NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date:

Region: Mooresville Regional Office
County: Gaston
NC Facility ID: 3600039
Inspector's Name: Joe Foutz
Date of Last Inspection: 05/18/2022
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Duke Energy Carolinas, LLC - Allen Steam Station

Facility Address:
Duke Energy Carolinas, LLC - Allen Steam Station
253 Plant Allen Road
Belmont, NC 28012

SIC: 4911 / Electric Services
NAICS: 221112 / Fossil Fuel Electric Power Generation

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 02D .0501(c), 02D .0503, 02D .0510, 02D .0515, 02D .0516, 02D .0519, 02D .0521, 02D .0524, 02D .0540, 02D .0606, 02D .1100, 02D .1111, 02D .1407, 02Q .0317 (avoidance for 02D .0530), 02Q .0402, 02D .1425
NSPS: Subparts Dc, OOO, IIII, JJJJ
NESHAP: Subparts UUUUU, DDDDD, ZZZZ
PSD: NA
PSD Avoidance: NA
NC Toxics: NA
112(r): NA (General Duty Clause)
Other: Part 97 CSAPR, Consent Decree

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Michael Gantt Lead EHS Professional (704) 860-4945 253 Plant Allen Road Belmont, NC 28012	Jeffrey Flanagan General Manager III (828) 478-7600 8320 East NC Highway 150 Terrell, NC 28682	Daniel Markley Lead Environmental Specialist (704) 382-0696 526 South Church Street Charlotte, NC 28202

Application Data

Application Number: 3600039.22A (TV Renewal) and .22B (TIV Renewal)
Date Received: 08/26/2022
Application Type: Renewal
Application Schedule: TV-Renewals

Existing Permit Data
Existing Permit Number: 03757/T49
Existing Permit Issue Date: 12/14/2021
Existing Permit Expiration Date: 02/28/2023

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2021	20.93	332.84	3.21	105.92	27.66	2.36	1.31 [Hydrogen chloride (hydrochlori]
2020	103.45	1026.64	7.11	290.88	62.24	4.82	3.12 [Hydrogen chloride (hydrochlori]
2019	147.87	1347.63	13.40	414.92	71.51	8.81	5.73 [Hydrogen chloride (hydrochlori]
2018	246.01	1440.96	12.43	380.10	64.89	7.93	5.16 [Hydrogen chloride (hydrochlori]
2017	354.02	1610.22	14.47	454.95	65.21	9.38	6.07 [Hydrogen chloride (hydrochlori]

Review Engineer: Ed Martin

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 03757/T50
Permit Issue Date:
Permit Expiration Date:

1. Purpose of Applications

Application 3600039.22A
The purpose of this permit application is to renew the existing Title V permit pursuant to 02Q .0513. The renewal application was received on August 26, 2022, at least six months before the February 28, 2023 expiration date of the current permit; therefore, the application was filed in a timely manner and the application shield pursuant to 15A NCAC 02Q .0512(b)(1) remains in effect. This renewal permit is being issued for another five-year term and will expire five years from the date of issuance.

DEC did not request any major modification to the permit. However, they requested removal of coal-fired units ES-2 (U2 Boiler), ES-3 (U3 Boiler) and ES-4 (U4 Boiler) as these have been retired. DEC states that they submitted retirement notifications for units ES-2 (U2Boiler) and ES-4 (U4Boiler) on January 18, 2022, and on April 6, 2021, for ES-3 (U3Boiler).

This permit change is a significant Title V permit modification that does not contravene or conflict with a condition in the existing permit pursuant to rule 15A NCAC 02Q .0501(b)(1). Public notice of the draft permit is required.

The following application was consolidated with this application:

Application 3600039.22B (consolidated with Application 3600039.22A)
DEC's Acid Rain Permit Application was received August 26, 2022, for renewal of the acid rain permit for units ES-1 (U1Boiler) and ES-5 (U5Boiler).

2. Facility Description

DEC's Allen Steam Station is an electric utility that generates electrical power. The Allen Steam Station is currently permitted for five coal/No. 2 fuel oil-fired electric utility boilers (ID Nos. ES-1 (U1 Boiler), ES-2 (U2 Boiler), ES-3 (U3 Boiler), ES-4 (U4 Boiler), and ES-5 (U5 Boiler)), one No. 2 fuel oil-fired auxiliary boiler (ID No. ES-6 (AuxB)), and other supporting ancillary sources. With this renewal, boilers ES-2, ES-3, and ES-4 are now being removed as these have been retired.

