)**
- **ES-Gen-79 (diesel-fired emergency generator, 400 kW, 536 hp)**
- **ES-Gen-80 (diesel-fired emergency generator, 350 kW, 469 hp)**
- **ES-Gen-81 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-Gen-84 (diesel-fired emergency generator, 250 kW, 335 hp)**

- **ES-FP-1 (diesel-fired fire water pump, 57 kW, 77 hp)**
- **ES-FP-3 (diesel-fired fire water pump, 168 kW, 225 hp)**

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

Emission Standards

2. The Permittee shall comply with the following emission standards:

Emission Standards: (ES-EG#13, #17, #18, #20 and #21)
NMHC and NOx (combined): 6.4 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.20 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-EG#19)
NOx : 9.2 g/kW-hr
CO: 11.4 g/kW-hr
PM: 0.54 g/kW-hr
HC: 1.3 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-43)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 5.0 g/kW-hr
PM: 0.3 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-48, ES-Gen-49, ES-79, ES-Gen-80, ES-Gen-81, and ES-Gen-84)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.2 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-71)
HC: 1.3 g/kW-hr
NOx: 9.2 g/kW-hr
CO: 11.4 g/kW-hr
PM: 0.54 g/kW-hr
[§60.4205(a) and Table 1 to the Subpart IIII]

Emission Standards: (ES-Gen-72)
NMHC and NOx (combined): 9.5 g/kW-hr
CO: 5.5 g/kW-hr
PM: 0.80 g/kW-hr
[§60.4205(a) and Table 1 to the Subpart IIII]

Emission Standards: (ES-FP-1)
NMHC and NOx (combined): 10.5 g/kW-hr
CO: 5.0 g/kW-hr
PM: 0.80 g/kW-hr
[§60.4205(c) and Table 4 to the Subpart IIII]

Emission Standards: (ES-FP-3)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.20 g/kW-hr
[§89.112(a) and Table 4 to the Subpart IIII]

3. The Permittee shall use diesel fuel in the CI engine of each emergency generator and fire pump with a sulfur content of less than 15 ppm beginning October 1, 2010. [§60.4207, and §80.510(a) and (b)]

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

4. 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 2.2 E.2 above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

5. The CI ICE of each emergency generator and fire pump shall be equipped with a non-resettable hour meter prior to startup, if the CI ICE does not meet the standards in §60.4204. If the CI engine of each emergency generator and fire pump is not equipped with a non-resettable hour meter prior to startup, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524. [§60.4209(a)]

6. The Permittee shall operate and maintain each stationary CI ICE that achieves the emission standards in §60.4205 over the entire life of the engine according to the manufacturer's emission-related written instructions or procedures developed by the Permittee that are approved by the engine manufacturer. The Permittee may only change engine settings that are permitted by the manufacturer. The Permittee shall also meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section are not met. [§60.4206 and §60.4211(a)]

7. If CI ICEs of emergency generators are required to comply with the emission standards in §60.4205(a), or if the CI engine of fire water pump is manufactured prior to the model years in Table 3 to the Subpart and must comply with the emission standards in §60.4205(c), the Permittee shall demonstrate compliance according to one of the methods specified in §60.4211(b) as included below:

   (A) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
   (B) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
   (C) Keeping records of engine manufacturer data indicating compliance with the standards.
   (D) Keeping records of control device vendor data indicating compliance with the standards.
   (E) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section 2.2 E.7. are not met. [§60.4211(b)]

8. The Permittee shall purchase 2007 model year and later emergency CI ICE for emergency generators certified to the emission standards in §§60.4205(b), for the same model year and maximum engine power.

The engine shall be installed and configured according to the manufacturer's emission-related specifications except as provided in §60.4211(g). If the installed CI ICEs of the above emergency generators are not certified to meet the emission standards in §60.4205(b) or the CI ICEs are not configured according to the manufacturer's emission-related specifications (except as provided in §60.4211(g)), the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524. [§60.4211(c)]

9. The Permittee shall operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of §60.4211. In order for the engine to be considered an emergency stationary ICE under this Subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of §60.4211, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of §60.4211, the engine will not be considered an emergency engine under this Subpart and shall meet all requirements for non-emergency engines.

(A) There is no time limit on the use of emergency stationary ICE in emergency situations.

(B) The Permittee may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of §60.4211 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of §60.4211 counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP–002–3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP–002–3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(C) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of §60.4211, the 50 hours per calendar year for nonemergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(AA) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(BB) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(CC) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(DD) The power is provided only to the facility itself or to support the local transmission and distribution system.

(EE) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section 2.2. E.9. are not met. [§60.4211(f]

10. If the Permittee does not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, the Permittee shall demonstrate compliance as follows:

(A) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(B) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission related settings in a way that is not permitted by the manufacturer.

(C) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section 2.2 E.10. are not met. [§60.4211(g)]

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

11. Starting with the emergency engine model year 2011, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the Permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The Permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if these records are not maintained. [§60.4214(b)]

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

12. No initial notification under §60.7 is required for emergency stationary CI internal combustion engines. [§60.4214(b)]

13. If the Permittee operates the emergency stationary CI ICE with a maximum engine power of 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4211(f)(2)(ii) and (iii), or that operates for the purposes specified in §60.4211(f)(3)(i), the Permittee shall submit an annual report according to the requirements in paragraphs (d)(1) through (3) of §60.4214. [§60.4214(d)]

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

SECTION 3 - GENERAL CONDITIONS (version 5.3, 08/21/2018)

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

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

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

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]
   In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to 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. **Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 02Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

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

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

2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;
      iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
      iv. the Permittee shall attach the notice to the relevant permit.
   c. The written notification shall include:
      i. a description of the change;
      ii. the date on which the change will occur;
      iii. any change in emissions; and

iv. any permit term or condition that is no longer applicable as a result of the change.

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

3. Off Permit Changes [15A NCAC 02Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
   a. the change affects only insignificant activities and the activities remain insignificant after the change; or
   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 and Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

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

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

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
   a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
      i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
         - name and location of the facility;
         - nature and cause of the malfunction or breakdown;
         - time when the malfunction or breakdown is first observed;
         - expected duration; and
         - estimated rate of emissions;
      ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
      iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

Permit Deviations

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

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

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

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

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

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

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

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

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

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 02Q .0508(i)(4)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 02Q .0508(i)(9)]

1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

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

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

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

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

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

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

5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

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

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

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

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

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

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

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

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]
A construction and operating permit shall 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)(4)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(e)]
1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall 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. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** – FEDERALLY-ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

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

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

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

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

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 02Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 02D. If emissions testing is required by this permit or

the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
   a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
      i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
      ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
      iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
   b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 02D .2600 has precedence over all other tests.

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

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

LL. **Reporting Requirements for Non-Operating Equipment** [15A NCAC 02Q .0508(i)(16)]
The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. When permitted equipment is not in operation, the requirements for testing, monitoring, and recordkeeping are suspended until operation resumes.

MM. **Fugitive Dust Control Requirement** [15A NCAC 02D .0540]
As required by 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

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

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

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

OO. **Third Party Participation and EPA Review** [15A NCAC 02Q .0521, .0522 and .0525(7)]
For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Acronyms

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

PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT
STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

The North Carolina Division of Air Quality (DAQ) hereby gives notice of its intent to issue an Air Quality Permit to:

The University Of North Carolina at Chapel Hill
1120 Estes Drive Extension
Chapel Hill, North Carolina 27599-1650
Orange County
Application ID: 6800043.15A, .15B and 18A, Permit No.: 03069T36

This facility applied for an Air Quality Title V Operation Permit which meets the requirements specified in 15A North Carolina Administrative Code 2Q.0500.

Persons wishing to submit written comments or request a public hearing regarding the Air Quality Title V Operation Permit are invited to do so. Requests for a public hearing must be in writing and include a statement supporting the need for such a hearing, an indication of your interest in the facility, and a brief summary of the information intended to be offered at such hearing.

Written comments or requests for a public hearing should be postmarked no later than October 25, 2018 and addressed to David Hughes, Division of Air Quality, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641.

All comments received prior to this date will be considered in the final determinations regarding the Air Quality Permit. A public hearing may be held if the Director of the DAQ determines that significant public interest exists or that the public interest will be served.

Interested persons may obtain additional information, including copies of the permit, application, all other relevant supporting materials, and all other materials available to DAQ that are relevant to the permit decision by writing to the above address or calling David Hughes at (919) 707-8411.

Interested persons are encouraged to review these materials during normal business hours at either of the following locations.

NCDEQ
Division of Air Quality
217 West Jones Street, Suite 4000
Raleigh, NC 27603

OR

Raleigh Regional Office
3800 Barrett Drive
Raleigh, NC 27609

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

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL A. ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

September 21, 2018

Mr. J. Daw
Environmental Compliance Officer
The University of North Carolina at Chapel Hill
UNC at Chapel Hill
1120 Estes Drive Extension, CB#1650
Chapel Hill, NC 27599

SUBJECT: Public Notice of Intent to Issue an Air Quality Permit
Application No. 6800043.15B
The University of North Carolina at Chapel Hill
Facility ID: 6800043, Chapel Hill, Orange County
Draft Air Quality Permit No. 03069T36

Dear Mr. Daw:

Enclosed is a copy of the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT" for the subject Title V facility. The public notice is scheduled for publication on September 25, 2018 on the NCDEQ/DAQ website and shall be mailed to persons on the division's mailing list for air quality permit notices.

Should you have any questions concerning this matter, please contact David Hughes at 919-707-8411.

Sincerely,

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

Attachments

cc: Title V File
Raleigh Regional Office Files

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL A. ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

September 21, 2018

TO: Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303

SUBJECT: Proposed Air Quality Permit No. 03069T36
The University of North Carolina at Chapel Hill
Facility ID: 6800043, Chapel Hill, NC, Orange County

Attached is a copy of the proposed Air Quality Permit, the technical review and the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT" for the subject Title V facility. The air quality permit authorizes the Permittee to construct and operate in accordance with 15A NCAC 2Q .0501 and 2Q .0300.

The public notice will be published on September 25, 2018 on the NCDEQ/DAQ website and will be emailed to persons on the division's mailing list for air quality permit notices. Any comments received during the public participation process will be included in either the permit and or review. All affected States will be emailed a copy of the public notice or otherwise have been notified.

EPA's forty-five (45) day review period begins upon the receipt of this letter. If no comments are made by the end of the review period, or the EPA notifies the division that they have no comments, we will proceed with final permit issuance.

Should you have any questions or need further information, please contact David Hughes at 919-707-8411 or e-mail David.B.Hughes@ncdenr.gov.

Sincerely,

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

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL A. ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

September 21, 2018

Charles McEachern
Raleigh Regional Office
3800 Barrett Drive
Raleigh, NC 27609

SUBJECT: Public Notice of Intent to Issue an Air Quality Permit
Application No. 6800043.15B
The University of North Carolina at Chapel Hill
Facility ID: 6800043, Chapel Hill, Orange County
Draft Air Quality Permit No. 03069T36

Dear Charles McEachern:

Enclosed is a complete Title V docket, except the application, which includes the subject facility's draft air quality permit. This permit will authorize the Permittee to construct and operate in accordance with applicable requirements. The "technical review" which explains how the draft permit was developed and the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT" are also included.

The public notice will be published on the NCDEQ/DAQ website on September 25, 2018 and the public comment period will run from September 25, 2018 to October 25, 2018. Please keep these materials and the permit application accessible for public review during the public comment

Should you have any questions concerning this matter, please contact me at 919-707-8411.

Sincerely,

David Hughes, Environmental Engineer
Division of Air Quality, NCDEQ

Enclosures

cc: Title V File

PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT
STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

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The University Of North Carolina at Chapel Hill
1120 Estes Drive Extension
Chapel Hill, North Carolina 27599-1650
Orange County
Application ID: 6800043.15A, .15B and 18A, Permit No.: 03069T36

This facility applied for an Air Quality Title V Operation Permit which meets the requirements specified in 15A North Carolina Administrative Code 2Q.0500.

Persons wishing to submit written comments or request a public hearing regarding the Air Quality Title V Operation Permit are invited to do so. Requests for a public hearing must be in writing and include a statement supporting the need for such a hearing, an indication of your interest in the facility, and a brief summary of the information intended to be offered at such hearing.

Written comments or requests for a public hearing should be postmarked no later than October 25, 2018 and addressed to David Hughes, Division of Air Quality, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641.

All comments received prior to this date will be considered in the final determinations regarding the Air Quality Permit. A public hearing may be held if the Director of the DAQ determines that significant public interest exists or that the public interest will be served.

Interested persons may obtain additional information, including copies of the permit, application, all other relevant supporting materials, and all other materials available to DAQ that are relevant to the permit decision by writing to the above address or calling David Hughes at (919) 707-8411.

Interested persons are encouraged to review these materials during normal business hours at either of the following locations.

NCDEQ
Division of Air Quality
217 West Jones Street, Suite 4000
Raleigh, NC 27603

OR

Raleigh Regional Office
3800 Barrett Drive
Raleigh, NC 27609

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

NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: XXXX XX, 2018

Region: Raleigh Regional Office
County: Orange
NC Facility ID: 6800043
Inspector's Name: Stanley Williams
Date of Last Inspection: 08/30/2017
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): The University of North Carolina at Chapel Hill

Facility Address:
The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599

SIC: 8221 / Colleges And Universities, Nec
NAICS: 61131 / Colleges, Universities, and Professional Schools

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 15A NCAC 02D .0501, .0503, .0504, .0515, .0516, .0521, and .0614
NSPS: 15A NCAC 02D .0524 – Subpart Db, Subpart Y & Subpart IIII
NESHAP: 15A NCAC 02D .1109 112(j) and .1111 Subpart ZZZZ & Subpart DDDDD
PSD: N/A
PSD Avoidance: N/A
NC Toxics: N/A
112(r): N/A
Other: N/A

Contact Data

Facility Contact	Authorized Contact	Technical Contact
J. Daw Environmental Compliance Officer (919) 962-6666 UNC at Chapel Hill Chapel Hill, NC 27599+1650	Jonathan Pruitt Vice Chancellor, Finance and Operations (919) 962-3795 UNC at Chapel Hill Chapel Hill, NC 27599+1000	J. Daw Environmental Compliance Officer (919) 962-6666 UNC at Chapel Hill Chapel Hill, NC 27599+1650

Application Data

Application Number: 6800043.15A, 15B & 18A
Date Received: 05/15/15, 07/24/15 & 03/19/18
Application Type: Renewal/Modifications
Application Schedule: Renewal/TV-Significant/TV-Minor

Existing Permit Data

Existing Permit Number: 03069/T35
Existing Permit Issue Date: 03/22/2018
Existing Permit Expiration Date: 03/31/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2016	239.85	286.72	2.82	60.20	11.82	12.13	10.75 [Hydrogen chloride (hydrochlori]
2015	236.71	375.22	2.20	59.50	14.06	16.37	15.05 [Hydrogen chloride (hydrochlori]
2014	176.66	294.44	1.76	51.65	12.88	15.08	13.92 [Hydrogen chloride (hydrochlori]
2013	188.80	372.97	2.27	55.13	11.96	7.85	6.60 [Hydrogen chloride (hydrochlori]
2012	159.35	398.25	2.93	64.10	11.91	7.67	6.23 [Hydrogen chloride (hydrochlori]

Review Engineer: David B. Hughes **Review Engineer's Signature:** **Date: XXXX XX, 2018**	**Comments / Recommendations:** **Issue** 03069/T36 **Permit Issue Date: XXXX XX, 2018** **Permit Expiration Date: XXXX XX, 2023**

I. Purpose of Applications

Application No. 6800043.15B

This permitting action is a renewal of an existing Title V permit pursuant to 02Q .0513. The existing Title V permit (**03069T35**) was issued on **March 22, 2018**, with an expiration date of **March 31, 2021**. The renewal application **6800043.15B** was received on **July 24, 2015**, or at least nine months prior to the original expiration date **April 30, 2016**. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

Application No. 6800043.15A

Air Permit Application No. **6800043.15A** was received on **May 18, 2015** for a significant modification to Boilers ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7 15A NCAC 02D .1109 112(j) Boiler MACT operating limits. The University of North Carolina at Chapel Hill (UNC-CH) is required to conduct 112(j) compliance performance tests on Boiler Nos. 6 and 7 at the Cogeneration Facility. These two (2) boilers are equipped with limestone injection/baghouse air pollution control systems for the control of acid gases and particulate matter (PM), including hydrogen chloride (HCl), mercury (Hg), and other hazardous metals regulated by the 112(j) Boiler MACT. During the 112(j) performance tests, UNC-CH is required to monitor the concurrent limestone injection rates and oxygen (O_2) trim concentrations to establish 112(j) operating limits to be monitored for continuous compliance demonstrations with the 112(j) emissions limits for HCl-equivalents, Hg, and carbon monoxide (CO). The University's Title V air permit (#03069T32) stipulates that the University submit a permit modification application to incorporate the limestone injection rate and O_2 trim concentration operating limits into the Title V permit within 60-days following the N.C. Division of Air Quality's (DAQ) approval of the 112(j) performance test report.

Three (3) separate 112(j) performance tests were performed. The initial 112(j) performance tests on Boiler Nos. 6 and 7 were conducted on July 9-10, 2013. Compliance with all the 112(j) emission limits was demonstrated during the July 2013 tests. However, because the boilers were operated at only approximately 55% steam load during the July 2013 tests, DAQ deferred official written approval of these tests to avoid requiring the University to submit a permit application to incorporate limestone injection rate and O_2 trim concentration operating limits into the permit that would be based on <90% operating load conditions. Because of the low operating load conditions that were achievable during the initial July 2013 performance tests, the University conducted a second round of 112(j) performance tests on March 4-5, 2014 with both boilers operated at >90% operating steam load. The intent of this testing was to obtain data to set the required limestone injection rate and O_2 trim concentration operating limits based on testing of the boilers at >90% operating steam load conditions. Compliance with the 112(j) emission limits for PM, Hg, and HCl was again demonstrated during the March 2014 tests. However, during the March 2014 testing, the test contractor inadvertently failed to record the CO concentrations measured during the tests. As a result, the University scheduled a third round of 112(j) performance tests conducted on December 17-18, 2014 after campus steam demand increased to allow testing for all 112(j) regulated pollutants at >90%

steam load operating conditions. Compliance with the 112(j) emission limits for PM, Hg, HCl and CO was again demonstrated during the December 2014 tests.

The proposed emission limits are based on the July 2013, March 2014, and December 2014 112(j) performance tests. The University proposes to base the Hg and HCl-equivalent control sorbent injection rate operating limit on the highest coal to sorbent feed rate ratio at which compliance was demonstrated during the three (3) performance tests. Since Boiler Nos. 6 and 7 are identical units, the University proposes a maximum **9.53 lb/lb coal/wood to limestone feed rate** ratio as the limestone injection Hg and HCl-equivalent operating limit for both boilers based on the value (9.53 lb/lb for Hg and 9.53 lb/lb for HCl-equivalent) from the April 5, 2014 Hg and HCl performance test on Boiler 7.

As promulgated by EPA in the reissued federal Boiler MACT [§63.7525(a)(2)], the surrogate O_2 operating limit must be set at the minimum percent oxygen by volume that is established during CO emission limit performance test(s). The O_2 operating limit must be based on the lowest hourly average oxygen concentration measured (lowest of three 1-hr test runs during CO test). Based on the December 17-18, 2014 test results, the University proposes a minimum **3.74% O_2 trim concentration** 30-day average operating limit for CO continuous compliance monitoring for both identical Boiler Nos. 6 and 7.

Application No. 6800043.18A

Air Permit Application No. 6800043.18A was received on **March 19, 2018** for a minor modification pursuant to 15A NCAC 02Q .0515 to add a dry sorbent injection system (DSI) (ID Nos. CD-004.3 and CD-005.3) on each of ES-001-Boiler #6 and ES-002-Boiler #7 to supplement the existing hydrogen chloride (HCl) control provided by the limestone injection/baghouse systems to ensure compliance with the 15A NCAC 02D .1111 Maximum Achievable Control Technology (MACT) 40 CFR 63, Subpart DDDDD HCl emission limit. See Section VIII. for a description of the addition of the two DSI systems.

UNC-CH has also requested that the current 15A NCAC 02D 112(j) Case-by-Case MACT permit conditions applicable to all six (6) on campus boilers (ID Nos. ES-001-Boiler #6, ES-002-Boiler #7, ES-003-#8, ES-004-Boiler #9, ES-005-Boiler #10 and ES-SB-6) be replaced with a generic interim permit condition requiring compliance of the boilers with 15A NCAC 02D .1111 MACT 40 CFR 63, Subpart DDDDD. DAQ has decided that the 112(j) permit conditions for each boiler will remain in the permit since all six boilers will still be subject to 112(j) conditions until May 19, 2019. However, 40 CFR 63, Subpart DDDDD Boiler MACT language will be added to the permit since all six boilers will be subject to those permit conditions as of May 20, 2019. The Boiler MACT language was drafted by Joe Voelker of Raleigh Central Office (RCO) for each boiler. The language used for each boiler depended on several factors; (1) size of the boiler, (2) fuel type, (3) do the boilers have O_2 auto trim system? (4) subcategories 63.7499 for boilers #6 and #7, (5) do the No.2 fuel oil boilers (#6, #7, #8, #9 and #10) use ultra-low sulfur? and (6) do the No. 2 fuel oil boilers burn No.2 fuel oil during gas curtailment?