3. History/Background/Application Chronology

History/Background Since Last Renewal

March 12, 2018	TV and Title IV permit renewal issued. Air Permit No. 03757T44 was issued with an expiration date of February 28, 2023. (See Russell Braswell's TV review).
January 2, 2019	Air permit No. 03757T45 was issued with an expiration date of February 28, 2023. This was a TV Significant modification to categorize the auxiliary boiler (ID No. ES-6 (AuxB), which is subject to 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters", as a limited-use boiler under this rule. (See Ed Martin's TV review dated January 2, 2019.
October 14, 2019	Air permit No. 0375746 was issued with an expiration date of February 28, 2023. This was a TV administrative modification to change two dates for the compliance report submittal requirement for the auxiliary boiler (ID No. ES-6 (AuxB) under 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters." (See Ed Martin's review dated October 14, 2019).
September 1, 2020	Air Permit No. 03757T47 was issued with an expiration date of February 28, 2023. This was a TV Significant modification to incorporate the schedule and all requirements of the Consent Decree entered by the Court on October 20, 2015,

between the United States Environmental Protection Agency and Duke Energy Carolinas into the Allen Steam Station's Title V permit for certain PSD claims pursuant to Duke Energy's Plant Modernization Program. (See Ed Martin's review dated September 1, 2020).

August 24, 2021 Air Permit No. 03757T48 was issued with an expiration date of February 28, 2023. This was a TV Significant modification for Duke Energy's requirements to comply with the North Carolina Coal Ash Management Act of 2014, the federal Disposal of Coal Combustion Residuals from Electric Utilities rule (CCR Rule), and the North Carolina Department of Environmental Quality April 1, 2019 Closure Determination, to excavate coal ash and relocate it from the Active Ash Basin to a new lined ash landfill to be constructed on site. (See Ed Martin's review dated August 24, 2021).

December 14, 2021 Air permit No. 03757T49 was issued with an expiration date of February 28, 2023. This was a TV Significant modification to remove: 02D .0536 (PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS), 15A NCAC 02D .0536(b) (PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS (ANNUAL AVERAGE OPACITY FOR ELECTRIC UTILITY BOILERS)), 02D .0535 (EXCESS EMISSIONS REPORTING AND MALFUNCTIONS), and 02D .0614 (COMPLIANCE ASSURANCE MONITORING) since regulation 02D .0536 was repealed effective November 1, 2020, and these regulations are no longer applicable. (See Ed Martin's review dated December 14, 2021).

XX, 2023 Air permit No. 93757T50 was issued for another five years with an expiration date of _____.

Application Chronology

August 26, 2022 Title V renewal application 3600039.22A and Title IV renewal application 3600039.22B received and were complete for processing.

January 9, 2023 In an email, the applicant was asked to submit the Phase II NOx Compliance Plan and Averaging Plan the facility wants to use for this renewal, since those were previously part of the Acid Rain permit and were not included in the application. DEC responded that they plan to discontinue the NOx Compliance and Averaging Plan for Allen and are in the process of evaluating the need for the Averaging Plan for the other North Carolina affected facilities.

January 12, 2023 In an email, the applicant was informed that even if they discontinue the Averaging Plan, it appears they do need an Acid Rain NOx Compliance Plan according to 40 CFR 76.9(a)(1) and also a Compliance Plan is required on page 2 of their Acid Rain Permit Application under Permit Requirements (1)(i). The Compliance Plan identifies the NOx limits for each affected unit.

January 24, 2023 In an email, the applicant states that they are currently evaluating the best way to move forward with the above two items because they are not able to pull Allen out of the Averaging Plan without affecting every other facility and their permit. They have a desire to withdraw all of the Duke Energy facilities from the Plan and revert to the individual unit NOx limits for their Compliance Plan. They are carefully evaluating this option with their affected operating facilities and determining the best way to proceed. As of right now, they will remain in the Averaging Plan for Allen until a final decision is made, then possibly re-open all of the affected permits and make these permit modifications at one time.

January 13, 2023 Sent the draft permit for supervisor's review.

January 18, 2023 The draft permit was returned to the review engineer for revisions.

June 28, 2023 Resent the draft permit for supervisor's review.

July 28, 2023 Sent the draft permit to the Stationary Source Compliance Branch, Applicant, and the Mooresville Regional Office for review.

August 8, 2023 Received DEC'c comments on the draft permit.

August 11, 2023 Sent the draft permit to 30-day public notice and 45-day EPA review.

xx Public notice period ended.

xx EPA's comment period ended.

xx Permit was issued.