II. Facility Description

UNC-CH operates a 760-acre campus located in Chapel Hill, North Carolina. The University's principal sources of regulated air pollutant emissions include a Co-generation facility on Cameron Avenue near the main campus, a Steam Plant on Manning Drive near the UNC Hospitals complex and a Landfill gas (LFG)-fired generator and LFG flare at the landfill. The facility is a nonprofit educational public university that consists of numerous combustion sources including boilers, hot water heaters, emergency generators, fire pumps, etc. It also consists of some non-combustion

sources such as coal handling, crushing and storage equipment, and ash handling, storage and loading equipment, and a few storage tanks.

III. History/Background/Application Chronology

May 18, 2015 – Permit application **6800043.15A** received as a Title V significant modification application. The application was deemed complete for processing.

July 24, 2015 – Permit application **6800043.15B** received as a Title V renewal application. The application was deemed complete for processing.

June 16, 2016 – Permit **03069T34** issued as a Title V minor modification. This was the first modification post original expiration date (April 30, 2016). Permit **03069T34** was given a new 5-year life set to expire on the earlier of March 31, 2021 or the renewal of Permit **03069T33**.

August 30, 2017 – Stanley Williams of the Raleigh Regional Office (RRO) completed the annual compliance inspection of the facility.

March 19, 2018 – Permit application **6800043.18A** received as a Title V minor modification application. The application was deemed complete for processing.

March 22, 2018 – Permit **03069T35** issued as a Title V Part 1 significant modification.

June 12, 2018 – David B. Hughes e-mailed Larry Daw of UNC-CH with a question about the two Dry Sorbent Systems that each consist of a sorbent storage silo with a bin vent filter and weigh/feed hoppers with bin vent filters, blowers, piping and injection nozzles for Boilers #6 and #7 and four questions about the six boilers. The sorbent storage silos and weigh/feed hoppers are insignificant sources excluded from permitting under 15A NCAC 02Q .0503(B). The first question was what ID Nos. did they want to assign to the sorbent storage silos and weigh/feed hoppers? The four questions about the six boilers were to determine what type of 15A NCAC 02D .1111 MACT 5D language to use for each boiler. *Timothy Aucoin of UNC-CH called David B. Hughes on **June 13, 2018** with the ID Nos. for the insignificant sources. ID Nos. IES-SB-18 and IES-SB-19 for the sorbent storage silos, Boiler #6 and #7 respectively and ID Nos. IES-SB-20 and IES-SB-21 for the weigh/feed hoppers, Boiler #6 and #7 respectively. He also answered all four questions pertaining to the six boilers.*

June 16, 2018 – David B. Hughes e-mailed Stanley Williams of RRO asking him if the facility had been documenting and maintaining the NOx emissions for the last 5 years per 15A NCAC 02D .0530(u). *Stanley Williams replied via e-mail on **June 19, 2018** that the facility had been documenting and maintaining the NOx emissions for the last 5 years. Therefore, 15A NCAC 02D .0530(u) may be removed from the Permit.*

XXXX XX, 2018 - DRAFT permit sent to Permittee, Supervisor and RRO for comment. Stanley Williams of RRO states via e-mail on **September 17, 2018** that he has reviewed the draft permit and his comments were discussed with UNC-CH and incorporated with their comments. Samir Parekh of RCO states via e-mail on **August 30, 2018** that he has reviewed the draft permits and had comments on the Compliance Assurance Monitoring (CAM) section. The Permittee provided comments on draft permit via e-mail on **September 6, 2018**.

DAQ made all of the changes that were requested by the Permittee except for changing the 3-hour block to a 30-day rolling average in Section 2.1 4.k.vii and 2.1 4.k.vii (15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters). The Permittee requested to change compliance based on a 30-day rolling average of monitoring data consistent with §112(d) of the Clean Air Act (CAA). Since Boilers (Nos. ES-001-Boiler #6 and ES-002-Boiler #7) are subject to 112(j) until May 19, 2019 and three 1-hour runs were done to show compliance with 112(j), DAQ has decided to keep the 3-hour block language in the permit. The 112(d) MACT regulations will be in effect May 20, 2019 with compliance being based on the 30-day rolling average.

IV. Permit Modifications/Changes and ESM Discussion

Page	Section	Description of Change
Attachment	Insignificant activities	-revised dates, names, permit revision number -added sorbent storage silos IES-SB-18 and IES-SB-19 to Boilers #6 and #7 respectively -added weigh/feed hoppers IES-SB-20 and IES-SB-21 to Boilers #6 and #7 respectively
Cover	---	-amended all dates and permit revision numbers
All	Header	-amended permit revision number
8	Section 1 Table	-Permittee requested that Dry Sorbent Injection System (DSI) ID No. CD-004.3 be added as a control device to Boiler #6 and that DSI ID No. CD-005.3 be added as a control device to Boiler #7. -removed Emergency generator (ID No. ES-Gen-38) located at the North Side Chiller
9	2.1 A	-added Dry Sorbent Injection Systems (ID Nos. CD-004.3 and CD-005.3).
31	2.1 A Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D.
32	2.1 A.4	-added shell language for 15A NCAC .02D .1109 112(j); Case by Case MACT.
33	2.1 A.4.c	-corrected cross reference
34	2.1 A.4.e	-added sorbent injection rate of 9.53 lb coal (and/or wood) to ensure compliance with mercury and HCl-equivalent limitations.
34	2.1 A.4.i	-added O_2 trim concentration of 3.74% O_2 to ensure compliance with CO limitations.
38	2.1 A.4.j.vi	-corrected cross reference
44	2.1 A.4.k	-corrected cross reference
48	2.1 A.4.l	-corrected cross reference
48 & 49	2.1 A.4.r	-corrected cross reference
53	2.1 A.5	-removed 15A NCAC 02D .0530(u)
	2.1 A.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 B Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D
	2.1 B.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 C Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D
	2.1 C.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 G.3-2 Table	-removed Emergency generator (ID No. ES-Gen-38) located at the North Side Chiller

Page	Section	Description of Change
	2.1 G.3.f	-updated language for Operating Restrictions for 15A NCAC 02D .1111 MACT 4Z
	2.1 I.2	-added 15A NCAC 02D .1111 MACT 5D
---	2.2 F	-removed 15A NCAC 02D .2400 "Clean Air Interstate Rule" (CAIR)
	3	-updated shell conditions (v5.3, 08/21/2018)

There were only minor, non-significant modifications to the equipment descriptions needed in Title V Equipment Editor (TVEE).

V. Regulatory Review

The facility is currently subject to the following regulations:

15A NCAC 02D .0501, Compliance with Emission Control Standards
15A NCAC 02D .0503, Particulate Emissions from Fuel Burning Indirect Heat Exchangers
15A NCAC 02D .0515, Particulates from Miscellaneous Industrial Process
15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources
15A NCAC 02D .0521, Control of Visible Emissions
15A NCAC 02D .0524, New Source Performance Standards (40 CFR 60 Subpart Db), (40 CFR 60, Subpart Y), and (40 CFR 60, Subpart IIII)
15A NCAC 02D .1109, 112(j); Case-by-Case MACT for Boilers and Process Heaters
15A NCAC 02D .1111, Maximum Achievable Control Technology (40 CFR 63, Subpart ZZZZ) and (40 CFR 63, Subpart DDDDD)
15A NCAC 02D .0614, Compliance Assurance Monitoring

A regulatory review for these current permit conditions will not be included in this document. These conditions have been modified as necessary to bring them up to date with the current shell conditions.

VI. NSPS, NESHAPS/MACT, PSD, 112(r), CAM, CAIR

NSPS – The Permittee is subject to 15A NCAC 02D .0524: New Source Performance Standards and 40 CFR Part 60, Subpart Db "Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units" for Boilers (ID Nos. ES-001-Boiler #6, ES-002-Boiler #7, ES-003-Boiler #8, ES-004-Boiler #9 and ES-005-Boiler #10), 15A NCAC 0524: NSPS and 40 CFR Part 60, Subpart Y "Standards of Performance for Coal Preparation and Processing Plants" for One coal handling, conveying, crushing and storage system, and 40 CFR Part 60, Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. 40 CFR Part 60, Subpart IIII regulation applies to owners or operators of compression ignition (CI) reciprocating internal combustion engines (RICE) manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1. 2006. Diesel-fired generators (ID Nos. ES-EG#13, ES-EG#17, ES-EG#18, ES-EG#19, ES-EG#20, ES-EG#21, ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, ES-Gen-71, ES-Gen-72, ES-Gen-79, ES-Gen-80, ES-Gen-81, ES-84) and diesel-fired water pumps (ID Nos. ES-FP-1 and ES-FP-3) are all subject to 40 CFR 60, Subpart IIII. The permit renewal/modification does not affect this status.

NESHAPS/MACT – The six Boilers (ID Nos. ES-001-Boiler #6, ES-002-Boiler #7, ES-003-Boiler #8, ES-004-Boiler #9, ES-Boiler #10 and ES-SB-6) are all subject to 15A NCAC 02D .1109 112(j); Case-by-Case MACT for Boilers and Process Heaters until **May 19, 2019**. The six Boilers will be

subject to 15A NCAC 02D .1111: Maximum Achievable Technology (MACT) and 40 CFR Part 63 Subpart DDDDD "National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" on **May 20, 2019**. The Permittee is also subject to 15A NCAC 02D .1111: MACT and 40 CFR Part 63 Subpart ZZZZ, "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines". 40 CFR Part 63 applies to RICE located at a major or area source of hazardous air pollutants (HAP). There are Eighty-two diesel-fired, compression ignition, emergency generators; Two natural gas-fired, spark ignition, emergency generators, Three No. 2 fuel oil-fired fire water pumps and Two No. 2 fuel oil-fired, compression ignition, non-emergency generators that are subject to 40 CFR 63, Subpart ZZZZ. This permit renewal/modification does not affect this status.

PSD – The Permittee is an existing major source for NOx and SO_2 because of the large boilers at the University's Cogeneration Facility. The University is excluded from mandatory federal PSD modeling requirements as a "not for profit educational institution" under 40 CFR section 52.21(i)(1)(vi).

15A NCAC 02Q .0317: Avoidance Condition for 15A NCAC 02D .0530: Prevention of Significant Deterioration was removed in Air Permit No. 03069T31 on May 16, 2013 and replaced with regulation 15A NCAC 02D .0530(u): Prevention of Significant Deterioration. 15A NCAC 02D .0530(u) 2.1 A.5.c requires that the Permittee maintain records of actual emissions of NO_x in tons per year on a calendar year basis for **five years** following the resumption of regular operation after commencement of burning mixture of wood/torrified wood and coal (up to 20% wood/terrified wood and up to 80% coal, both on a heat input basis) in each boiler (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7). The Permittee shall make the information, documented and maintained in this Section 2.1 A.5.c., available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530(u) if these records are not maintained. The five year period has expired and Stanley Williams of RRO has confirmed that UNC-CH has been documenting and maintaining the NO_x emissions for the last five years. Therefore, as part of this renewal 15A NCAC 02D .0530(u) will be removed from the permit.

112(r) – The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store one or more of the regulated substances in quantities above the thresholds in the Rule. This permit renewal/modification does not affect this status.

CAM

40 CFR 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility that have pre-controlled emissions above the major source threshold and use a control device to meet an applicable standard. The control devices that are subject to CAM are Bagfilter (ID No. CD-004) for Boiler (ID No. ES-001-Boiler #6) and Bagfilter (ID No. CD-005) for Boiler (ID No. ES-002-Boiler #7). The CAM requirements were added to the permit during the renewal (T19). See Booker Pullen's Air Permit Review, Application No. 6800043.04C issued October 3, 2006 for CAM determination. No new control devices have been added since the original analysis was conducted. The permit renewal/modification does not affect the CAM requirements in the permit.

CAIR

The Clean Air Interstate Rules ("CAIR") were originally implemented under 40 CFR Part 52 and included in North Carolina's SIP under 15A NCAC 02D .2400. According to 40 CFR 52.35(f) and 52.36(e), CAIR no longer applies as of January 1, 2015. Furthermore, North Carolina has allowed the

rules under 02D .2400 to expire. Therefore, CAIR no longer applies to this facility. References to CAIR will be removed from the permit.

The Cross-State Air Pollution Rule ("CSAPR", 40 CFR Part 97, Subparts AAAAA, BBBBB, and CCCCC) was planned as a replacement for CAIR. CSAPR was originally scheduled to take effect on January 1, 2012, but was challenged and initially vacated by the DC Circuit Court. Legal issues were finally resolved in April 2014, when the US Supreme Court reversed that decision. Because the regulation was delayed by court proceedings, the effective date of the rule was moved to January 1, 2015.

CSAPR explicitly only applies to sources considered large electric generators and that produce electricity for sale (for example, see 40 CFR 97.404(a)(1)). UNC-CH does not sell electricity produced by the generators, so this facility is not subject to CSAPR.

VII. Facility Wide Air Toxics

Under 15A NCAC 02Q .0702(a)(27)(B), sources subject to a MACT regulation under 40 CFR Part 63 are excluded from the requirements to obtain a permit to emit Toxic Air Pollutants (TAPs). NCAC 02D .1100: Control of Toxic Air Pollutants (TAP) limits and NCAC 02Q .0711: Emission Rates Requiring a Permit (TPER) limits for MACT sources were removed in Air Permit 03069T32. See Jeff Twisdale's Air Permit Review, Application No. 6800043.14A issued September 10, 2014 for removal analysis.

Previously, the Permittee made a facility-wide demonstration that TAP emissions are either below its respective TPER listed in 15A NCAC 02Q .0711 or is in compliance with its modeled emission rate. The facility shall continue to be operated in such a manner that any new, existing or increased actual emission of any TAP do not exceed the TPERs without first evaluating and determining whether an air permit to construct would be required. This permit renewal/modification does not affect this status.

VIII. Dry Sorbent Injection Systems (ID Nos. CD-004.3 and CD-005.3)

The North Carolina Department of Environmental Quality's (DEQ) current 15A NCAC 02D .1109 112(j); Case-by-Case MACT for Boilers and Process Heaters and 40 CFR 63, Subpart DDDDD both present emission limits for HCl for Boiler Nos. 6 and 7 at the Cogeneration Facility when these units are firing coal and/or wood-based fuels. The current 112(j) HCl emission limit for Boiler Nos. 6 and 7 is a risk-based standard of a maximum 435.5 lb/hr of HCl-equivalent emissions from the common stack serving both boilers. The federal Boiler MACT 5D limit for both boilers when firing coal and/or wood-based fuels effective May 20, 2019 is a much more stringent limit of 0.022 lb/million Btu (lb/MMBtu) of heat input. By comparison, at the maximum firing rate of 323.17 MMBtu/hr for each boiler, the federal Boiler MACT 5D 0.022 lb/MMBtu HCl limit is equivalent to a maximum of only 7.11 lb/hr from each boiler, with a total of 14.22 lb/hr of HCl from the common stack, versus the currently allowed 112(j) MACT HCl limit of 435.5 lb/hr. Boiler Nos. 6 and 7 are currently equipped with limestone (CaCO3) injection systems (ID Nos. CD-004.1 and CD-005.1) and baghouses (ID Nos. CD-004.2 and CD-005.2) for the control of sulfur dioxide (SO_2) at ≥90% control in compliance with New Source Performance Standards (NSPS) 40 CFR 60, Subpart Db. The existing limestone injection systems and baghouses also provide some limited HCl control. However, a review of the available emission test data for HCl emissions from Boiler Nos. 6 and 7 indicates that the existing limestone injection/baghouse control systems may have difficulty meeting the Boiler MACT 5D 0.022 lb/MMBtu (14.22 lb/hr) limit, when the units are firing moderate to high chlorine content coals. Therefore, the University plans to enter into a design/build contract with an engineering/construction

firm for the installation of the DSI systems on each Boiler Nos. 6 and 7. The design/build contract will allow for ongoing concurrent detailed system design and equipment installation under the minor permit modification, and will facilitate completion of the project by May 20, 2019. The two (2) DSI systems on Boiler Nos. 6 and 7 will each consist of a sorbent storage silo (ID Nos. IES-SB-18 and IES-SB-19) with a ben vent filter, weigh/feed hoppers (ID Nos. IES-SB-20 and IES-SB-21) with bin vent filters, rotary air locks, blowers, piping, and injection nozzles to inject the sorbent into the boiler exhaust ductwork before the existing baghouses. The University plans on using commercially available calcium hydroxide [$Ca(OH)_2$] sorbent, typically referred to as hydrated lime. However, the University may choose to use a proprietary enhanced $Ca(OH)_2$ sorbent to reduce the amount of sorbent actually required to meet the 0.022 lb/MMBtu (14.22 lb/hr) Boiler MACT 5D HCl limit.

The required sorbent injection rate to achieve the HCL emission limit on each boiler is dependent on several factors including the coal/wood firing rate, the coal/wood heating value, the chlorine content of the coal/wood, the sorbent residence time, scavenging of sorbent by other pollutants (SO_2), and sorbent particle size. Because of the inherent inefficiency (<100%) in any control system, excess sorbent above the stoichiometric amount to react with a given amount of HCl is generally required to achieve a desired control efficiency. The required excess sorbent is often quantified as the stoichiometric rate which is the ratio of the sorbent actually required to the theoretical sorbent required to react with the acid gas. The preliminary design capacity of the proposed DSI system on each of Boiler Nos. 6 and 7 is a maximum injection rate of 400 lb/hr of sorbent. The Boiler MACT will require that actual sorbent injection rate during HCl compliance tests be used to establish surrogate sorbent injection operating limits to monitor for demonstrating continuous compliance with HCL 0.022 lb/MMBtu (14.22 lb/hr) limit. The format of the sorbent injection rate operating limits will be in units of the maximum lb coal/lb sorbent. The actual sorbent injection rates required to meet the 30-day rolling average Boiler MACT HCl limits on a continuing basis are expected to be lower than the 400 lb/hr capacity of each system. The initial performance test to establish the sorbent injection rate operating limits must be performed within 180-days after May 20, 2019.

The existing emission control systems on Boiler Nos. 6 and 7 include limestone injection (ID Nos. CD-004.1 and CD-005.1) into the boiler furnaces for acid control, with baghouses (ID Nos. CD-004.2 and CD-005.2) on the boiler exhausts to control PM. Both Boiler Nos. 6 and 7 are currently equipped with a limestone injection continuous parameter monitoring system (CPMS) that measures the concurrent coal/wood: limestone feed rate ratios. With installation of the DSI systems, a duct sorbent injection CPMS will also be installed on each boiler to monitor the coal/wood: duct sorbent injection rate ratios.

While each DSI system constitutes an emission control device, the sorbent storage silos (ID Nos. IES-SB-18 and IES-SB-19), weigh/feed hoppers (ID Nos. IES-SB-20 and IES-SB-21), and associated bin vent filters also constitute a potential source of PM. However, calculations included in the application show that maximum potential uncontrolled PM10 emissions (0.412 ton/yr) from these sources are well below the 5.0 ton/yr permitting exclusion threshold presented in Rule 15A NCAC 02Q .0503(8). Therefore, the sorbent storage silos and weigh/feed hoppers are considered Insignificant sources.

IX. Potential Emissions from Dry Sorbent Injection Systems

The six (6) boilers at the University subject to the Boiler MACT 5D emit numerous regulated criteria and hazardous/toxic air pollutants. With the addition of the DSI systems, there will be no changes in emissions from Boiler Nos. 8, 9, 10 and ES-SB-6. The only boilers with any proposed equipment modifications (DSI installation) potentially affecting current emission rates are Boiler Nos. 6 and 7.

The Boiler MACT 5D will result in new emission limits for only four (4) pollutants, filterable PM, HCl, Hg, and CO. With installation of the proposed DSI systems on Boiler Nos. 6 and 7, there will be no change in the current CO emission rates. The new Boiler MACT 5D limit for coal combustion will be 130 ppmvd corrected to 3% O_2, 3 run average or 230 ppmvd corrected to 3% O_2, 30-day rolling average. Previous performance tests indicate actual CO concentrations of only 25-35 ppmvd corrected to 7% O_2 from these boilers when firing 100% coal.

There will be no potential increase in Hg emissions with installation of the DSI systems. However, it is conceivable that sorbent injection into the exhaust ductwork, which will provide more particles for condensation nuclei for Hg compounds, with subsequent capture by the baghouses, could potentially reduce HG emissions. The initial Hg performance tests after installation of the DSI systems will indicate whether there is any significant reduction in Hg emissions. The new Boiler MACT 5D Hg limit for coal combustion will be 5.7E-06 lb/MMBtu. Previous performance tests indicate current Hg emission rates of only 2.75E-07-4.30E-07 lb/MMBtu from these boilers when firing 100% coal.

The DSI systems to be installed on Boiler Nos. 6 and 7 are for the primary purpose of reducing HCl emissions to ensure compliance with the Boiler MACT 5D 0.022 lb/MMBtu. The previous performance tests indicate current HCl emission rates that range from 0.013-0.122 lb/MMBtu. The variation in HCl emissions is primarily due to the variation in the chlorine content of the coals burned during the tests. Calculations show a maximum potential uncontrolled HCl emission rate of 0.165 lb/MMBtu based on combustion of a 12,500 Btu/lb coal with a 2,000 ppmwt. chlorine content. The minimum combined HCl control efficiency to meet the 0.022 lb/MMBtu limit for this worse-case coal required by the existing limestone injection systems (into the furnace) and the add-on DSI systems is 86.6%. The initial Boiler MACT 5D performance tests will be used to establish the necessary limestone injection and duct sorbent injection rate operating limit(s) to ensure compliance with the new HCl limit.

The only pollutant with a potential emissions increase resulting from the installation of the proposed DSI system is filterable PM. This potential increase is due to increased reacted and unreacted sorbent dust loadings to the baghouses, and insignificant PM emissions from the new DSI sorbent storage silos and weigh/feed hoppers. The calculated potential controlled PM emissions from the silos are based on a maximum potential 400 lb/hr (1,752 ton/yr) sorbent use rate per boiler and an AP-42 (§11.12) emission factor of 0.00099 lb/ton for controlled PM. The AP-42 emission factor is for pneumatically loaded (air conveyed) elevated cement storage silos equipped with bin vent filters at concrete batch plants. Based on the maximum annual sorbent loading rate and the AP-42 emission factor, potential filterable PM emission increases associated with each new sorbent storage silo would be only 1.73 lb/yr. Potential filterable PM emissions from the weigh/feed hoppers would be even lower since these unit will not be pneumatically loaded. At the maximum 400 lb/hr potential sorbent injection rate and worse-case uncontrolled HCl emissions associated with a 12,500 Btu/lb coal with a 2,000 ppmwt. chlorine content at the maximum firing rate of each boiler (323.17 MMBtu/hr), the calculated increased reacted and unreacted filterable PM loadings to each baghouse is a maximum of 423.3 lb/hr. At an assumed 99.8% control efficiency for each baghouse, controlled filterable PM emissions could potentially increase by 0.847 lb/hr. At the maximum 323.17 MMBtu/hr firing rate of each boiler, the 0.847 lb/hr increase is equivalent to 0.0026 lb/MMBtu. Previous performance test indicate current PM emission rates of only 0.0025-0.0040 lb/MMBtu from these boilers when firing 100% coal. If the filterable PM after installation of the DSI increased by the potential 0.0026 lb/MMBtu calculated, the new total filterable PM would be a maximum of only 0.0066 lb/MMBtu versus the Boiler MACT 5D limit of 0.04 lb/MMBtu. While the calculated potential increase is low, it is also believed that any actual increase would be insignificant due to the nature of the baghouse air filtering process. It is well documented that the dust cake on baghouse bags actually performs the air filtration process and not the bags themselves. Typically, a given baghouse on a particular source

(consistent filter cake composition) will have a consistent penetration rate (gr/dscf) that does not vary with the dust loading to the baghouse. Because of this factor, controlled emissions from the baghouses would not be expected to have any significant increase in controlled emissions associated with installation of the DSI. However, the increased dust loadings to the baghouses may require more frequent bag cleaning.

X. Facility Emissions Review

See Table in the header for a summary of the actual emissions as reported to DAQ from the years 2012 to 2016.

Orange County has triggered increment tracking under PSD for PM-10, NOx, and SO_2. This modification will result in an increase in PM_{10} emissions of 0.07 pounds per hour, NOx emissions of 1.30 pounds per hour, and SO_2 emissions of 0.003 pounds per hour.

XI. Stipulation Review

The facility was last inspected by Stanley Williams on **August 30, 2017**. Based on his observations the facility appeared to be in compliance with their Title V permit requirements.

XII. Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521.

XIV. Conclusions, Comments, and Recommendations

A professional engineer's seal was submitted with the applications for this renewal/modification.

A zoning consistency determination was submitted with the applications required for this renewal/modification.

RRO recommends issuance of the permit and was sent a DRAFT permit prior to issuance (See Section III of this document for a discussion).

RCO concurs with RRO's recommendation to issue the renewal/modified air permit.

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

XXXX XX, 2018

Mr. Jonathan Pruitt
Vice Chancellor for Finance and Operations
The University of North Carolina at Chapel Hill
200 E. Cameron Avenue
Campus Box 1000
Chapel Hill, North Carolina 27599-1000

Dear Mr. Pruitt:

SUBJECT: Air Quality Permit No. 03069T36
Facility ID: 6800043
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
Orange County
Fee Class: Title V
PSD Status: Major

In accordance with your completed Air Quality Permit Application for a significant modification, renewal and minor modification of your Title V permit received on May 15, 2015, July 24, 205 and March 19, 2018, we are forwarding herewith Air Quality Permit No. 03069T36 to The University of North Carolina at Chapel Hill, 200 E. Cameron Avenue, CB#1000, Chapel Hill, North Carolina authorizing the construction and operation of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

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

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

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

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

Orange County has triggered increment tracking under PSD for PM-10, NOx, and SO_2. This modification will result in an increase in PM_{10} emissions of 0.07 pounds per hour, NOx emissions of 1.30 pounds per hour, and SO_2 emissions of 0.003 pounds per hour.

This Air Quality Permit shall be effective from XXXX XX, 2018 until XXXX XX, 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 this matter, please contact David B. Hughes at (919) 707-8411 or via e-mail at David.B.Hughes@ncdenr.gov.

Sincerely,

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

Enclosure

c: Mr. Larry Daw (Environmental Compliance Officer)
Ray Stewart, Supervisor, Raleigh Regional Office
Connie Horne (Cover Letter Only)
Central Files

ATTACHMENT
The University of North Carolina at Chapel Hill
Air Quality Permit No. 03069T36

Insignificant Activities Pursuant to 15A NCAC 02Q .0503(8)

ID No.	Source Description
IES-51	Sterilizers – Dental School
IES-53	Enclosed sorbent railcar dump pit, located in the Railcar Unloading Building (ID No. 020)
IES-SB-1	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-2	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-3	Water heater (0.300 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center
IES-SB-4	Water heater (0.399 MMBtu/hr; natural gas-fired), located at Brooks Hall
IES-SB-5	Water heater (1.442 MMBtu/hr; natural gas-fired), located at Cheek Clark Building
IES-SB-7	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building
IES-SB-8	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building
IES-SB-9	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Henry Stadium
IES-SB-10	Water heater (0.750 MMBtu/hr; natural gas-fired), located at Henry Stadium
IES-SB-11	Water heater (0.450 MMBtu/hr; natural gas-fired), located at Hickerson House
IES-SB-12	Water heater (0.595 MMBtu/hr; natural gas-fired), located at Hill Commercial
IES-SB-13	Water heater (0.270 MMBtu/hr; natural gas-fired), located at Hill Annex
IES-SB-14	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Medical Research Building B
IES-SB-16	Water heater (0.900 MMBtu/hr; natural gas-fired), located at McCaskill Soccer
IES-SB-17	Water heater (0.900 MMBtu/hr; natural gas-fired), located at 135.5 East Franklin
IES-SB-18	Sorbent Storage Silo with a bin vent filter, located at Cogeneration Facility
IES-SB-19	Sorbent Storage Silo with a bin vent filter, located at Cogeneration Facility
IES-SB-20	Weigh/Feed Hopper with bin vent filters, blowers, piping and injection nozzles, located at Cogeneration Facility
IES-SB-21	Weigh/Feed Hopper with bin vent filters, blowers, piping and injection nozzles, located at Cogeneration Facility

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

ATTACHMENT
Table of Changes

The following changes were made to the The University of North Carolina at Chapel Hill's Air Quality Permit No. 03069T35:

Page No.	Section	Description of Changes
Attachment	Insignificant Activities	-Revised dates, names, permit revision number. -added sorbent storage silos IES-18 and IES-19 to Boilers #6 and #7 respectively. -added weigh/feed hoppers IES-20 and IES-21 to Boilers #6 and #7 respectively.
Cover	---	-amended permit revision number and all dates
All	Header	-amended permit revision number
8	Section 1 Table	-Permittee requested that Dry Sorbent Injection System (DSI) ID No. CD-004.3 be added as a control device to Boiler #6 and that DSI ID No. CD-005.3 be added as a control device to Boiler #7. -removed Emergency generator (ID No. ES-Gen-38) located at the North Side Chiller
9	2.1 A	-added Dry Sorbent Injection Systems (ID Nos. CD-004.3 and CD-005.3).
9	2.1 A Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D.
31	2.1 A.4	-updated shell language for 15A NCAC 02D .1109 112(j); Case by Case MACT.
32	2.1 A.4.c	-corrected cross reference
33	2.1 A.4.e	-added sorbent injection rate of 9.53 lb coal (and/or wood) to ensure compliance with mercury and HCl-equivalent limitations.
34	2.1 A.4.i	-added O_2 trim concentration of 3.74% O_2 to ensure compliance with CO limitations.
34	2.1 A.4.j.vi	-corrected cross reference
38	2.1 A.4.k	-corrected cross reference
44	2.1 A.4.l	-corrected cross reference
48	2.1 A.4.r	-corrected cross reference
	2.1 A.5	-removed 15A NCAC 02D .0530(u)
	2.1 A.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 B Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D
	2.1 B.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 C Table	-added emission limits for 15A NCAC 02D .1111 MACT 5D
	2.1 C.5	-added 15A NCAC 02D .1111 MACT 5D
	2.1 G.3-2 Table	-removed Emergency generator (ID No. ES-Gen-38) located at the North Side Chiller
	2.1 G.3.f	-updated language for Operating Restrictions for 15A NCAC 02D .1111 MACT 4Z

	2.1 I.2	-added 15A NCAC 02D .1111 MACT 5D
---	2.2 F	-removed 15A NCAC 02D .2400 "Clean Air Interstate Rule" (CAIR)
	3	-updated shell conditions (v5.3, 08/21/2018)

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

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date	Expiration Date
03069T36	03069T35	XXXX XX, 2018	XXXX XX, 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:	**The University Of North Carolina at Chapel Hill**
Facility ID:	**6800043**
Facility Site Location: **City, County, State, Zip:**	**1120 Estes Drive Extension** **Chapel Hill, Orange County, North Carolina 27599-1650**
Mailing Address: **City, State, Zip:**	**200 E. Cameron Avenue, Campus Box 1000** **Chapel Hill, North Carolina 27599-1000**
Application Number: **Complete Application Date:**	**6800043.15A, 6800043.15B and 6800043.18A** **May 18, 2015, July 24, 2015 and March 19, 2018**
Primary SIC Code: **Division of Air Quality,** **Regional Office Address:**	**8221** **Raleigh Regional Office** **3800 Barrett Drive** **Raleigh, North Carolina 27609**

Permit issued this the XXth of XXXX, 2018.

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

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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:

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
		Boilers and Heaters		
3, 10-19, 44-47	ES-001-Boiler #6[a, b] **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **MACT DDDDD**	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI) /torrified wood (non-CISWI)[a] -fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity	CD-004.2 CD-004.1 CD-004.3	One bagfilter with 36,614 square feet of filter surface area Calcium carbonate injection system Dry Sorbent Injection System
3, 10-19, 44-47	ES-002-Boiler #7[a, b] **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **MACT DDDDD**	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI) /torrified wood (non-CISWI)[a] -fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity	CD-005.2 CD-005.1 CD-005.3	One bagfilter with 36,614 square feet of filter surface area Calcium carbonate injection system Dry Sorbent Injection System
3, 20-23	ES-003-Boiler #8 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **MACT DDDDD** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 338 million Btu per hour heat input capacity	None	None
3, 23-26	ES-004-Boiler #9 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **MACT DDDDD** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity	None	None
3, 23-26	ES-005-Boiler #10 **NSPS, Subpart Db** **2D .1109** **Case by Case MACT** **MACT DDDDD** **PSD [40 CFR 51.166 (a) through (i) and (s)]**	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity	None	None
3, 43, 44	ES-SB-6 **2D .1109** **Case by Case MACT** **MACT DDDDD**	One natural gas-fired boiler; 2.52 million Btu per hour heat capacity located at Davie Hall	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
	One coal handling, conveying, crushing, and storage system consisting of: NSPS, Subpart Y			
3, 26-28	ES-010.1 **NSPS Y**	One enclosed railcar dump pit	CD-018	Wet spray dust suppression systems (100 gal per min. injection rate in each hopper)
3, 26-28	ES-010.2 **NSPS Y**	One enclosed railcar dump pit		
3, 26-28	ES-010.3 **NSPS Y**	One enclosed railcar dump pit		
3, 26-28	ES-1 **NSPS Y**	One coal silo	CD-011	One bagfilter with 533 square feet of filter surface area
4, 26-28	ES-2 **NSPS Y**	One coal silo	CD-012	One bagfilter with 533 square feet of filter surface area
4, 26-28	ES-3.1 **NSPS Y**	One silo feed conveyor	CD-019	One bagfilter with 1598 square feet of filter surface area
4, 26-28	ES-3.2 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-3.3 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-3.4 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-3.5 **NSPS Y**	One silo feed conveyor		
4, 26-28	ES-010A **NSPS Y**	One coal crusher building	CD-013	One bagfilter with 1330 square feet of filter surface area
	One ash handling, storage, and loading system consisting of:			
4, 28-30	ES-030	One ash storage silo equipped with dry loadout system	CD-031	One bagfilter with 577 square feet of filter surface area
4, 28-30	ES-030A	Enclosed wet ash loadout system	CD-032	Water injection system (8.64 gal per min. injection rate)
	Storage Tanks			
4, 30	ES-T-001	One No. 2 fuel oil storage tank (500,000 gallons capacity)	None	None
4, 30	ES-T-002	One No. 2 fuel oil storage tank (500,000 gallon capacity)	None	None
4, 30	ES-T-003	One No. 2 fuel oil storage tank (184,200 gallon capacity) located at the Manning Drive Steam Plant	None	None
4, 30	ES-T-004	One No. 2 fuel oil storage tank (184,200 gallon capacity) located at the Manning Drive Steam Plant	None	None
	Emergency Generators and Fire Pumps			
4, 31-38	ES-EG#1 **MACT ZZZZ**	One diesel-fired emergency generator (900 kW), located at the EPA Building	None	None
4, 31-38	ES-EG#2 **MACT ZZZZ**	One diesel-fired emergency generator (1600 kW), located at the Thurston Bowles Building	None	None
4, 31-38	ES-EG#3 **MACT ZZZZ**	One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building	None	None
4, 31-38	ES-EG#4 **MACT ZZZZ**	One diesel-fired emergency generator (1000 kW) located at Taylor Hall	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
4, 31-38	ES-EG#5 **MACT ZZZZ**	One diesel-fired emergency generator (910 kW) located at the Neuroscience Research Building	None	None
4, 31-38	ES-EG#6 **MACT ZZZZ**	One diesel-fired emergency generator (1500 kW) located at the Medical Biomolecular Research Building	None	None
5, 31-38	ES-EG#7 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,250 kW) located at the Michael Hooker Research Center	None	None
5, 31-38	ES-EG#8 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (800 kW) located at Chapman Hall	None	None
5, 31-38	ES-EG#9 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,000 kW) located at the Caudill Labs	None	None
5, 31-38	ES-EG#10 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (800 kW) located at Bondurant Hall	None	None
5, 31-38	ES-EG#11 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,750 kW) located at the Burnett-Womack Building	None	None
5, 31-38	ES-EG#12 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (1,250 kW) located at the Mary Ellen Jones Building	None	None
5, 31-38, 47-52	ES-EG#13 **MACT ZZZZ, NSPS IIII, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the Genetic Medicine Building	None	None
5, 31-38	ES-EG#14 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (900 kW) located at the 440 West Franklin Building	None	None
5, 31-38	ES-EG#15 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the Rams Head Center	None	None
5, 31-38	ES-EG#16 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One diesel-fired emergency generator (2,000 kW) located at the ITS Building	None	None
5, 31-38, 47-52	ES-EG#17 **MACT ZZZZ, NSP IIII**	One diesel-fired emergency generator (1,000 kW) located at the Brinkhous-Bullitt Building	None	None
5, 31-38, 47-52	ES-EG#18 **MACT ZZZZ, NSPS IIII**	One diesel-fired emergency generator (1000 kW) located at Venable Hall	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
5, 31-38, 47-52	ES-EG#19 **MACT ZZZZ, NSPS IIII**	One diesel-fired emergency generator (2500 kW) located at the Imaging Research Building	None	None
5, 31-38, 47-52	ES-EG#20 **MACT ZZZZ, NSPS IIII**	One diesel-fired emergency generator (2000 kW) located at the Genomic Science Building	None	None
6, 31-38, 47-52	ES-EG#21 **MACT ZZZZ, NSPS IIII**	One diesel-fired emergency generator (1,250 kW) located at the Dental Research Building.	None	None
6, 31-38	ES-Gen-1 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Ackland Art Museum	None	None
6, 31-38, 47-52	ES-Gen-2 **MACT ZZZZ, NSPS IIII**	Emergency generator (500 kW, diesel-fired), located at Ambulatory Care Center	None	None
6, 31-38	ES-Gen-3 **MACT ZZZZ**	Emergency generator (30 kW, diesel-fired), located at Avery Dorm	None	None
6, 31-38	ES-Gen-4 **MACT ZZZZ**	Emergency generator (20 kW, diesel-fired) located at the Cheek/Clark Building	None	None
6, 31-38	ES-Gen-7 **MACT ZZZZ**	Emergency generator (35 kW, diesel-fired), located at Security Services Building	None	None
6, 31-38	ES-Gen-8 **MACT ZZZZ**	Emergency generator (350 kW, diesel-fired), located at Carmichael Dorm	None	None
6, 31-38	ES-Gen-9 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at Carolina Inn	None	None
6, 31-38	ES-Gen-10 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at the Center for Dramatic Art	None	None
6, 31-38	ES-Gen-11 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Craige Dorm	None	None
6, 31-38, 44, 47-52	ES-Gen-12 **MACT ZZZZ, NSPS IIII**	Emergency generator (150 kW, diesel-fired), located at Craige Parking Deck	None	None
6, 31-38, 44, 47-52	ES-Gen-13 **MACT ZZZZ NSPS IIII**	Emergency generator (300 kW, diesel-fired), located at the Davie Hall	None	None
6, 31-38	ES-Gen-14 **MACT ZZZZ**	Emergency generator (210 kW, diesel-fired), located at the Davis Library	None	None
6, 31-38	ES-Gen-15 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the Ehringhaus Dorm	None	None
6, 31-38	ES-Gen-18 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Fetzer Gym	None	None
6, 31-38	ES-Gen-19 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at Fordham Hall	None	None
6, 31-38	ES-Gen-20 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Cardinal Deck	None	None
6, 31-38	ES-Gen-21 **MACT ZZZZ**	Emergency generator (40 kW, natural gas-fired), located at the Old Dental School Building	None	None
6, 31-38	ES-Gen-22 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at Hill Alumni Center	None	None
6, 31-38	ES-Gen-23 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Hinton James Dorm	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
6, 31-38	ES-Gen-24 **MACT ZZZZ**	Emergency generator (80 kW, diesel-fired), located at Kenan Center	None	None
6, 31-38	ES-Gen-25 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Kenan Field (North)	None	None
7, 31-38	ES-Gen-26 **MACT ZZZZ**	Emergency generator (30 kW, diesel-fired), located at the Kenan Field (North-new)	None	None
7, 31-38	ES-Gen-27 **MACT ZZZZ**	Emergency generator (25 kW, diesel-fired), located at Kenan Field (South)	None	None
7, 31-38	ES-Gen-28 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at Kenan Football Center	None	None
7, 31-38	ES-Gen-29 **MACT ZZZZ**	Emergency generator (45 kW, diesel-fired), located at the Kenan Chemistry Lab	None	None
7, 31-38	ES-Gen-30 **MACT ZZZZ**	Emergency generator (535 kW, diesel-fired), located at the Lineberger Building Addition	None	None
7, 31-38	ES-Gen-31 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the McGavran Greenberg Building	None	None
7, 31-38	ES-Gen-32 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at the MacNider Hall	None	None
7, 31-38	ES-Gen-33 **MACT ZZZZ**	Emergency generator (175 kW, diesel-fired), located at the McColl Building	None	None
7, 31-38	ES-Gen-35 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at the Morehead Chemistry Lab	None	None
7, 31-38	ES-Gen-36 **MACT ZZZZ**	Emergency generator (30 kW, natural gas-fired), located at the Morehead Planetarium	None	None
7, 31-38	ES-Gen-37 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at Morrison Dorm	None	None
7, 31-38	ES-Gen-39 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at Parker Dorm	None	None
7, 31-38	ES-Gen-40 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at Phillips Hall	None	None
7, 31-38	ES-Gen-41 **MACT ZZZZ**	Emergency generator (20 kW, diesel-fired), located at Security Services Building	None	None
7, 31-38	ES-Gen-42 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at the Dean Smith Center	None	None
7, 31-38, 44, 47-52	ES-Gen-43 **MACT ZZZZ*, NSPS IIII**	Emergency generator (125 kW, diesel-fired), located at the Medical Research Building B	None	None
7, 31-38	ES-Gen-44 **MACT ZZZZ**	Emergency generator (275 kW, diesel-fired), located at Tarrson Hall	None	None
7, 31-38	ES-Gen-45 **MACT ZZZZ**	Emergency generator (150 kW, diesel-fired), located at Tate-Turner-Kuralt Building	None	None
7, 31-38	ES-Gen-46 **MACT ZZZZ**	Emergency generator (260 kW, diesel-fired), located at Taylor Student Health Services	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
7, 31-38	ES-Gen-47 **MACT ZZZZ**	Emergency generator (50 kW, diesel-fired), located at Van Hecke-Wettach Hall	None	None
8, 31-38, 44, 47-52	ES-Gen-48 **MACT ZZZZ, NSPS IIII**	Emergency generator (500 kW, diesel-fired), located at Kenan Stadium	None	None
8, 31-38, 44, 47-52	ES-Gen-49 **MACT ZZZZ, NSPS IIII**	Emergency generator (230 kW, diesel-fired), located at the Wilson Library Stacks	None	None
8, 31-38	ES-Gen-50 **MACT ZZZZ**	Emergency generator (600 kW, diesel-fired), located at Beard Hall	None	None
8, 31-38	ES-Gen-57 **MACT ZZZZ**	Emergency generator (600 kW, diesel-fired), located at the Bioinformatics Building	None	None
8, 31-38	ES-Gen-58 **MACT ZZZZ**	Emergency generator (230 kW, diesel-fired), located at the Carrington Building	None	None
8, 31-38	ES-Gen-59 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at the Glaxo Building	None	None
8, 31-38	ES-Gen-60 **MACT ZZZZ**	Emergency generator (148 kW, diesel-fired), located at the Health Sciences Library	None	None
8, 31-38	ES-Gen-61 **MACT ZZZZ**	Emergency generator (60 kW, diesel-fired), located at the Knapp Building	None	None
8, 31-38	ES-Gen-62 **MACT ZZZZ**	Emergency generator (300 kW, diesel-fired), located at the RB House Library	None	None
8, 31-38	ES-Gen-67 **MACT ZZZZ**	Emergency generator (125 kW, diesel-fired), located at Memorial Hall	None	None
8, 31-38	ES-Gen-68 **MACT ZZZZ**	Emergency generator (105 kW, diesel-fired), located at the Dogwood Deck	None	None
8, 31-38, 47-52	ES-Gen-71 **MACT ZZZZ, NSPS IIII**	Emergency generator (110 kW, diesel-fired), located at the Global Education Building	None	None
8, 31-38, 47-52	ES-Gen-72 **MACT ZZZZ, NSPS IIII**	Emergency generator (30 kW, diesel-fired), located at the Hamilton Hall	None	None
8, 31-38	ES-Gen-74 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the Joyner, Alexander Dorms	None	None
8, 31-38	ES-Gen-75 **MACT ZZZZ**	Emergency generator (250 kW, diesel-fired), located at the McIver, Kenan, Alderman Dorms	None	None
8, 31-38	ES-Gen-76 **MACT ZZZZ**	Emergency generator (500 kW, diesel-fired), located at the Northeast Chiller	None	None
8, 31-38	ES-Gen-77 **MACT ZZZZ**	Emergency generator (100 kW, diesel-fired), located at the Jackson Circle Parking Deck	None	None
8, 31-38, 47-52	ES-Gen-79 **MACT ZZZZ, NSPS IIII**	Emergency generator (300 kW, diesel-fired), located at the Carmichael Auditorium	None	None
8, 31-38, 47-52	ES-Gen-80 **MACT ZZZZ, NSPS IIII**	Emergency generator (300 kW, diesel-fired), located at the Hinton James Dorm	None	None
8, 31-38, 47-52	ES-Gen-81 **MACT ZZZZ, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Physicians Office Building	None	None

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
8, 31-38, 47-52	ES-Gen-84 **MACT ZZZZ, NSPS IIII**	Emergency generator (250 kW, diesel-fired), located at the Bell Tower Parking Deck	None	None
9, 31-38, 47-52	ES-FP-1 **MACT ZZZZ, NSPS IIII**	Fire water pump (77 Hp, diesel-fired), located at Kenan Stadium	None	None
9, 31-38	ES-FP-2 **MACT ZZZZ**	Fire water pump (110 Hp, diesel-fired), located at McColl Building	None	None
9, 31-38, 44, 47-52	ES-FP-3*** **MACT ZZZZ*, NSPS IIII****	Fire water pump (225 Hp, diesel-fired), located at Davis Library	None	None
Non-emergency generators (operated 7,500 hours per year)				
9, 38-44	ES-006 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One No. 2 fuel oil-fired, compression ignition, generator (2,000 kW) located at the Cogeneration Facility	None	None
9, 38-44	ES-007 **MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}**	One No. 2 fuel oil-fired, compression ignition, generator (2,000 kW) located at the Cogeneration Facility	None	None

*** MACT Subpart ZZZZ (new classification)**
**** NSPS Subpart IIII (new classification)**

*** This emission source (ID No. ES-FP-3) is listed as a 15A NCAC 02Q .0501(c)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation in accordance with General Condition NN.1. The permit shield described in General Conditions R does not apply and compliance certification as described in General Condition P is not required.

a. As per the application and for the purpose of NC Toxics applicability, the Permittee is allowed to only combust unadulterated wood/wood pellets and torrified wood generated from unadulterated wood with no process additives, up to 20% of heat input rate of each boiler.

b. As per the application and for the purpose of CISWI NSPS applicability, the Permittee is allowed to only combust wood and torrified wood that is not "solid waste".

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 - Emission Source(s) and Control Devices(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 testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. Two coal/natural gas/No. 2 fuel oil/wood (non-CISWI)[a, b]/torrified wood (non-CISWI)[a]-fired, circulating fluidized combustion boilers (ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7) with associated bagfilters (ID Nos. CD-004 and 005), calcium carbonate injection systems (ID Nos. CD-004.1 and CD-005.1) and dry sorbent injection systems (ID Nos. CD-004.3 and CD-005.3)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E_c = [(0.276)(Q_w) + (0.174)(Q_o)]/Q_t$ E_c = emission limit (lbs/million Btu); Q_w = actual wood heat input; Q_o = actual heat input other than wood heat input; and $Q_t = Q_w + Q_o$	15A NCAC 02D .0503
Particulate matter	**Coal alone or in combination with No. 2 fuel, wood, or torrified wood:** 0.051 lbs/million Btu heat input each boiler **Wood and/or Torrified Wood alone or in combination with No. 2 fuel or natural gas:** 0.10 lbs/million Btu heat input each boiler	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.43b (a)(1) and (c)
Particulate matter	Operation standards See Multiple Emission Section 2.2 D	15A NCAC 02D .0614 Compliance Assurance Monitoring
Sulfur dioxide	Firing of coal and fuel oil, alone or in combination 0.2 lbs sulfur dioxide per million Btu heat input -or- Sulfur dioxide emissions shall not be in excess of ten percent of the potential sulfur dioxide emission rate (90 percent reduction) and shall not contain sulfur dioxide in excess of the rate calculated by the following formula $E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$ E_s = sulfur dioxide emission limit (lbs/million Btu) K_a = 1.20 lbs/million Btu K_b = 0.80 lbs/million Btu H_a = heat input from the combustion of coal H_b = heat input from the combustion of oil	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.42b(a)
Sulfur dioxide	**Natural gas firing only** 2.3 lbs/million Btu per heat input	15A NCAC 02D .0516
Sulfur dioxide	See Multiple Emissions Section 2.2 B	15A NCAC 02D .0501(c)
Sulfur dioxide	See Multiple Emissions Section 2.2 C	15A NCAC 02D .0614 Compliance Assurance Monitoring
Nitrogen dioxide	**Coal-firing only** 0.60 lbs/million Btu heat input	15A NCAC 02D .0524

Regulated Pollutant	Limits/Standards	Applicable Regulation
		40 CFR Part 60, Subpart Db §60.44b(a)
Nitrogen dioxide	**Natural gas/No. 2 fuel oil-firing only** 0.10 lb/million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.44b(a)
Nitrogen dioxide	**Combined fuel firing** $E_n = \frac{[(EL_{go}\ H_{go}) + (EL_c\ H_c)]}{H_{go} + H_c}$ E_n = nitrogen oxides emission limit (lb/million Btu) EL_{go} = 0.10 lb/million Btu H_{go} = heat input from the combustion of natural gas or distillate fuel (lb/million Btu) EL_c = 0.60 lb/million Btu H_c = heat input from the combustion of coal	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.44b (b)
Hazardous air pollutants	**From coal firing:** • Filterable PM: 0.08 lb/MMBtu • Mercury (Hg): 3.0E-06 lb/MMBtu • Hydrogen Chloride-Equivalent (HCl): 435.5 lb/hr • CO: 133 ppmvd, corrected to 7% O_2 **From No. 2 fuel oil firing:** • Filterable PM: 0.014 lb/MMBtu • Mercury (Hg): 3.0E-06 lb/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2 **From wood or torrified wood firing:** • Filterable PM: 0.39 lb/MMBtu • Mercury (Hg): 5.0E-06 lb/MMBtu • Hydrogen Chloride-Equivalent (HCl): 435.5 lb/hr • CO: 834 ppmvd, corrected to 7% O_2	15A NCAC 02D .1109 *[CAA § 112(j)]*
Hazardous air pollutants	**From coal firing:** • Hydrochloric Acid (HCl): 2.2E-02 lb/MMBtu • Mercury (Hg): 5.7E-06 lb/MMBtu • CO: 130 ppmvd corrected to 3% O_2, 3 run average • CO: 230 ppmvd, corrected to 3% O_2, 30-day rolling average • Filterable PM: 4.02E-02 lb/MMBtu • Total Suspended Metals (TSM): 5.3E-05 lb/MMBtu **From No. 2 fuel oil firing:** • Hydrochloric Acid (HCl): 1.1E-03 lbs/MMBtu • Mercury (Hg): 2.0e-06 lbs/MMBtu • CO: 130 ppmvd, corrected to 3% O_2 • Filterable PM: 7.9E-03 lb/MMBtu • Total Suspended Metals (TSM): 6.2E-05 lb/MMBtu	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD

Regulated Pollutant	Limits/Standards	Applicable Regulation
	From wood or torrified wood firing: • Hydrochloric Acid (HCl): 2.2E-02 lb/MMBtu • Mercury (Hg): 5.7e-06 lb/MMBtu • CO: 470 ppmvd corrected to 3% O_2 • Filterable PM: 1.1E-01 lb/MMBtu • Total Suspended Metals (TSM): 1.2E-03 lb/MMBtu	

1. **15A NCAC 02D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emissions of particulate matter from these boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)** shall not exceed an allowable emission rate as calculated by the following equation:

$$Ec = [(0.276)(Qw) + (0.174)(Qo)]/Qt$$

Where;
Ec = emission limit for combined firing (pound per million Btu);
Qw = actual wood heat input (including torrified wood);
Qo = actual heat input other than wood heat input; and
Qt = Qw + Qo

Testing [NCAC 2Q .0508(f)]

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

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

   c. To ensure compliance, the Permittee shall follow the NSPS monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 A. 2. f through h below. In addition to any other recordkeeping required by 40 CFR 60.48b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas fired during **each month.** The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if these monitoring requirements are not complied with or these records are not kept.
   d. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 A.1.c 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 .0524: NSPS 40 CFR PART 60 SUBPART Db**
   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 Db, including Subpart A "General Provisions."

Emission Limitations [15A NCAC 02D .0524]

   b. **Particulate Matter –**
      i. The maximum particulate emissions from the firing of coal alone or in combination with No. 2 fuel oil, wood and/or torrified wood shall not exceed 0.051 pounds per million Btu heat input.
      ii. The maximum particulate emissions from the firing of wood and/or torrified wood alone or in combination with No. 2 fuel oil and/or natural gas shall not exceed 0.10 pounds per million Btu heat input.

c. **Sulfur Dioxide** - The maximum sulfur dioxide emissions from the firing of coal and fuel oil, alone or in combination with wood and/or torrified shall not be in excess of 0.2 pounds per million Btu heat input ***or*** ten percent of the potential sulfur dioxide emission rate (ninety percent reduction) and shall not contain sulfur dioxide in excess of the rate calculated by the following formula:

$$E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$$

E_s = sulfur dioxide emission limit (lbs/million Btu heat input)
K_a = 1.20 lbs/million Btu heat input
K_b = 0.80 lbs/million Btu heat input
H_a = heat input from the combustion of coal in million Btu
H_b = heat input from the combustion of oil in million Btu

d. **Nitrogen Dioxide -**
   i. The maximum nitrogen dioxide emissions when firing coal shall not exceed 0.60 pounds per million Btu heat input for boilers with a low heat release rate.
   ii. The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.10 pounds per million Btu heat input for boilers with a low heat release rate.
   iii. When firing combined fuels in boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)**, compliance is achieved in accordance with the formula listed in 40 CFR 60.44b (b).

e. **Opacity** - When firing coal, No. 2 fuel oil, or natural gas, each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

f. A continuous emissions monitor for sulfur dioxide, nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60, Appendix B "Performance Specifications", and Appendix F "Quality Assurance Procedures." The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these requirements are not complied with.

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

g. In addition to any other recordkeeping required by 40 CFR 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each day** when firing coal or No. 2 fuel oil. 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. In addition to any other reporting required by 40 CFR 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
   i. Any excess emission reports as measured by the continuous emission monitoring systems (CEMS) and continuous opacity monitoring systems (COMS), postmarked on or before January 30, April 30, July 30, and October 30 of each calendar year for the preceding three-month period. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
   ii. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 A.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. In addition to any other recordkeeping required by 40 CFR 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas fired during **each month** in boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 A.3.c above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 19, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 20, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)**:

Pollutant	Emission Limits For Each Fuel Fired In Boilers #6 and #7[2]			
	Coal	Wood/Torrified Wood	No. 2 Fuel Oil	Natural Gas
Filterable PM	**0.08 lb/MMBtu**	**0.39 lb/MMBtu**	**0.014 lb/MMBtu**	
Mercury (Hg):	**3.0e-06 lb/MMBtu**	**5.0e-06 lb/MMBtu**	**3.0e-06 lb/MMBtu**	
Hydrogen Chloride-equivalent (HCl)[1]:	**435.5 lbs/hr**	**435.5 lbs/hr**		
Carbon Monoxide (CO): 30-day average corrected to 7% oxygen	**133 ppmvd,**	**834 ppmvd,**	**30 ppmvd,**	**66 ppmvd,**

1. HCl-equivalent is defined by the following equation:

$$E = E_{HCl} + E_{Cl2}*(RfC_{HCl}/RfC_{Cl2})$$

Where:
E = HCl-equivalent emission rate (in lbs/hr);
E_{HCl} = Hydrogen chloride emission rate (in lbs/hr);
E_{Cl2} = Chlorine emission rate (in lbs/hr);
RfC_{HCl} = Reference concentration for HCl (20 $\mu g/m^3$); and
RfC_{Cl2} = Reference concentration for Cl_2 (0.20 $\mu g/m^3$)

2. Weighted Emission Limit Based on Heat Input of Fuel
When two or more fuels are fired in the boiler and each represent at least 10% of the heat input to the boiler, the emission limit shall be proportional to heat input of each fuel. For example, the

CO emission limitation, in ppmvd, corrected to 7% O_2, measured on a 30-day average, is calculated as follows:

$$E_{CO} = [(834)(W) + (133)(C) + 30(DFO) + 66(NG)]/(W + C + DFO + NG)$$

Where:
E_{CO} = CO emission limitation in ppmvd, corrected to 7% oxygen
W = heat input of wood and torrified wood in million Btus per hour;
C = heat input of coal in million Btus per hour,
DFO = heat input of distillate No. 2 fuel oil in million Btu per hour; and
NG = heat input of natural gas in million Btus per hour.

c. The emissions limitations for a specific fuel type in Section 2.1 A.4.b. above shall only apply when the Permittee fires at least 10% of that fuel in the boiler on a 12-month rolling average heat input basis. If the Permittee fires less than 10% of a specific fuel in the boiler, the respective emissions limitations and the associated testing, monitoring, and recordkeeping for that particular fuel shall not apply. However, the Permittee shall retain records of the fuels fired in the boiler in accordance with Section 2.1 A.4.r. below.

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d. To ensure compliance with the filterable PM and mercury limitations, while firing coal/wood the exhaust from the boiler stack shall not be greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

e. To ensure compliance with the mercury and HCl-equivalent limitations while firing coal, the Permittee shall maintain the sorbent injection rate at 9.53 lb coal (and/or wood)/lb sorbent injection.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the Permittee does not maintain the sorbent injection rate (lb coal(and/or wood) fired/lb sorbent injection) at or below the operating limit.

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

f. No testing is required to demonstrate compliance with the emissions limitations associated with the firing of natural gas and No. 2 fuel oil.

g. Annual Testing. The Permittee must conduct all applicable performance tests on an annual basis, unless it meets the requirements listed in i. through iii. below. Annual performance tests, if required, must be completed between 11 and 13 months after the previous performance test.
   i. The Permittee may conduct performance tests less often for a given pollutant if the performance tests for at least 3 consecutive years show the emission rate is less than or equal to 80 percent of the allowable emission limit. In this case, the Permittee need not conduct a performance test for that pollutant for the next 2 years, but must conduct a performance test during each third year and no more than 36 months after the previous performance test.
   ii. If the affected boiler or process heater continues to remain at or below 80 percent of the allowable emission rate, the Permittee may conduct performance tests every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.
   iii. If a performance test shows emissions at greater than 80% of the allowable limit, the Permittee must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.

The Permittee must report the results of performance test within 60 days after the completion of the performance tests or fuel analyses. This report should also verify that the operating limits for the affected sources have not changed or provide documentation of revised operating parameters.

The Permittee shall be deemed in non-compliance with 15A NCAC 02D .1109 if the required annual tests are not conducted, or if the results of any tests exceed the limits in Section 2.1 A.4.b. above.

h. **Site-Specific Monitoring Plan** [15A NCAC 02Q .0508(f)]
The Permittee must develop a site-specific monitoring plan for each required continuous monitoring system (CMS). The plan shall be submitted to the NC DAQ-SSCB at least 60 days before the initial performance evaluation of the CMS. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the Permittee does not develop a site-specific monitoring plan for each CMS.

Monitoring [15A NCAC 02Q .0508(f)] **For limits associated with Coal and Wood-Firing Only.**

i. The Permittee shall install, operate, and maintain an oxygen analyzer system as defined in 40 CFR 63.7575.
To ensure compliance with the CO limitations while firing coal, the Permittee shall maintain an O_2 trim concentration at a minimum of 3.74% O_2. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the Permittee does not maintain the O_2 trim concentration at or above this operating limit or does not install, operate, and maintain an oxygen analyzer system.

j. The Permittee must install, operate, certify and maintain the continuous opacity monitoring system (COMS) according to the procedures listed below.
   i. The COMS must be installed, operated, and maintained according to PS 1 of 40 CFR 60, Appendix B.
   ii. Conduct a performance evaluation of the COMS according to the requirements in 40 CFR 63.8 and according to PS 1 of 40 CFR 60, Appendix B.
   iii. As specified in 40 CFR 63.8(c)(4)(i), the COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
   iv. The COMS data must be reduced as specified in 40 CFR 63.8(g)(2).
   v. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.
   vi. Include in the site-specific monitoring plan, required pursuant to Section 2.1.A.4.h. above, procedures and acceptance criteria for operating and maintaining the COMS according to the requirements in 40 CFR 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.
   vii. Operate and maintain the COMS according to the requirements in the monitoring plan and the requirements of 40 CFR 63.8(e). Identify periods the COMS is out-of-control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.
   viii. Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.

k. The Permittee must install, operate, and maintain continuous parameter monitoring systems (CPMS) to monitor sorbent injection rate at the limestone injections systems according to the procedures listed below.
   i. Locate the devices in a position that provide a representative measurement of the total sorbent injection rate.
   ii. Install and calibrate the devices in accordance with manufacturer's procedures and specifications.
   iii. At least annually, calibrate the device in accordance with the manufacturer's procedures and specifications.
   iv. The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. A valid hour of data must have a minimum of four successive cycles of operation.
   v. Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), conduct all monitoring in continuous operation at all times that the affected unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
   vi. For purposes of calculating data averages, the Permittee may not use data recorded during

monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. The Permittee must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

vii. Determine the 3-hour block average of all recorded readings, except as provided in paragraph vi. above.

viii. Record the results of each inspection, calibration, and validation check.

ix. Operation above the established operating limits on a 3-hour average basis shall constitute a violation of established operating limits.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the monitoring requirements in Sections 2.1 A.4. i through k above are not complied with.

Boiler Inspection and Maintenance [15A NCAC 02Q .0508(f)]
For No. 2 Fuel Oil and Natural Gas-Firing Only

l. If less than 10% coal and less than 10% wood or torrified wood is fired in a boiler on a 12-month average heat input basis and the Permittee has not performed the monitoring in Section 2.1 A.4 i through k above, the Permittee shall perform an annual inspection of the boiler and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

i. Inspect the burners, and clean or replace any components of the burners as necessary;

ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,

iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.

iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the boilers are not inspected or the tune-up is not performed or these requirements are not complied with.

m. The results of any required annual burner 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 of each recorded action;

ii. The results of each inspection; and,

iii. The results of any maintenance performed on the boilers.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required boiler inspection and maintenance records are not maintained.

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

n. The Permittee shall maintain a copy of each notification and report required by this standard, including all documentation supporting any Notification of Compliance Status.

o. The Permittee shall maintain records of performance tests or other compliance demonstrations, CMS performance evaluations, and opacity observations.

p. For each required CEMS, CPMS, and COMS, the Permittee shall maintain the following records:

i. All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);

ii. A record of each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);

iii. All CMS calibration checks; and,

iv. All adjustments and maintenance performed on CMS;

Maintain records of all monitoring data and calculated averages for applicable operating limits, including opacity, carbon monoxide, and sorbent injection rate used to demonstrate compliance with the standard.

q. For each affected source, the Permittee shall maintain records of monthly fuel use by each affected source, including the type(s) of fuel fired and amount(s) used.

r. If the Permittee limits the firing of a specific fuel to less than 10% on 12-month average heat input basis, he shall create and retain the following records at least once per calendar month:

i. Record the fuel use by each affected source, including the type(s) of fuel and amount(s) used, during the previous calendar month; and,
ii. Calculate the 12-month average heat input from each fuel for each affected source during the previous 12-month period.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the records in Sections 2.1 A.4. n through r above are not maintained.

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

s. Notification of Compliance Status. The Permittee must submit a Notification of Compliance Status that meets the requirements of 40 CFR 63.9(h)(2)(ii) before the close of business on the 60th day following the completion of the final required performance test and/or other initial compliance demonstration. The Notification of Compliance Status report must contain the following information, as applicable:
   i. A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.
   ii. Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.
   iii. Identification of whether the facility is complying with the PM emission limit or the alternative TSM emission limit.
   iv. Identification of whether the facility demonstrated compliance with each applicable emission limit through performance testing or fuel analysis.
   v. Identification of whether the facility plans to demonstrate compliance by emissions averaging.
   vi. A certification signed by the Responsible Official that the facility has met all applicable emission limits and work practice standards.
   vii. A summary of the CO emissions monitoring data and the maximum CO emission levels recorded during the performance test to show that the facility has met any applicable work practice standard.
   viii. If the affected source fires only gaseous fuel and/or distillate fuel oil, include a certification of such that is signed by the Responsible Official.

t. Semiannual Summary Report. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 A.4.i through r above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.
   The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable;
   vi. A signed statement indicating that no new types of fuel were fired in the affected sources;
   vii. Identification of any startup, shutdown, or malfunction events that were reported in accordance with 15A NCAC 02D .0535;
   viii. If there are no deviations with this standard, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period;
   ix. If there were no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CMSs were out of control during the reporting period; and,
   x. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, §63.7490(d), §63.7499(c)]

a. For these boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7** controlled by bagfilters **(ID Nos. CD-004 and CD-005)** with calcium carbonate injection systems **(ID Nos. CD-004.1 and CD-005.1)** and dry sorbent injection systems **(ID Nos. CD-004.3 and CD-005.3)**, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" (Subpart 5D) and Subpart A "General Provisions." The Permittee shall comply with the CAA §112(j) standard in Section 2.1 A.4 through **May 19, 2019**. The Permittee shall be subject to the requirements of this standard starting **May 20, 2019**. Note that the requirements of this standard may require action on behalf of the Permittee prior to **May 20, 2019**.

Definitions and Nomenclature [§63.7575]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63 Subpart A General Provisions [§63.7565]

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to Subpart 5D.

Compliance Date [§63.7510(e), §63.56(b)]]

d. The Permittee shall:
   i. Complete the initial tune up and the one-time energy assessment as required in Section 2.1 A.5.w through aa no later than **May 20, 2019**.
   ii. Complete the initial compliance requirements in Section 2.1 A.5.j no later than **November 16, 2019** and according to the applicable provisions in §63.7(a)(2).

General Compliance Requirements [§63.7505(a), §63.7500]

e. At all times the affected unit(s) is operating, the Permittee shall be in compliance with the emission standards in Section 2.1 A.5.g, except during periods of startup and shutdown. During startup and shutdown, the Permittee shall comply only with items 5 and 6 of Table 3 of Subpart 5D. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

f. At all times, then Permittee shall operate and maintain any affected source (as defined in §63.7490), 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 Administrator that 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.

Emission Limits [15A NCAC 02Q .0508(f), §63.7500(a)(1), Table 2]

g. i. The affected unit(s) shall meet the following emission limits:

Pollutant	Emission Limit
Hydrochloric Acid(HCl)	2.2E-02 lb per MMBtu of heat input
Mercury (Hg)	5.7E-06 lb per MMBtu of heat input
Carbon monoxide (CO)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3 run average or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)
Filterable Particulate Matter(PM) or Total Suspended Metals (TSM)	4.02E-02 lb per MMBtu of heat input* or 5.3E-05 lb per MMBtu of heat input

* PM limit is expressed as a 30-day rolling average if using a PM CEMS according to §63.7540(a)(19)

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

h. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test(s) are above the limit given in Section 2.1 A.5.g above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Notifications [15A NCAC 02Q .0508(f), §§63.7545(d), 63.7530]

i. The Permittee shall submit the following notifications:
   i. The Permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.
   ii. For the initial compliance demonstration for each affected source, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all affected sources at the facility The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of §63.7545 as applicable.

   [§§63.9(h)(2)(ii), 63.10(d)(2), 63.7545(e)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these notification requirements are not met.

Initial compliance requirements [15A NCAC 02Q .0508(f), §63.7510]

j. The Permittee shall demonstrate compliance with the limits in Section 2.1 A.5.g by conducting initial performance test(s) and fuel analyses, establishing operating limits and conducting continuous monitoring system (CMS) evaluation(s) as necessary according to §§63.7510, 63.7525 and 63.7530. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Subsequent compliance requirements [15A NCAC 02Q .0508(f), §63.7515]

k. The Permittee shall conduct subsequent performance tests and fuel analyses as necessary according to §63.7515.
l. The Permittee shall demonstrate continuous compliance with each emission limit and operating limit that applies according to §63.7540.
m. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5.k through l are not met.

Monitoring requirements [15A NCAC 02Q .0508(f), §63.7525]

n. The Permittee shall install, operate, and maintain an oxygen trim system, as defined in §63.7575.
o. The Permittee shall install, certify, maintain and operate a PM CEMS, according to §63.7525(b).
p. The Permittee shall install, certify, maintain and operate a monitoring system to measure sorbent injection rate, according to §63.7525(i).
q. The Permittee shall meet the requirements for all monitoring systems as applicable according to §63.7525.
r. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5.n through q are not met.

Operating Limits [15A NCAC 02Q .0508(f), §63.7500, Table 4 to Subpart 5D]

s. The Permittee shall maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during most recent performance test.
t. The Permittee shall operate the oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test. [§63.7525(a)(7)]
u. The Permittee shall maintain the minimum sorbent injection rate as defined in §63.7575.

v. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5.s through u are not met.

Work Practice Standards [15A NCAC 02Q .0508(f)]

w. The Permittee shall conduct a tune-up of the source(s) every 5 years as specified below. The Permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up.
   i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary, The Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months;
   ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
   iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);
   iv. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; and
   v. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

   [§§63.7500(a), §63.7540(a)(10), (12)]

x. Each tune-up shall be conducted no more than 61 months after the previous tune-up. [40CFR 63.7515(d)]

y. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [§63.7540(a)(13), §63.7515(g)]

z. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5 w through y are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(f)]

aa. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in 40 CFR 63 Subpart 5D, Table 3, Item 4, with the extent of the evaluation for items (a) to (e) in Table 3, Item 4 appropriate for the on-site technical hours listed in §63.7575: [§63.7500(a)(1), Table 3] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Recordkeeping Requirements [15A NCAC 02Q .0508(f), §63.7555]

bb. The Permittee shall:
   i. Keep a copy of each notification and report submitted to comply with Subpart 5D, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted.
      [§§63.7555(a)(1), 63.10(b)(2)(xiv)]
   ii. Keep records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations. [§63.10(b)(2)(viii)]
   iii. Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (A) through (C) below:
      A. The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
      B. A description of any corrective actions taken as a part of the tune-up; and
      C. the type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
      [§63.7540(a)(10)(vi)]

iv. For each CEMS, COMS, and continuous monitoring system, keep records according to paragraphs (b)(1) through (5) of §63.7555.
v. Keep records required in Table 8 of Subpart 5D including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies.
vi. Keep the applicable records in paragraphs (d)(1) through (13) of §63.7555.

cc. The Permittee shall:
i. Maintain records in a form suitable and readily available for expeditious review;
ii. Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
iii. 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 offsite for the remaining 3 years.
[§63.7560, §63.10(b)(1)]

dd. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5.bb through dd are not met.

Reporting Requirements [15A NCAC 02Q .0508(f), §63.7550]

ee. The Permittee shall submit a compliance report to the DAQ on a semi-annual basis, 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.
i. The first compliance report shall be postmarked on or before **July 30, 2019** and cover the period from **May 20, 2019** through **June 30, 2019**.
ii. The compliance reports shall also be submitted electronically to the EPA via the procedures in §63.7550(h).

ff. The compliance report shall contain:
i. The information in §63.7550(c) as applicable.
ii. For each deviation from an emission limit or operating limit, the report shall contain the information in§§63.7550(d) and (e) as applicable.

gg. Within 60 days after the date of completing each performance test (defined in §63.2) including any associated fuel analyses and/or CEMS performance evaluation (defined in §63.2) as required by Subpart 5D, the Permittee shall submit the results to the DAQ pursuant to 63.10(d)(2) and to the EPA via the procedures in §63.7550(h).

hh. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 A.5.ee through gg are not met.

B. One natural gas/No. 2 fuel oil-fired boiler (ID No. ES-003-Boiler #8)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	**Natural gas or No. 2 fuel oil firing** 0.174 lb/million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	**No. 2 fuel oil-firing only** Burn low sulfur fuel 0.5 percent sulfur content by weight or less	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.42b (j)
Sulfur dioxide	**Natural gas firing only** 2.3 lb/million Btu per heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.43b (f) and (g)
Nitrogen dioxide	0.20 lb/million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db§60.44b (a)(1)
Nitrogen dioxide	See Multiple Emissions Section 2.2	15A NCAC 02D .2400 **(CAIR)**

Hazardous air pollutants	**From No. 2 fuel oil firing:** • Filterable PM: 0.014 lb/MMBtu • Mercury (Hg): 3.0e-06 lb/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2	15A NCAC 02D .1109 *[CAA § 112(j)]*
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Hydrochloric Acid (HCl) : 1.1E-03 lb/MMBtu • Mercury (Hg): 2.0e-06 lb/MMBtu • CO: 130 ppmvd, corrected to 3% O_2 • Filterable PM: 7.9E-09 lb/MMBtu • Suspended Metals (TSM): 6.2E-05 lb/MMBtu	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD

1. **15A NCAC 02D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emissions of particulate matter from the combustion of natural gas or No. 2 fuel oil, that are discharged from this boiler **(ID No. ES-003-Boiler #8)** into the atmosphere shall not exceed 0.174 pounds per million Btu heat input.

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 B.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

   Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]
   c. In addition to any other recordkeeping required by 40 CFR §60.48b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of natural gas and No. 2 fuel oil fired during **each month** in boiler **(ID No. ES-003-Boiler #8)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if these records are not maintained.

   Reporting [15A NCAC 02Q .0508(f)]
   d. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 B.1.c 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 .0524: NSPS 40 CFR PART 60 SUBPART Db - *WHEN FIRING NO. 2 FUEL OIL***
   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 Db, including Subpart A "General Provisions."

   Emission Limitations [15A NCAC 02D .0524]
   b. **Sulfur Dioxide** - The maximum sulfur content of No. 2 fuel oil fired in boiler **(ID No. ES-003-Boiler #8)** shall not exceed 0.5 sulfur percent by weight.
   c. **Nitrogen Dioxide** - The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.20 pounds per million Btu heat input for boilers with a high heat release rate.
   d. **Opacity** - When firing No. 2 fuel oil or natural gas, this boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

e. A continuous emissions monitor for nitrogen dioxide and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and Appendix F "Quality Assurance Procedures." The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the continuous emissions monitor is not installed, maintained, tested, and operated as required.

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

f. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each month** when firing No. 2 fuel oil. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

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

g. In addition to any other reporting required by 40 CFR § 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
   i. any excess opacity emission reports as measured by the continuous emission monitor (CEM) postmarked on or before January 30, April 30, July 30, and October 30 of each calendar year for the preceding three-month period. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.
   ii. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from boiler **(ID No. ES-003-Boiler #8)** shall not exceed 2.3 pounds per million Btu heat input when firing natural gas. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 B.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amount of natural gas fired during **each month** in boiler **(ID No. ES-003-Boiler #8)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if these records are not maintained.

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

d. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 B.3.c above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall comply with this CAA §112(j) standard until **May 19, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 20, 2019**.

b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boiler **(ID No. ES-003-Boiler #8)**:
   i. From No. 2 fuel oil firing:

(A) Filterable PM: 0.014 lbs/MMBtu
(B) Mercury (Hg): 3.0e-06 lbs/MMBtu
(C) Carbon Monoxide (CO): 30 ppmvd, corrected to 7% oxygen

ii. From natural gas firing:
(A) Carbon Monoxide (CO): 66 ppmvd, corrected to 7% oxygen

Boiler Inspection and Maintenance [15A NCAC 02Q .0508(f)]

c. The Permittee shall perform an annual inspection of the boiler and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burners, and clean or replace any components of the burners as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
   iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the boiler is not inspected or tuned-up as required.

d. The results of any required annual burner 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 of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required boiler inspection and maintenance records are not maintained.

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

e. To ensure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in the affected boiler during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if these records are not maintained or if the boiler fires a fuel other than natural gas or No. 2 fuel oil.

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

f. Semiannual Summary Report. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 B.4.c through e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.

   The report shall include the following:
   i. Company name and address;
   ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;
   v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
   vi. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, §63.7490(d), §63.7499(q, u)]

a. For the existing sources(s) designed to burn light liquid fuel with a heat input capacity 10 million Btu per hour or greater, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" (Subpart 5D) and Subpart A "General Provisions." The Permittee shall comply with the CAA §112(j) standard in Section 2.1. B.4 through **May 19, 2019**. The Permittee shall be subject to the requirements of this standard starting **May 20, 2019**. Note that the requirements of this standard may require action on behalf of the Permittee prior to **May 20, 2019**.

Definitions and Nomenclature [§63.7575]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63 Subpart A General Provisions [§63.7565]

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to Subpart 5D.

Compliance Date [§63. 7510(e), §63.56(b)]

d. The Permittee shall:
   i. Complete the initial tune up and the one-time energy assessment (i.e., Section 2.1 B.5. q through w) no later than **May 20, 2019**.
   ii. Complete the initial compliance requirements in Section 2.1 B.5.j no later than **November 16, 2019** and according to the applicable provisions in §63.7(a)(2).

General Compliance Requirements [§63.7505(a), §63.7500]

e. At all times the affected unit(s) is operating, the Permittee shall be in compliance with the emission standards in Section 2.1 B.5.g, except during periods of startup and shutdown. During startup and shutdown, the Permittee shall comply only with items 5 and 6 of Table 3 of Subpart 5D.

f. At all times, then Permittee shall operate and maintain any affected source (as defined in §63.7490), 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 Administrator that 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.

Emission Limits [15A NCAC 02Q .0508(f), §63.7500(a)(1), Table 2]

g. The affected units shall meet the following emission limits:

Pollutant	Emission Limit
Hydrochloric Acid(HCl)	1.1E-03 lb per MMBtu of heat input
Mercury (Hg)	2.0E-06 lb per MMBtu of heat input
Carbon monoxide (CO)	130 ppm by volume on a dry basis corrected to 3 percent oxygen
Filterable Particulate Matter(PM) or Total Suspended Metals (TSM)	7.9E-03 lb per MMBtu of heat input or 6.2E-05 lb per MMBtu of heat input

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

h. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test(s) are above the limit given in Section 2.1 B.5.g above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Notifications [15A NCAC 02Q .0508(f), §§63.7545, 63.7530]

i. The Permittee shall submit the following notifications:
   i. The Permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.
   ii. For the initial compliance demonstration for each affected source, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all affected sources at the facility The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of §63.7545 as applicable.

   [§§63.9(h)(2)(ii), 63.10(d)(2), 63.7545(e)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these notification requirements are not met.

Initial compliance requirements [15A NCAC 02Q .0508(f), §63.7510]

j. The Permittee shall demonstrate compliance with the limits in Section 2.1 B.5.g by conducting initial performance test(s) and fuel analyses, establishing operating limits and conducting continuous monitoring system (CMS) evaluation(s) as necessary according to §§63.7510, 63.7525 and 63.7530. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Subsequent compliance requirements [15A NCAC 02Q .0508(f), §63.7515]

k. The Permittee shall conduct subsequent performance tests and fuel analyses as necessary according to §63.7515.
   i. If the affected boiler or process heater combusts ultra-low sulfur ***liquid fuel***, the Permittee does not need to conduct further performance tests (stack tests or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the emission limits in Section 2.1 B.5.g providing the Permittee demonstrates ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis.
   ii. If the Permittee intends to use a fuel other than ultra-low sulfur ***liquid fuel***, natural gas, refinery gas, or other gas 1 fuel, the Permittee shall conduct new performance tests within 60 days of burning the new fuel type.

l. The Permittee shall demonstrate continuous compliance with each emission limit and operating limit that applies according to §63.7540.

m. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.k through l are not met.

Monitoring requirements [15A NCAC 2Q .0508(f), §63.7525]

n. The Permittee shall install, operate, and maintain an oxygen trim system, as defined in §63.7575.

o. The Permittee shall meet the requirements for all monitoring systems as applicable according to §63.7525.

p. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.n through o are not met.

Operating Limits [15A NCAC 02Q .0508(f), §63.7500, Table 4 to Subpart 5D]

q. The Permittee shall maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during most recent performance test.

r. The Permittee shall operate the oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test. [§63.7525(a)(7)]

s. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.q through r are not met.

Work Practice Standards [15A NCAC 02Q .0508(f)]

t. The Permittee shall conduct a tune-up of the source(s) every five years as specified below. The Permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up.
   i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months;
   ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
   iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);
   iv. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; and
   v. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

   [§§63.7500(a), §63.7540(a)(10),(12)]

u. Each tune-up shall be conducted no more than 61 months after the previous tune-up. [40CFR 63.7515(d)]

v. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [§63.7540(a)(13), §63.7515(g)]

w. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.t through v are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(f)]

xi. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in Subpart 5D, Table 3, with the extent of the evaluation for items (a) to (e) in Table 3 appropriate for the on-site technical hours listed in §63.7575: An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. [§63.7500(a)(1), Table 3] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Recordkeeping Requirements [15A NCAC 02Q .0508(f), §63.7555]

y. The Permittee shall:
   i. Keep a copy of each notification and report submitted to comply with Subpart 5D, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted.

   [§§63.7555(a)(1), 63.10(b)(2)(xiv)]

   ii. Keep records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations. [§63.10(b)(2)(viii)]
   iii. Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (A) through (C) below:
      A. The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
      B. A description of any corrective actions taken as a part of the tune-up; and
      C. The type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

   [§63.7540(a)(10)(vi)]

iv. For each CEMS, COMS, and continuous monitoring system, keep records according to paragraphs (b)(1) through (5) of §63.7555.
v. Keep records required in Table 8 of Subpart 5D including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies.
vi. Keep the applicable records in paragraphs (d)(1) through (13) of §63.7555.

z. The Permittee shall:
i. Maintain records in a form suitable and readily available for expeditious review;
ii. Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
iii. 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 offsite for the remaining 3 years.
[§63.7560, §63.10(b)(1)]

aa. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.y through z are not met.

Reporting Requirements [15A NCAC 02Q .0508(f), §63.7550]

bb. The Permittee shall submit a compliance report to the DAQ on a semi-annual basis, 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.
i. The first compliance report shall be postmarked on or before **July 30, 2019** and cover the period from **May 20, 2019** through **June 30, 2019**.
ii. The compliance reports shall also be submitted electronically to the EPA via the procedures in §63.7550(h).

cc. The compliance report shall contain:
i. The information in §63.7550(c) as applicable.
ii. For each deviation from an emission limit or operating limit, the report shall contain the information in§§63.7550(d) and (e) as applicable.

dd. Within 60 days after the date of completing each performance test (defined in §63.2) including any associated fuel analyses and/or CEMS performance evaluation (defined in §63.2) as required by Subpart 5D, the Permittee shall submit the results to the DAQ pursuant to 63.10(d)(2) and to the EPA via the procedures in §63.7550(h).

ee. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 B.5.bb through dd are not met.

C. Two natural gas/No. 2 fuel oil-fired boilers (ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10) located at the Manning Drive Steam Plant

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	**Natural gas or No. 2 fuel oil firing** 0.164 lb/million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	**No. 2 fuel oil-firing only** Burn low sulfur fuel 0.3 percent sulfur content by weight or less	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db §60.42b (j)
Sulfur dioxide	**Natural gas firing only** 2.3 lb/million Btu per heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.43b(f) and (g)

Nitrogen dioxide	0.20 lb/million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db, §60.44b (a)(1)
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Filterable PM: 0.014 lb/MMBtu • Mercury (Hg): 3.0e-06 lb/MMBtu • CO: 30 ppmvd, corrected to 7% O_2 **From natural gas firing:** • CO: 66 ppmvd, corrected to 7% O_2	15A NCAC 02D .1109 *[CAA § 112(j)]*
Hazardous air pollutants	**From No. 2 fuel oil firing:** • Hydrochloric Acid (HCl): 1.1E-03 lb/MMBtu • Mercury (Hg): 2.0e-06 lb/MMBtu • CO: 130 ppmvd, corrected to 3% O_2 • Filterable PM: 7.9E-09 lb/MMBtu • Suspended Metals (TSM): 6.2E-05 lb/MMBtu	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD

1. **15A NCAC 02D .0503: PARTICULATE EMISSIONS FROM FUEL BURNING INDIRECT HEAT EXCHANGERS** - ***NATURAL GAS OR NO. 2 FUEL OIL FIRING***
   a. Emissions of particulate matter from the combustion of natural gas or No. 2 fuel oil that are discharged from boilers **(ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10)** into the atmosphere shall not exceed 0.164 pounds per million Btu heat input.

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

   Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]
   c. No monitoring, recordkeeping, or reporting is required for particulate emissions from the firing of natural gas or No. 2 fuel oil in these sources **(ID Nos. Es-004-Boiler #9 and ES-005-Boiler #10)**.

2. **15A NCAC 02D .0524: NSPS 40 CFR PART 60 SUBPART Db** - ***WHEN FIRING NO. 2 FUEL OIL*** **(For boilers installed after February 28, 2005)**
   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 Db, including Subpart A "General Provisions."

   Emission Limitations [15A NCAC 02D .0524]
   b. **Sulfur Dioxide** - The maximum sulfur content of No. 2 fuel oil fired in each boiler **(ID No. ES-004-Boiler #9 or ES-005-Boiler#10)** shall not exceed 0.3 sulfur percent by weight.

   c. **Nitrogen Dioxide** - The maximum nitrogen dioxide emissions when firing natural gas or No. 2 fuel oil shall not exceed 0.20 pounds per million Btu heat input for boilers with a high heat release rate.

   d. **Particulate** – Boilers **(ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10)** will burn fuel oil that contains no more than 0.3 weight percent sulfur, or will burn natural gas that does not have a PM standard under §60.43b, and these boilers do not use a post-combustion technology to reduce SO_2 or PM emissions. Therefore, these boilers are not subject to the PM limits under §60.43b(h)(1).

   e. **Opacity** - When firing No. 2 fuel oil or natural gas, each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

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

f. i. A continuous emissions monitor for nitrogen dioxide, and opacity emissions shall be installed, calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and Appendix F "Quality Assurance Procedures."

ii. The owner or operator of an affected facility who elects to demonstrate that the affected facility combust only very low sulfur oil under §60.42b (j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b.

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

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

g. In addition to any other recordkeeping required by 40 CFR § 60.49b or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during **each month** when firing No. 2 fuel oil. 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. In addition to any other reporting required by 40 CFR § 60.49b or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:

i. Any excess opacity emission reports as measured by the continuous emission monitor (CEM), postmarked on or before January 30, and July 30 each calendar year for the preceding **six-month period**. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.

ii. The owner or operator of an affected facility who elects to demonstrate that the affected facility combust only very low sulfur oil under §60.42b (j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b.

iii. The owner or operator of each affected facility subject to the sulfur dioxide, particulate matter, and/or nitrogen oxides emissions limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

iv. All records required under this section shall be maintained by the owner or operator of an affected facility for a period of two years following the date of such record.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from boilers **(ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10)** while firing natural gas shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 C.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of natural gas in these sources **(ID Nos. ES-004-Boiler #9 and ES-005-Boiler #10)**.

4. **15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters**
   a. The Permittee shall comply with this CAA §112(j) standard until **May 19, 2019**. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is **May 20, 2019**.
   b. Emissions of the following regulated pollutants shall not exceed the emissions limits listed below for the affected boilers **(ID Nos. ES-004-Boiler#9 and ES-005-Boiler#10)**:
      i. From No. 2 fuel oil firing:
         (A) Filterable PM: 0.014 lbs/MMBtu
         (B) Mercury (Hg): 3.0e-06 lbs/MMBtu
         (C) Carbon Monoxide (CO): 30 ppmvd, corrected to 7% oxygen
      ii. From natural gas firing:
         (A) Carbon Monoxide (CO): 66 ppmvd, corrected to 7% oxygen

Boiler Inspection and Maintenance [15A NCAC 02Q .0508(f)]

   c. The Permittee shall perform an annual inspection of the boilers and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
      i. Inspect the burners, and clean or replace any components of the burners as necessary;
      ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
      iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
      iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

      The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the boilers are not inspected or tune-up is not performed or these requirements are not complied with.
   d. The results of any required annual burner 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 of each recorded action;
      ii. The results of each inspection; and,
      iii. The results of any maintenance performed on the boilers.

      The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required boiler inspection and maintenance records are not maintained.

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

   e. To ensure compliance, each calendar month the Permittee shall create and retain a record of the amounts of <u>each fuel fired</u> in the affected boilers during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if these records are not maintained or if either boiler fires a fuel other than natural gas or No. 2 fuel oil.

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

   f. <u>Semiannual Summary Report</u>. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 C.4.c through e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.
      The report shall include the following:
      i. Company name and address;
      ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
      iii. Date of report and beginning and ending dates of the reporting period;
      iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with

units of measure;

v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,

vi. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, §63.7490(d), §63.7499(q, u)]

a. For the existing sources(s) designed to burn light liquid fuel with a heat input capacity 10 million Btu per hour or greater, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" (Subpart 5D) and Subpart A "General Provisions." The Permittee shall comply with the CAA §112(j) standard in Section 2.1. C.4 through **May 19, 2019**. The Permittee shall be subject to the requirements of this standard starting **May 20, 2019**. Note that the requirements of this standard may require action on behalf of the Permittee prior to **May 20, 2019**.

Definitions and Nomenclature [§63.7575]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63 Subpart A General Provisions [§63.7565]

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to Subpart 5D.

Compliance Date [§63. 7510(e), §63.56(b)]

d. The Permittee shall:

i. Complete the initial tune up and the one-time energy assessment (i.e., Section 2.1 C.5. q through w) no later than **May 20, 2019**.

ii. Complete the initial compliance requirements in Section 2.1 C.5.j no later than **November 16, 2019** and according to the applicable provisions in §63.7(a)(2).

General Compliance Requirements [§63.7505(a), §63.7500]

e. At all times the affected unit(s) is operating, the Permittee shall be in compliance with the emission standards in Section 2.1 C.5.g, except during periods of startup and shutdown. During startup and shutdown, the Permittee shall comply only with items 5 and 6 of Table 3 of Subpart 5D.

f. At all times, then Permittee shall operate and maintain any affected source (as defined in §63.7490), 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 Administrator that 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.

Emission Limits [15A NCAC 02Q .0508(f), §63.7500(a)(1), Table 2]

g. The affected units shall meet the following emission limits:

Pollutant	Emission Limit
Hydrochloric Acid(HCl)	1.1E-03 lb per MMBtu of heat input
Mercury (Hg)	2.0E-06 lb per MMBtu of heat input
Carbon monoxide (CO)	130 ppm by volume on a dry basis corrected to 3 percent oxygen

Pollutant	Emission Limit
Filterable Particulate Matter(PM) or Total Suspended Metals (TSM)	7.9E-03 lb per MMBtu of heat input or 6.2E-05 lb per MMBtu of heat input

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

h. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test(s) are above the limit given in Section 2.1 C.5.g above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Notifications [15A NCAC 02Q .0508(f), §§63.7545, 63.7530]

i. The Permittee shall submit the following notifications:
   i. The Permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.
   ii. For the initial compliance demonstration for each affected source, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all affected sources at the facility The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of §63.7545 as applicable.

   [§§63.9(h)(2)(ii), 63.10(d)(2), 63.7545(e)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these notification requirements are not met.

Initial compliance requirements [15A NCAC 02Q .0508(f), §63.7510]

j. The Permittee shall demonstrate compliance with the limits in Section 2.1 C.5.g by conducting initial performance test(s) and fuel analyses, establishing operating limits and conducting continuous monitoring system (CMS) evaluation(s) as necessary according to §§63.7510, 63.7525 and 63.7530. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Subsequent compliance requirements [15A NCAC 02Q .0508(f), §63.7515]

k. The Permittee shall conduct subsequent performance tests and fuel analyses as necessary according to §63.7515.
   i. If the affected boiler or process heater combusts ultra-low sulfur ***liquid fuel***, the Permittee does not need to conduct further performance tests (stack tests or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the emission limits in Section 2.1 C.5.g providing the Permittee demonstrates ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis.
   ii. If the Permittee intends to use a fuel other than ultra-low sulfur ***liquid fuel***, natural gas, refinery gas, or other gas 1 fuel, the Permittee shall conduct new performance tests within 60 days of burning the new fuel type.

l. The Permittee shall demonstrate continuous compliance with each emission limit and operating limit that applies according to §63.7540.

m. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.k through l are not met.

Monitoring requirements [15A NCAC 2Q .0508(f), §63.7525]

n. The Permittee shall install, operate, and maintain an oxygen trim system, as defined in §63.7575.

o. The Permittee shall meet the requirements for all monitoring systems as applicable according to §63.7525.

p. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.n through o are not met.

Operating Limits [15A NCAC 02Q .0508(f), §63.7500, Table 4 to Subpart 5D]

q. The Permittee shall maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during most recent performance test.
r. The Permittee shall operate the oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test. [§63.7525(a)(7)]
s. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.q through r are not met.

Work Practice Standards [15A NCAC 02Q .0508(f)]

t. The Permittee shall conduct a tune-up of the source(s) every five years as specified below. The Permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up.
   i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months;
   ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
   iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);
   iv. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; and
   v. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

   [§§63.7500(a), §63.7540(a)(10),(12)]
u. Each tune-up shall be conducted no more than 61 months after the previous tune-up. [40CFR 63.7515(d)]
v. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [§63.7540(a)(13), §63.7515(g)]
w. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.t through v are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(f)]

xii. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in Subpart 5D, Table 3, with the extent of the evaluation for items (a) to (e) in Table 3 appropriate for the on-site technical hours listed in §63.7575: An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. [§63.7500(a)(1), Table 3] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Recordkeeping Requirements [15A NCAC 02Q .0508(f), §63.7555]

y. The Permittee shall:
   i. Keep a copy of each notification and report submitted to comply with Subpart 5D, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted.

   [§§63.7555(a)(1), 63.10(b)(2)(xiv)]
   ii. Keep records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations. [§63.10(b)(2)(viii)]

iii. Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (A) through (C) below:
   A. The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
   B. A description of any corrective actions taken as a part of the tune-up; and
   C. The type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

[§63.7540(a)(10)(vi)]

iv. For each CEMS, COMS, and continuous monitoring system, keep records according to paragraphs (b)(1) through (5) of §63.7555.

v. Keep records required in Table 8 of Subpart 5D including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies.

vi. Keep the applicable records in paragraphs (d)(1) through (13) of §63.7555.

z. The Permittee shall:
   i. Maintain records in a form suitable and readily available for expeditious review;
   ii. Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
   iii. 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 offsite for the remaining 3 years.

   [§63.7560, §63.10(b)(1)]

aa. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.y through z are not met.

Reporting Requirements [15A NCAC 02Q .0508(f), §63.7550]

bb. The Permittee shall submit a compliance report to the DAQ on a semi-annual basis, 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.
   i. The first compliance report shall be postmarked on or before **July 30, 2019** and cover the period from **May 20, 2019** through **June 30, 2019**.
   ii. The compliance reports shall also be submitted electronically to the EPA via the procedures in §63.7550(h).

cc. The compliance report shall contain:
   i. The information in §63.7550(c) as applicable.
   ii. For each deviation from an emission limit or operating limit, the report shall contain the information in§§63.7550(d) and (e) as applicable.

dd. Within 60 days after the date of completing each performance test (defined in §63.2) including any associated fuel analyses and/or CEMS performance evaluation (defined in §63.2) as required by Subpart 5D, the Permittee shall submit the results to the DAQ pursuant to 63.10(d)(2) and to the EPA via the procedures in §63.7550(h).

ee. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 C.5.bb through dd are not met.

D. One coal handling, conveying, crushing, and storage system consisting of:

* **Three enclosed railcar dump pits (ID Nos. ES-010.1, 010.2, & 010.3) with associated wet dust suppression systems (ID No. CD-018),**
* **One coal silo (ID No. ES-1) with associated bagfilter (ID No. CD-011),**
* **One coal silo (ID No. ES-2) with associated bagfilter (ID No. CD-012),**

* **One coal crusher building (ID No. ES-010A) with associated bagfilter (ID No. CD-013)**
* **Five silo feed conveyors (ID Nos. ES-3.1, 3.2, 3.3, 3.4, & 3.5) with associated bagfilter (ID No. CD-019)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ $P < 30$ tpy; $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy Where: E = allowable particulate emission rate (lbs/hr) P= process weight rate in tons/hr	15A NCAC 02D .0515
Visible emissions	20 percent opacity	15A NCAC 02D .0524 **40 CFR Part 60, Subpart Y**

1. **15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**
   a. Emissions of particulate matter from the coal handling, conveying, crushing, and storage system shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad P < 30 \text{ tpy; and}$$
$$E = 55.0 \times P^{0.11} - 40 \quad P \geq 30 \text{ tpy}$$

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 provided by the equation in Section 2.1 D.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 coal handling, conveying, crushing, and storage system shall be controlled by bagfilters **(ID Nos. CD-011, 012, 013, and 019)** as described above. To ensure compliance, the Permittee shall perform the following inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturing's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly external visual inspection of the system ductwork and material collection units for leaks; and
   ii. an annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters structural integrity to be performed.

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

d. The records of inspection and maintenance shall be maintained in a logbook, updated on a monthly basis (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 findings of each inspection; and

iii. the records of any maintenance performed on any control device; and
iv. any variance from manufacturing'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 records of any maintenance performed on any control device within 30 days of receipt of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1 D.1.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0524: 40 CFR PART 60, SUBPART Y - CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the coal handling, conveying, crushing, and storage system shall not be more than 20 percent opacity when in operation.

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 provided in Section 2.1 D.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

c. The Permittee may operate the three enclosed railcar dump pits **(ID No. 010)** without concurrent operation of the wet spray dust suppression system (100 gallons per minute water injection rate, **ID No. 018**) during times when the received coal contains sufficient moisture to prevent visible emissions from exceeding 20 percent opacity. During unloading operations when the wet suppression system is not in use, a currently certified visible emissions observer (EPA Method 9) shall observe the building vent emissions and record observations in a logbook (written or electronic format). The water sprays shall be turned on when any one opacity reading exceeds twenty percent. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring requirements are not complied with.

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

d. The records of the monitoring shall be maintained in a logbook, updated on a monthly basis (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 findings 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 records 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)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 D.2.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

E. One ash handling, storage, and loading system consisting of:

* **One ash storage silo equipped with dry loadout system (ID No. ES-030) and associated bagfilter (ID No. CD-031)**
* **One wet loadout system (ID No. ES-030A) with water injection system (ID No. CD-032)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ $P < 30$ tpy; $E = 55.0 \times P^{0.11} - 40$ $P \geq 30$ tpy Where: E = allowable particulate emission rate in lbs/hr P = process weight rate in tons/hr	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 the ash handling, storage, and loading system shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad P < 30 \text{ tpy; and}$$
$$E = 55.0 \times P^{0.11} - 40 \quad P \geq 30 \text{ tpy}$$

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 provided in Section 2.1 E.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 ash storage silo shall be controlled by a bagfilter (ID No. CD-031). To ensure compliance, the Permittee shall perform inspections and maintenance consisting of routine bag cleaning and replacement and pulse air system check, as recommended by the manufacturer. In addition to the manufacturer's recommendations, the inspection and maintenance requirement shall include the following:
   i. a monthly external 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 bagfilters structural integrity to be performed during the period of seasonal down time.

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

d. The records of inspection and maintenance shall be maintained in a logbook, updated on a monthly basis (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 findings of each inspection; and
   iii. the records of any maintenance performed on any control device.

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 records of any maintenance performed on any control device within 30 days of receipt of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1 E.1.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.

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

a. Visible emissions from the ash handling, storage, and loading system shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit provided in Section 2.1 E.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 day when the system is in operation, the Permittee shall observe the emission points of this source for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission sources is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. If visible emissions from this source are observed to be above normal, the Permittee shall either:

(A) take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or

(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 above-normal emissions are not corrected per c.i. (A) above;

(B) the demonstration in c.i. (B) above cannot be made; or

(C) the daily observation are not conducted per c.i. above.

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

d. The records of the monitoring shall be maintained in a logbook, updated on a monthly basis (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 findings 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 records 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 activities given in Section 2.1 E.2.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the

preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

F. Four No. 2 fuel oil storage tanks (ID Nos. ES-T-001 through T-004)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile organic compounds	No applicable requirements	None

G. Eighty-one diesel-fired, compression ignition, emergency generators; Two natural gas-fired, spark ignition, emergency generators; and Three No. 2 fuel oil-fired fire water pumps

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	See Multiple Emissions Section 2.2 A.	15A NCAC 02D .0501(c)
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity each	15A NCAC 02D .0521
Multiple pollutants	See Multiple Emissions Section 2.2 E. **(ID Nos. ES-Gen-2, ES-EG#13, ES-EG-#17 to ES-EG-#20, ES-Gen#21, ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, ES-Gen-71, ES-Gen-72, ES-Gen-79 to ES-Gen-81, ES-Gen-84, ES-FP-1, and ES-FP-3 only)**	15A NCAC 02D .0524 [40 CFR Part 60, Subpart IIII]
Hazardous air pollutants	Operate as an emergency use only engine.	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ
Hazardous air pollutants	Comply with work practices beginning May 3, 2013 for existing CI emergency generators with a site rating no more than 500 hp and beginning October 19, 2013 for existing SI emergency generators with a site rating no more than 500 hp.	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ
Hazardous air pollutants	New Stationary RICE with a site rating of equal to or less than 500 brake HP, which commenced construction on or after June 12, 2006, *subject to Regulations under 40 CFR Part 60* must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part. **(ID No. ES-Gen-13 only)**	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ [63.6590(c)]

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

a. Emissions of sulfur dioxide from each emergency generator and fire water pump shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

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

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from firing diesel fuel in any emergency generator or fire water pump.

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

a. Visible emissions from the emergency generators and fire water pumps shall not be more than 20 percent opacity each 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 provided in Section 2.1 G.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting

c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of diesel fuel in any emergency generator or fire water pump.

3. 15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines (RICE)

Table 2.1.G.3-1: New and Reconstructed Emergency RICE > 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#7	Diesel-fired	1250 kW	Michael Hooker Research Center
ES-EG#8	Diesel-fired	800 kW	Chapman Hall
ES-EG#9	Diesel-fired	1000 kW	Caudill Labs
ES-EG#10	Diesel-fired	800 kW	Bondurant Hall
ES-EG#11	Diesel-fired	1750 kW	Burnett-Womack Building
ES-EG#12	Diesel-fired	1250 kW	Mary Ellen Jones Building
ES-EG#13	Diesel-fired	2000 kW	Genetic Medicine Building
ES-EG#14	Diesel-fired	900 kW	440 West Franklin Building
ES-EG#15	Diesel-fired	2000 kW	Rams Head Center
ES-EG#16	Diesel-fired	2000 kW	ITS Building
ES-EG#17	Diesel-fired	1000 kW	Brinkhouse-Bullitt Building
ES-EG#18	Diesel-fired	1000 kW	Venable Hall
ES-EG#19	Diesel-fired	2500 kW	Imaging Research Building
ES-EG#20	Diesel-fired	2000 kW	Genomic Science Building
ES-EG#21	Diesel-fired	1250 kW	Dental Research Building
ES-Gen-2	Diesel-fired	500 kW	Ambulatory Care Center
ES-Gen-48	Diesel-fired	500 kW	Kenan Stadium
ES-Gen-76	Diesel-fired	500 kW	Northeast Chiller

Table 2.1.G.3-2: Existing Emergency RICE > 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-EG#1	Diesel-fired	900 kW	EPA Building
ES-EG#2	Diesel-fired	1600 kW	Thurston Bowles Building
ES-EG#3	Diesel-fired	728 kW	Lineberger Cancer Research Bldg
ES-EG#4	Diesel-fired	1000 kW	Taylor Hall
ES-EG#5	Diesel-fired	910 kW	Neuroscience Research Building
ES-EG#6	Diesel-fired	1500 kW	Medical Biomolecular Research
ES-Gen-30	Diesel-fired	535 kW	Lineberger Building Addition
ES-Gen-40	Diesel-fired	500 kW	Phillips Hall
ES-Gen-50	Diesel-fired	600 kW	Beard Hall
ES-Gen-57	Diesel-fired	600 kW	Bioinformatics Building
ES-Gen-59	Diesel-fired	500 kW	Glaxo Building

Table 2.1.G.3-3: New and Reconstructed Emergency RICE ≤ 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-12	Diesel-fired	150 kW	Craige Parking Deck
ES-Gen-13	Diesel-fired	300 kW	Davie Hall
ES-Gen-43	Diesel-fired	125 kW	Medical Research Building B
ES-Gen-49	Diesel-fired	230 kW	Wilson Library Stacks
ES-Gen-71	Diesel-fired	110 kW	Global Education Building
ES-Gen-72	Diesel-fired	30 kW	Hamilton Hall
ES-Gen-79	Diesel-fired	300 kW	Carmichael Auditorium
ES-Gen-80	Diesel-fired	300 kW	Hinton James Dorm
ES-Gen-81	Diesel-fired	250 kW	Physicians Office Building
ES-Gen-84	Diesel-fired	250 kW	Bell Tower Parking Deck
ES-FP-1	Diesel-fired	77 Hp	Kenan Stadium
ES-FP-3	Diesel-fired	225 Hp	Davis Library

Table 2.1.G.3-4: Existing Emergency RICE ≤ 500 hp

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-1	Diesel-fired	25 kW	Ackland Art Museum
ES-Gen-3	Diesel-fired	30 kW	Avery Dorm
ES-Gen-4	Diesel-fired	20 kW	Cheek/Clark Building
ES-Gen-7	Diesel-fired	35 kW	Security Services Building
ES-Gen-8	Diesel-fired	350 kW	Carmichael Dorm
ES-Gen-9	Diesel-fired	60 kW	Carolina Inn
ES-Gen-10	Diesel-fired	25 kW	Center for Dramatic Art
ES-Gen-11	Diesel-fired	250 kW	Craige Dorm
ES-Gen-14	Diesel-fired	210 kW	Davis Library
ES-Gen-15	Diesel-fired	250 kW	Ehringhaus Dorm

ID Number	Source Description	Size of Generator (Maximum Output)	Location
ES-Gen-18	Diesel-fired	150 kW	Fetzer Gym
ES-Gen-19	Diesel-fired	125 kW	Fordham Hall
ES-Gen-20	Diesel-fired	150 kW	Cardinal Deck
ES-Gen-21	Nat. gas- fired	40 kW	Old Dental School Building
ES-Gen-22	Diesel-fired	100 kW	Hill Alumni Center
ES-Gen-23	Diesel-fired	250 kW	Hilton James Dorm
ES-Gen-24	Diesel-fired	80 kW	Kenan Center
ES-Gen-25	Diesel-fired	25 kW	Kenan Field (North)
ES-Gen-26	Diesel-fired	30 kW	Kenan Field (North-New)
ES-Gen-27	Diesel-fired	25 kW	Kenan Field (South)
ES-Gen-28	Diesel-fired	100 kW	Kenan Football Center
ES-Gen-29	Diesel-fired	45 kW	Kenan Chemistry Lab
ES-Gen-31	Diesel-fired	250 kW	McGavran Greenberg Building
ES-Gen-32	Diesel-fired	100 kW	MacNider Hall
ES-Gen-33	Diesel-fired	175 kW	McColl Building
ES-Gen-35	Diesel-fired	125 kW	Morehead Chemistry Lab
ES-Gen-36	Nat. gas-fired	30 kW	Morehead Planetarium
ES-Gen-37	Diesel-fired	250 kW	Morrison Dorm
ES-Gen-39	Diesel-fired	60 kW	Parker Dorm
ES-Gen-41	Diesel-fired	20 kW	Security Services Building
ES-Gen-42	Diesel-fired	125 kW	Dean Smith Center
ES-Gen-44	Diesel-fired	275 kW	Tarrson Hall
ES-Gen-45	Diesel-fired	150 kW	Tate-Turner-Kuralt Building
ES-Gen-46	Diesel-fired	260 kW	Taylor Student Health Services
ES-Gen-47	Diesel-fired	50 kW	Van Hecke-Wettach Hall
ES-Gen-58	Diesel-fired	230 kW	Carrington Building
ES-Gen-60	Diesel-fired	148 kW	Health Sciences Library
ES-Gen-61	Diesel-fired	60 kW	Knapp Building
ES-Gen-62	Diesel-fired	300 kW	RB House Library
ES-Gen-67	Diesel-fired	125 kW	Memorial Hall
ES-Gen-68	Diesel-fired	105 kW	Dogwood Deck
ES-Gen-74	Diesel-fired	250 kW	Joyner, Alexander Dorms
ES-Gen-75	Diesel-fired	250kW	McIver, Kenan, Alderman Dorms
ES-Gen-77	Diesel-fired	100 kW	Jackson Circle Parking Deck
ES-FP-2	Diesel-fired	110 Hp	McColl Building

a. The Permittee shall meet the requirements of 40 CFR 63 Subpart ZZZZ for emergency generators (ID Nos. ES-Gen-12, ES-Gen-13, and ES-Gen-49) and diesel-fired fire water pump (ID No. ES-FP-3) by meeting the requirements in 40 CFR 60, Subpart IIII for compression ignition engines. No further requirements shall apply to RICE of the emergency generators (ID Nos. ES-Gen-12, ES-Gen-13, and ES-Gen-49) and diesel-fired fire water pump (ID No. ES-FP-3) under 40 CFR 63. [§63.6590(c)]

Initial Notification [40 CFR §63.9]

b. The Permittee shall comply with the initial notification requirements of 40 CFR part 63 Subpart A "General Provisions," according to the applicability of Subpart A to such sources, as identified in

Table No. 8 in Subpart ZZZZ, "Applicability of General Provisions to Subpart ZZZZ" for each affected emergency generator and fire water pump no later than 120 days after Initial start-up. The notification requirements do not apply to the existing emergency RICE listed in Tables 2.1.G.3-2 and 2.1.G.3-4 above. [40 CFR §63.6645(a)]

c. In accordance with 40 CFR §63.9 (b)(2), the initial notification shall be submitted not later than 120 calendar days after startup of the emergency generator or fire water pump and shall provide the following information:
   i. The name and address of the owner or operator;
   ii. The address (i.e., physical location) of the affected source;
   iii. An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;
   iv. A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted;
   v. A statement of whether the affected sources are a major source or an area source.

d. The Permittee shall submit the initial notification to the following agencies:
   i. North Carolina Division of Air Quality, Permitting Section,
   ii. North Carolina Division of Air Quality, Regional Office Supervisor, and
   iii. EPA-Region IV.

Recordkeeping Requirement For Applicability Determination [40 CFR §63.10(b)(3)]

e. Stationary emergency RICE with a site rating of more than 500 brake horsepower (hp), for which construction or reconstruction was commenced on or after December 19, 2002 and prior to June 12, 2006, do not have to meet the requirements of subpart ZZZZ and of subpart A of this part except for the initial notification requirements in 2.1.G.3.b to d above. Stationary emergency RICE with a site rating of more than 500 brake horsepower (hp), for which construction or reconstruction was commenced on or after June 12, 2006 do not have to meet the requirements of subpart ZZZZ and of subpart A of this part except for the initial notification requirements in 2.1.G.3.b to d above and the operating restrictions in 2.1.G.3.e below.

The Permittee shall maintain the applicability determination for exclusion of the emergency RICE listed in Table 2.1.G.3-1 above from the requirements of 40 CFR Part 63, Subpart ZZZZ and Subpart A of this part, on site for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The analyses, or other information, that demonstrates the exemption from the requirements of Subpart ZZZZ and Part A of this Subpart, shall be signed by the person making the determination.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not maintained.

Operating Restrictions. [40 CFR §63.6640 (f)]

f. The Permittee shall operate each emergency stationary ICE in Tables 2.1 G.3-1 through 4 above, according to the requirements in paragraphs (i) through (iii) below. In order for the engine to be considered an emergency stationary ICE under this Subpart, any operation other than emergency operation, maintenance and testing, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (i) through (iii) below is prohibited. If you do not operate the engine according to the requirements in paragraphs (i) through (iii) below, the engine will not be considered an emergency engine under this Subpart and shall meet all requirements for non-emergency engines.

   i. There is no time limit on the use of emergency stationary ICE in emergency situations.

   ii. The Permittee may operate an emergency stationary ICE for any combination of the purposes specified in paragraph (A) below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (iii) below counts as part of the 100 hours per calendar year allowed by this paragraph (f).

(A) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

iii. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(ii) of this section. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in this Section 2.1 G.3.f. are not met. [§63.6640(f)]

Compliance Date [40 CFR § 63.6595 (a)]

g. Beginning May 3, 2013, the Permittee shall comply with the operating limits, maintenance, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1.G.3.j. to 2.1.G.3.p. below for the existing compression ignition (CI) emergency engines listed in Table 2.1.G.3-4.

h. Beginning October 19, 2013, the Permittee shall comply with the operating limits, maintenance, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1.G.3.j. to 2.1.G.3.p. below for the existing spark ignition (CI) emergency engines listed in Table 2.1.G.3-4.

Work Practices Applicable to Table 2.1.G.3-4 RICE (except during startup) [§63.6603 and 63.6640;Table 2c]

i. For each existing emergency generator and fire water pump with a site rating no more than 500 hp, the Permittee shall change oil and filter every 500 hours of operation or annually, whichever comes first.

j. An oil analysis program may be used to extend the time allowed in 2.1.G.3.h. above between oil changes. The analysis program must, at a minimum, analyze the (1) total base number, (2) viscosity, and (3) percent water content. An oil change is not required if all three of the following conditions are meet:

   i. the total base number is greater than or equal to 30 percent of the total base number of the oil when new;

   ii. the viscosity of the oil has not changed by more than 20 percent from the viscosity of the oil when new; and

   iii. the percent water content (by volume) is less than or equal to 0.5.

   If one of the above limits is exceeded, the owner or operator must change the oil within 2 days of receiving the results of the analysis or before commencing operation, whichever is later. If using an oil analysis program to extend the time between oil changes, the owner or operator must keep records of the results of the analysis and the oil changes for the engine and include the analysis program in the maintenance plan for the engine.

k. For each existing emergency generator and fire water pump, the Permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first.

l. For each emergency generator and fire water pump, the Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in Sections 2.1 G.3.i. through l. above are not met.

Work Practices Applicable to Table 2.1.G.3-4 RICE (during startup) [40 CFR 63.6625(h)]

m. The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes for each existing emergency generator and fire water pump.

Monitoring/Operation/Maintenance Requirements Applicable to Table 2.1.G.3-4 RICE

n. The Permittee shall operate and maintain the existing stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; *OR* develop and follow a site specific maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good practice for minimizing air emissions.

o. The Permittee shall install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in Section 2.1 G.3.n. and o. above are not met.

Recordkeeping/Reporting Requirements

p. The Permittee shall maintain records of the following:
   i. A copy of each notification and report that is submitted to comply with subpart ZZZZ (Note: existing RICE are <u>not</u> required to submit an initial notification).
   ii. The occurrence and duration of each malfunction of each stationary RICE and records of corrective actions taken during periods of malfunction to minimize emissions.
   iii. A description of the maintenance conducted on each stationary RICE.
   iv. The records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in § 63.6640(f)(2)(ii) or (iii) or § 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

q. The Permittee shall keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records must be in a suitable form and be readily available for expeditious review.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records required in Section 2.1 G.3.p and q above are not maintained or the requirements are not met.

r. The Permittee shall submit a semi-annual compliance report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The first report shall be submitted no later than July 30, 2013. The report must contain a description and the corrective actions taken for all deviations from any operating limitation and any malfunction during the reporting period. If there are no deviations from any operating limitations (work practice requirements), provide a statement that there were no deviations during the reporting period.

Applicability [40 CFR 63.6585, 6590(a)(2)(ii)]

s. For this source (ID No. ES-Gen-13) (new emergency stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions) the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart ZZZZ, "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines" and Subpart A "General Provisions."

Stationary RICE subject to Regulations under 40 CFR Part 60 [15 A NCAC 02Q. 0508(f)]

t. Pursuant to 40 CFR 63.6590(c)(6), this source (ID No. ES-Gen-13) must meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A by meeting the requirements of 40 CFR part 60 Subpart

IIII. No further requirements apply for these engines under 40 CFR 63 Subpart ZZZZ and Subpart A.

If the requirements in condition t. are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

4. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. For completion of the two-step significant modification process pursuant to 15A NCAC 02Q .0501(c)(2) or (d)(2), the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of beginning operation of this source **(ID No. ES-FP-3)**.

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

b. The Permittee shall notify the Regional Office in writing of the date of beginning operation of this source **(ID No. ES-FP-3)**, postmarked no later than 30 days after such date.

H. Two No. 2 fuel oil-fired, compression ignition, non-emergency generators

ID Number	Source Description	Size of Generator	Location
ES-006 – MACT	No. 2 fuel oil	2000 kW maximum output	Cogeneration Facility
ES-007 – MACT	No. 2 fuel oil	2000 kW maximum output	Cogeneration Facility

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	See Multiple Emissions Section 2.2.A	15A NCAC 02D .0501(c)
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity each	15A NCAC 02D .0521
Hazardous air pollutants	Work practice standards, emission limits, performance testing	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ

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

a. Emissions of sulfur dioxide from generators **(ID Nos. ES-006 and ES-007)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

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

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from firing No. 2 fuel oil in any generator.

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

a. Visible emissions from the generators **(ID Nos. ES-006 and ES-007)** shall not be more than 20 percent opacity each 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 provided in Section 2.1 H.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting

c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of No. 2 fuel oil in generators **(ID Nos. ES-006 and ES-007)**.

3. 15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For "New" Non-emergency, Compression Ignition, Stationary Reciprocating Internal Combustion Engines

- ES-006 (2000 kW)
- ES-007 (2000 kW)

a. General Provisions [40 CFR §63.6665]

The Permittee shall comply with the requirements of 40 CFR part 63 Subpart A "General Provisions," according to the applicability of Subpart A to such sources, as identified in Table No. 8 in Subpart ZZZZ, "Applicability Of General Provisions to Subpart ZZZZ".

b. Emission Limitations [40 CFR §63.6600(b)]

i. Reduce CO emissions by 70 percent or more at 100 percent load plus or minus 10 percent; or

ii. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 parts per billion by volume (ppbvd) or less at 15 percent O_2.

c. Operating Limitations (using an oxidation catalyst) [40 CFR §63.10(b)(3), §63.6600]

i. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than two inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and

ii. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 degrees Fahrenheit, and less than or equal to 1350 degrees Fahrenheit.

d. General Requirements [40 CFR §63.6605]

i. You must be in compliance with the emission limitations and operating limitations in this Subpart that apply to you at all times, except during periods of startup, shutdown, and malfunction.

ii. If you must comply with emission limitations and operation limitations, you must operate and maintain your stationary RICE, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

e. Initial Performance Test [40 CFR §63.6610]

i. You must conduct the initial performance test or other initial compliance demonstrations in Table 4 of this Subpart that apply to you within 180 days after startup. Each performance test must be conducted according to the requirements in 40 CFR §63.7(e). You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR §63.7(e)(1). You must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR §63.7(e)(3). Each test run must last at least 1 hour.

(A) To comply with the requirement to reduce CO emissions, you must measure the O_2 and CO at the inlet and outlet of the control device using a portable CO and O_2 analyzer.

(B) Measurements to determining O_2 must be made at the same time as the measurements for CO concentration using ASTM D6522-00. Methods 3A and 10 may be used as alternatives to ASTM D6522-00. The CO concentration must be at 15% percent O_2, on a dry basis.

(C) To comply with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust, you must:

(1) Select the sampling port location and the number of traverse points using Method 1 or 1A OF 40 CFR PART 60, APPENDIX A. [§63.7(d)(1)(i)] If using a control device the sampling site must be located at the outlet of the control device.

(2) Determine the O_2 concentration of the stationary RICE exhaust at the sampling port location using Method 3 or 3A or 3b of 40 CFR Part 60, Appendix A. Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde concentration.

(3) Measure moisture content of the stationary RICE exhaust at the sampling port location using Method 4 of 40 CFR Part 60, Appendix A, or Test Method 320 of 40 CFR Part 63, Appendix A or ASTM D 6348-03. Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.

(4) Measure formaldehyde at the exhaust of the stationary RICE using Method 320 or 323 of 40 CFR Part 60, Appendix A, or ASTM D6348-03, provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130. Formaldehyde concentration must be at 15 percent O_2, on a dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

If the results of this test are above the limit provided in Section 2.1 H.3.b above or if the Permittee does not conduct the initial performance test as required in this Section 2.1 H.3.e above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

f. <u>Monitoring Requirements</u> <u>[40 CFR §63.6625, §63.6630, §63.6635, and §63.6640]</u>

i. If you are required to install a Continuous Parameter Monitoring System (CPMS) as specified in Table 5 of this Subpart, you must install, operate, and maintain each CPMS according the requirements in §63.8.

ii. You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this Subpart.

iii. You must submit the notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

iv. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously at all times that stationary RICE is operating.

v. You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must however, use all the valid data collected during all other periods.

vi. You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 2a and 2b of this Subpart that apply. These instances are deviations from the emission and operating limitations in this Subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must re-establish the values of the operating parameters measured during the initial performance test. When you re-establish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to you stationary RICE.

vii. During periods of startup, shutdown, and malfunction you must operate in accordance with your startup, shutdown, and malfunction plan. Consistent with §63.7(e)(1), deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the startup, shutdown, and malfunction plan. For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations.

viii. You must also report each instance in which you did not meet the requirements in Table 8 "General Provisions" of this Subpart.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the requirements in Section 2.1 H. 3.f. above are not met.

g. **Recordkeeping** [40 CFR §63.6655 and §63.6650]

i. If you must comply with the emission and operating limitations of this Subpart, you must keep the following records:
   (A) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).
   (B) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
   (C) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

ii. For each CMPS, you must keep following records:
   (A) Records described in §63.10(b)(2)(vi) through (ix).
   (B) Previous (i.e. superseded) versions of the performance evaluation plan as required §63.8(d)(3).
   (C) Requests for alternatives to the relative accuracy test for CPMS as required in 63.8(f)(6)(i), if applicable.

iii. You must keep the records required in Table 6 of this Subpart to show continuous compliance with each emission or operating limitation that applies to you.

iv. Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1). You must keep each record readily accessible in hard copy or electronic form on site for at least 2 years after the date of each occurrence, measure, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off-site for the remaining 3 years.

v. Each record shall be kept for five years following the date of occurrence, measurement, maintenance, corrective action, report, or record.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these are not maintained or the requirements in this Section 2.1 H.3.g are not met.

h. **Reporting** [40 CFR §63.6645 and §63.6650]

i. You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.

ii. If you start up your new or reconstructed stationary RICE on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this Subpart.

iii. If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

iv. If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this Subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).
   (A) For each initial compliance demonstration required in Table 5 of this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

v. The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

vi. The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

vii. Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

viii. The Compliance report must contain the following information:

(A) Company name and address.

(B) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(C) Date of report and beginning and ending dates of the reporting period.

(D) If you had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in §63.10(d)(5)(i).

(E) If there are no deviations from any emission or operating limitations, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(F) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(G) For each deviation from an emission or operating limitation occurring for a stationary RICE where a CMS is used to comply with the emission and operating limitations in this Subpart, include the following information:

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(H) Each affected source that has obtained a Title V operating permit pursuant to 40 CFR Part 70 or 71 must 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 7 of this Subpart 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 or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

I. One natural gas-fired boiler (ID No. ES-SB-6)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	Work practices	15A NCAC 02D .1109 *[CAA § 112(j)]*

1. **15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters**
   a. The initial compliance date for these emission sources and associated monitoring, recordkeeping, and reporting requirements is February 3, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date.

   Inspection and Maintenance [15A NCAC 02Q .0508(f)]
   b. The Permittee shall perform an annual inspection of the boiler (ID Nos. ES-SB6) and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
      i. Inspect the burners, and clean or replace any components of the burners as necessary;
      ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
      iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
      iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

      The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the requirements in this Section 2.1 I.1.b are not met.
   c. The results of any required annual burner 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 of each recorded action;
      ii. The results of each inspection; and,
      iii. The results of any maintenance performed on the boilers.

      The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the required inspection and maintenance records are not maintained.

   Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]
   d. To ensure compliance, each calendar month the Permittee shall create and retain a record of the amounts of each fuel fired in each the affected source during the previous calendar month. The monthly fuel combustion records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained or if the boiler or water heater fires a fuel other than natural gas.

   Reporting [15A NCAC 02Q .0508(f)]
   e. Semiannual Summary Report. The Permittee shall submit a summary report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.

      The report shall include the following:
      i. Company name and address;
      ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
      iii. Date of report and beginning and ending dates of the reporting period;
      iv. The total fuel use by each affected source for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure;

v. A signed statement indicating that no new types of fuel were fired in the affected sources; and,
vi. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, .7490(d), .7499(l)]

a. For the existing sources(s) designed to burn gas 1 fuels with a heat input capacity of less than or equal to 5 million Btu per hour, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD, "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions."
   i. The Permittee shall comply with the CAA §112(j) standard in Section I.1 through **May 19, 2019**. The Permittee shall be subject to the requirements of this standard starting **May 20, 2019**. Note that the requirements of this standard may require action on behalf of the Permittee prior to **May 20, 2019**.

Definitions and Nomenclature [40 CFR 63.7575]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63 Subpart A General Provisions [40 CFR 63.7565]

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to 40 CFR Part 63, Subpart DDDDD.

Compliance Date [40 CFR 63.7510(e), 63.56(b)]

d. The Permittee shall complete the initial tune up and the one-time energy assessment no later than **May 20, 2019.**

Notifications [40 CFR 63.7545(e), 63.7530(e), (f)]

e. The Permittee shall submit a Notification of Compliance Status. The notification must be signed by a responsible official and submitted by **July 19, 2019**. The notification shall contain the following:
   i. A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, and description of the fuel(s) burned.
   ii. the following certification(s) of compliance, as applicable:
   (A)- "This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR 63 Subpart DDDDD at the site according to the procedures in.40 CFR 63.7540(a)(10)(i) through (vi)' [i.e., Sections 2.1 I.2.f.i through v and l.ii]; and
   (B)- "This facility has had an energy assessment performed according to 40 CFR 63.7530(e)" [i.e., Section 2.1 I.2.k] and is an accurate depiction of the facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

Work Practice Standards [15A NCAC 02Q .0508(f)]

f. The Permittee shall conduct a tune-up of the boiler every five years as specified below:
   i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months.
   ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
   iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown).

iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject.

v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

[40CFR 63.7500(a), (e), 63.7540(a)(10), (a)(12)]

g. Each 5-year tune-up shall be conducted no more than 61 months after the previous tune-up. [40CFR 63.7515(d)]

h. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR 63.7540(a)(13), 63.7515(g)]

i. At all times, you must 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 Administrator that 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. [40 CFR 63.7500(a)(3)]

j. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Sections 2.1 I.2.f through i are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(f)]

k. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in 40 CFR 63 Subpart DDDDD, Table 3, with the extent of the evaluation for items (a) to (e) in Table 3 appropriate for the on-site technical hours listed in §63.7575: [§63.7500(a)(1), Table 3] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Recordkeeping Requirements [15A NCAC 02Q .0508(f), 40 CFR 63.7555]

l. The Permittee shall keep the following:

i. A copy of each notification and report submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status, or 5-year compliance report that has been submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.7555(a)(1)]

ii. Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (A) through (C) below:

(A) The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after tune-up of the boiler or process heater;

(B) A description of any corrective actions taken as a part of the tune-up; and

(C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

[40 CFR 63.7540(a)(10)(vi)]

iii. The associated records for Sections 2.1 I.2.e through k.

m. The Permittee shall:

i. maintain records in a form suitable and readily available for expeditious review;

ii. keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and

iii. 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 offsite for the remaining 3 years.

[40 CFR 63.7560, 63.10(b)(1)]

n. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if records are not maintained as described in Sections 2.1 I.2.l through m.

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

o. The Permittee shall submit compliance reports to the DAQ on a 5-year basis. The first report shall cover the period beginning on **May 20, 2019** and ending on **December 31, 2023**. Subsequent 5-year reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance reports postmarked on or before January 31.[40 CFR 63.7550(a), (b)]

p. The compliance report must also be submitted electronically via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/).) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in §63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [40 CFR 63.7550(h)(3)]

q. The compliance report must contain the following information:
   i. Company name and address;
   ii. Process unit information, emissions limitations, and operating parameter limitations;
   iii. Date of report and beginning and ending dates of the reporting period;
   iv. Include the date of the most recent tune-up for each unit required according to Section 2.1 I.2.f. Include the date of the most recent burner inspection if it was not done on a 5-year basis and was delayed until the next scheduled or unscheduled unit shutdown.
   v. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

   [40 CFR 63.7550(a) and (c), Table 9]

r. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Sections 2.1 I.2.o through q are not met.

2.2 – MULTIPLE EMISSION SOURCES AND SPECIFIC LIMITATIONS AND CONDITIONS

A. 15A NCAC 02D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

In order to ensure that combustion sources (emergency generators **ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3**) do not contribute to an exceedance of the 1-hour NO_2 National Ambient Air Quality Standard (NAAQS); the Permittee may only operate these generators **(ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49,** and fire water pump **ES-FP-3)** for readiness testing when generators **(ID Nos. ES-006 and ES-007)** are not operating and when readiness testing is not being performed for any other emergency generator, except **ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49,** and fire water pump **ES-FP-3**.

In order to ensure compliance with the annual NO_2 NAAQS, non-emergency generators **(ID Nos. ES-006 and ES-007)** shall not operate for more than 7,500 hours each on a consecutive 12-months basis.

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

1. The Permittee shall maintain operational records sufficient to demonstrate that combustion sources (emergency generators **ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3)** have not operated for readiness testing during the concurrent operation of generators **(ID Nos. ES-006 and ES-007)** and the performance of readiness testing of any other emergency generator, except **ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49,** and fire water pump **ES-FP-3**. The Permittee shall make these records available to a DAQ authorized representative upon request.

The Permittee shall maintain records of the hours of operation of non-emergency generators **(ID Nos. ES-006 and ES-007)** on a monthly basis and make these records available to a DAQ authorized representative upon request.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the above records are not maintained.

B. 15A NCAC 02D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

In order to ensure that the twenty-four hour SO_2 National Ambient Air Quality Standard (NAAQS) is not exceeded, boilers **(ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7)** are required to monitor and keep records of SO_2 emissions using a 24-hour block average when firing coal.

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	1.2 lbs/million Btu heat input per 24-hour block average	15A NCAC 02D .0501(c) 40 CFR Part 60, Subpart Db, 60.42b (a)

Monitoring/Recordkeeping

1. The Permittee shall determine sulfur dioxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 60, Subpart A and Subpart Db, Appendix B, and Appendix F. Compliance with sulfur dioxide emission standards shall be determined by averaging the average 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 shall be summed, and the sum shall be divided by the number of operating hours for which valid data exists.

   A minimum of four data points, equally spaced, shall be required to determine a valid hour. Data availability shall be 95 percent on a yearly basis. If any 24-hour block average exceeds 1.2 pounds per million Btu heat input (388 pounds of SO_2 per hour), the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501 (e).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the requirements in this Section 2.2. B.1. are not met.

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

2. 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 posted 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.

C. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING (CAM) for Sulfur Dioxide

1. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following.

2. **Background**
   a. Emission Units
      i. Description: Two coal/natural gas/No. 2 fuel oil-fired, circulating fluidized combustion boilers, 323.17 million Btu per hour heat input each.
      ii. Identification: ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7

b. Applicable Regulation, Emission Limit, and Monitoring Requirements.
   i. Regulations: 15A NCAC 02D .0516 and 15A NCAC 2D .0524 (Subpart Db)
   ii. Emission limits: 2.3 pound SO_2 per million Btu heat input when firing natural gas {15A NCAC 02D .0516}

   1.2 pounds SO_2 per million Btu heat input when firing coal {15A CAC 02D .0524, 40 CFR §60.42b(d)} and 0.2 lbs SO_2 per million Btu heat input or a minimum 90% reduction when firing coal and/or No. 2 fuel oil {15A CAC 2D .0524, amended (February 27, 2006) 40 CFR §60.42b(a)}

3. **Monitoring Approach**
   NSPS, Subpart Db requires that a Continuous Emissions Monitoring System (CEMs) be installed to monitor the SO_2 emissions from boilers, ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7. This monitoring system satisfies the requirements of CAM in accordance with 40 CFR Part 64, and §64.2(b)(vi).

D. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING (CAM) for Particulate

1. Per 40 CFR 64 and 15A NCAC 02D .0614 and until February 3, 2013, the Permittee shall comply with the following: Beginning February 3, 2013, particulate emissions from boilers #6 and #7 (ID No. ES-001 and ES-002) are subject to the requirements in Section 2.1.A.4, 15A NCAC 02D .1109: CAA § 112(j); "Case-by-Case MACT for Boilers & Process Heaters" and no longer subject to CAM.

2. **Background**
   a. Emission Units
      i. Description: Two coal/natural gas/No. 2 fuel oil/wood/torrified wood-fired, circulating fluidized combustion boilers, 323.17 million Btu per hour heat input each.
      ii. Identification: ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7

   b. Applicable Regulation, Emission Limit, and Monitoring Requirements.
      i. Regulations: 15A NCAC 02D .0503 and 15A NCAC 02D .0524 (Subpart Db)
      ii. Emission limits:
         0.051 pounds per million Btu heat input {NSPS, 40 CFR §60.43b(a)(1) –Particulate matter}
         0.174 pounds per million Btu heat input {15A NCAC 02D .0503 –PM_{10}}
      iii. Control Technology: Two bagfilters (ID Nos. CD-004 and CD-005)

3. **Monitoring Approach**. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table:

	1
I. Indicator	Visible emissions
Measurement Approach	Visible emissions from the fabric filter will be monitored continuously using COM system on each boiler
II. Indicator Range	An excursion is defined as visible emissions in amounts greater than or equal to 15%. Excursions trigger an inspection, corrective action, and a reporting requirement.
QIP Threshold	The QIP threshold is six excursions in a 6-month reporting period.

	1
III. Performance Criteria	
A. Data Representativeness	Measurements are being made at the emission point (fabric filter outlet) of each boiler
B. Verification of Operational Status	DAHS
C. QA/QC Practices	The COM systems shall be calibrated, maintained and operated according to 40 CFR 60, Appendix B, PS1.
D. Monitoring Frequency	Data is collected continuously with COM systems.
Data Collection Procedures	Data from the COM system is collected electronically and maintained on the Data Acquisition and Handling System computer along with information on the operating status of the boilers.
Averaging Periods	6-minutes

4. **Reporting** [15A NCAC 02Q .0508(f), 40 CFR 64.9]
The Permittee shall submit a summary report of all monitoring activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations for the requirements of this permit must be clearly identified.

The report shall also include the following information, as applicable:
i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
ii. Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

E. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS [40 CFR 60 SUBPART IIII]

- **ES-EG#13 (diesel-fired emergency generator, 2000 kW, 2682 hp)**
- **ES-EG#17 (diesel-fired emergency generator, 1000 kW, 1341 hp)**
- **ES-EG#18 (diesel-fired emergency generator, 1000 kW, 1341 hp)**
- **ES-EG#19 (diesel-fired emergency generator, 2500 kW, 3353 hp)**
- **ES-EG#20 (diesel-fired emergency generator, 2000 kW, 2682 hp)**
- **ES-EG#21 (diesel-fired emergency generator, 1350 kW, 1835 hp)**
- **ES-Gen-2 (diesel-fired emergency generator, 450 kW, 603 hp)**
- **ES-Gen-12 (diesel-fired emergency generator, 150 kW, 230 hp)**
- **ES-Gen-13 (diesel-fired emergency generator, 300 kW, 402 hp)**
- **ES-Gen-43 (diesel-fired emergency generator, 125 kW, 170 hp)**
- **ES-Gen-48 (diesel-fired emergency generator, 500 kW, 680 hp)**
- **ES-Gen-49 (diesel-fired emergency generator, 230 kW, 308 hp)**
- **ES-Gen-71 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-Gen-72 (diesel-fired emergency generator, 30 kW, 40 hp)**
- **ES-Gen-79 (diesel-fired emergency generator, 400 kW, 536 hp)**
- **ES-Gen-80 (diesel-fired emergency generator, 350 kW, 469 hp)**
- **ES-Gen-81 (diesel-fired emergency generator, 250 kW, 335 hp)**
- **ES-Gen-84 (diesel-fired emergency generator, 250 kW, 335 hp)**

- **ES-FP-1 (diesel-fired fire water pump, 57 kW, 77 hp)**
- **ES-FP-3 (diesel-fired fire water pump, 168 kW, 225 hp)**

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

Emission Standards

2. The Permittee shall comply with the following emission standards:

Emission Standards: (ES-EG#13, #17, #18, #20 and #21)
NMHC and NOx (combined): 6.4 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.20 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-EG#19)
NOx : 9.2 g/kW-hr
CO: 11.4 g/kW-hr
PM: 0.54 g/kW-hr
HC: 1.3 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-43)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 5.0 g/kW-hr
PM: 0.3 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-2, ES-Gen-12, ES-Gen-13, ES-Gen-48, ES-Gen-49, ES-79, ES-Gen-80, ES-Gen-81, and ES-Gen-84)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.2 g/kW-hr
[§60.4205(b) and §89.112(a)]

Emission Standards: (ES-Gen-71)
HC: 1.3 g/kW-hr
NOx: 9.2 g/kW-hr
CO: 11.4 g/kW-hr
PM: 0.54 g/kW-hr
[§60.4205(a) and Table 1 to the Subpart IIII]

Emission Standards: (ES-Gen-72)
NMHC and NOx (combined): 9.5 g/kW-hr
CO: 5.5 g/kW-hr
PM: 0.80 g/kW-hr
[§60.4205(a) and Table 1 to the Subpart IIII]

Emission Standards: (ES-FP-1)
NMHC and NOx (combined): 10.5 g/kW-hr
CO: 5.0 g/kW-hr
PM: 0.80 g/kW-hr
[§60.4205(c) and Table 4 to the Subpart IIII]

Emission Standards: (ES-FP-3)
NMHC and NOx (combined): 4.0 g/kW-hr
CO: 3.5 g/kW-hr
PM: 0.20 g/kW-hr
[§89.112(a) and Table 4 to the Subpart IIII]

3. The Permittee shall use diesel fuel in the CI engine of each emergency generator and fire pump with a sulfur content of less than 15 ppm beginning October 1, 2010. [§60.4207, and §80.510(a) and (b)]

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

4. 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 2.2 E.2 above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

5. The CI ICE of each emergency generator and fire pump shall be equipped with a non-resettable hour meter prior to startup, if the CI ICE does not meet the standards in §60.4204. If the CI engine of each emergency generator and fire pump is not equipped with a non-resettable hour meter prior to startup, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524. [§60.4209(a)]

6. The Permittee shall operate and maintain each stationary CI ICE that achieves the emission standards in §60.4205 over the entire life of the engine according to the manufacturer's emission-related written instructions or procedures developed by the Permittee that are approved by the engine manufacturer. The Permittee may only change engine settings that are permitted by the manufacturer. The Permittee shall also meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section are not met. [§60.4206 and §60.4211(a)]

7. If CI ICEs of emergency generators are required to comply with the emission standards in §60.4205(a), or if the CI engine of fire water pump is manufactured prior to the model years in Table 3 to the Subpart and must comply with the emission standards in §60.4205(c), the Permittee shall demonstrate compliance according to one of the methods specified in §60.4211(b) as included below:

   (A) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
   (B) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
   (C) Keeping records of engine manufacturer data indicating compliance with the standards.
   (D) Keeping records of control device vendor data indicating compliance with the standards.
   (E) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section 2.2 E.7. are not met. [§60.4211(b)]

8. The Permittee shall purchase 2007 model year and later emergency CI ICE for emergency generators certified to the emission standards in §§60.4205(b), for the same model year and maximum engine power.

The engine shall be installed and configured according to the manufacturer's emission-related specifications except as provided in §60.4211(g). If the installed CI ICEs of the above emergency generators are not certified to meet the emission standards in §60.4205(b) or the CI ICEs are not configured according to the manufacturer's emission-related specifications (except as provided in §60.4211(g)), the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524. [§60.4211(c)]

9. The Permittee shall operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of §60.4211. In order for the engine to be considered an emergency stationary ICE under this Subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of §60.4211, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of §60.4211, the engine will not be considered an emergency engine under this Subpart and shall meet all requirements for non-emergency engines.

(A) There is no time limit on the use of emergency stationary ICE in emergency situations.

(B) The Permittee may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of §60.4211 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of §60.4211 counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP–002–3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP–002–3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(C) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of §60.4211, the 50 hours per calendar year for nonemergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(AA) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(BB) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(CC) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(DD) The power is provided only to the facility itself or to support the local transmission and distribution system.

(EE) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section 2.2. E.9. are not met. [§60.4211(f]

10. If the Permittee does not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, the Permittee shall demonstrate compliance as follows:

(A) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(B) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission related settings in a way that is not permitted by the manufacturer.

(C) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in this Section 2.2 E.10. are not met. [§60.4211(g)]

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

11. Starting with the emergency engine model year 2011, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the Permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The Permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if these records are not maintained. [§60.4214(b)]

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

12. No initial notification under §60.7 is required for emergency stationary CI internal combustion engines. [§60.4214(b)]

13. If the Permittee operates the emergency stationary CI ICE with a maximum engine power of 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4211(f)(2)(ii) and (iii), or that operates for the purposes specified in §60.4211(f)(3)(i), the Permittee shall submit an annual report according to the requirements in paragraphs (d)(1) through (3) of §60.4214. [§60.4214(d)]

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

SECTION 3 - GENERAL CONDITIONS (version 5.3, 08/21/2018)

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

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

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

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]
   In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to 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. **Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 02Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

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

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

2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;
      iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
      iv. the Permittee shall attach the notice to the relevant permit.
   c. The written notification shall include:
      i. a description of the change;
      ii. the date on which the change will occur;
      iii. any change in emissions; and

iv. any permit term or condition that is no longer applicable as a result of the change.

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

3. Off Permit Changes [15A NCAC 02Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
   a. the change affects only insignificant activities and the activities remain insignificant after the change; or
   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 and Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

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

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

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
   a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
      i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
         - name and location of the facility;
         - nature and cause of the malfunction or breakdown;
         - time when the malfunction or breakdown is first observed;
         - expected duration; and
         - estimated rate of emissions;
      ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
      iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

Permit Deviations

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

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

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

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

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

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

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

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

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

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 02Q .0508(i)(4)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 02Q .0508(i)(9)]

1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

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

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

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

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

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

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

5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

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

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

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

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

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

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

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

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]
A construction and operating permit shall 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)(4)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(e)]

1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall 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. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** – FEDERALLY-ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

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

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

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

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

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 02Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 02D. If emissions testing is required by this permit or

the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
   a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
      i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
      ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
      iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
   b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 02D .2600 has precedence over all other tests.

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

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

LL. **Reporting Requirements for Non-Operating Equipment** [15A NCAC 02Q .0508(i)(16)]
The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. When permitted equipment is not in operation, the requirements for testing, monitoring, and recordkeeping are suspended until operation resumes.

MM. **Fugitive Dust Control Requirement** [15A NCAC 02D .0540]
As required by 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

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

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

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

OO. **Third Party Participation and EPA Review** [15A NCAC 02Q .0521, .0522 and .0525(7)]
For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Acronyms

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