4. Permit Changes

The following table describes the modifications to the current permit as part of the renewal process. This summary is not meant to be an exact accounting of each change but a summary of those changes.

Page No.	Section	Description of Changes
Cover	--	Added new cover letter with new format. Amended permit numbers and dates.
--	TOC	Revised Acid Rain Permit Application date.
4-8	1	Removed page numbers as they are no longer needed. Removed sources ES-2 Boiler, ES-3 Boiler, and ES-4 Boiler along with associated control devices. Removed "CAM" identifier for ES-1 and ES-5. Revised footnote 5 to account for removing Unit 2. Removed "Case-by-Case MACT" identifier for source ES-6 (AuxB).
9	2.1 A	Removed Boiler ES-2, Boiler ES-3, and Boiler ES-4 along with associated control devices.
9-10	2.1 A, regulation table	Added 15A NCAC 02D .0503. Added 15A NCAC 02D .1425.
13	2.1 A.4.a	Removed Boilers ES-3 and ES-4.
15**	2.1 A.5**	Removed these old intentionally left blank sections and adjusted remaining 2.1 A section numbers.
15**	2.1 A.6**	
17**	2.1 A.9**	
14	2.1 A.5.a (was 2.1 A.7.a)	Corrected the Percent Monitor Downtime (%MD) Calculation for COMS to Percent Monitor Downtime (%MD) Calculation for CEMS.
14	2.1 A.6 (was 2.1 A.8)	Removed Boilers ES-3 and ES-4.
15	2.1 A.7 (was 2.1 A.10)	Removed Boiler ES-4.
22	2.1 A.9 (was 2.1 A,12)	Removed Boilers ES-2, ES-3, and ES-4.
22-23	2.1 A.10	Added 15A NCAC 02D .0503.

23	2.1 A.11	Added a recently adopted 02D .1425 NOx SIP Call Budget requirement to submit NOx emissions reports.
24	2.1 B, regulation table	Removed 15A NCAC 02D .1109. Various format changes.
30-31**	2.1 B.5**	Removed 02D .1109: (Case-by-Case MACT for Boilers and Process Heat
26	2.1 B.5.a.ii new condition (was 2.1.B.6.a.ii)	Removed start date for complying with 02D .1111: (40 CFR Part 63, Subpart DDDDD).
26	2.1 B.5.e	Added note that the initial tune up has been completed.
27	2.1 B.5.j	Added note that the Notification of Compliance Status report has been submitted.
30	2.1 C.3	Revised this condition for latest version (no new requirements).
48	2.4	Effective dates are now aligned with the Title V effective dates. Removed boilers ES-2, ES-3, and ES-4. Revised Acid Rain Permit Renewal Application date.
49	2.5	Inserted footnote 1.
53	3	Created this new section for insignificant activities.
57	4	Created this new section and moved General Conditions to this section. Updated General Conditions to version 6.0, dated 01/07/2022).

** Old page or old condition.

5. Regulatory Evaluation

The Allen Steam Station is or was subject to the following source-by-source regulations, in addition to the requirements in the General Conditions. The permit was updated to reflect the most current stipulations for all applicable regulations, where necessary.

- 15A NCAC 02D .0501(c) "Compliance with National Ambient Air Quality Standards"
- 15A NCAC 02D .0503 "Particulates from Fuel Burning Indirect Heat Exchangers"
- 15A NCAC 02D .0510 "Particulates from Sand, Gravel, or Crushed Stone Operations"
- 15A NCAC 02D .0515 “Particulates from Miscellaneous Industrial Processes”
- 15A NCAC 02D .0516 "Sulfur Dioxide from Combustion Sources"
- 15A NCAC 02D .0519 "Control of Nitrogen Dioxide and Nitrogen Oxides Emissions"
- 15A NCAC 02D .0521 "Control of Visible Emissions"
- 15A NCAC 02D .0524 "New Source Performance Standards"
  (40 CFR Part 60, Subparts Dc, OOO, IIII, JJJJ)
- 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission"
- 15A NCAC 02D .0606 "Sources Covered by Appendix P of 40 CFR Part 51"
- 15A NCAC 02D .1100 "Control of Toxic Air Pollutants"
- 15A NCAC 02D .1109 "112(j) Case-by-Case Maximum Achievable Control Technology" (removed)
- 15A NCAC 02D .1111 "Maximum Achievable Control Technology"
  (40 CFR Part 63, Subparts ZZZZ, UUUUU, DDDDD)
- 15A NCAC 02Q .0317 "Avoidance Conditions" (PSD Avoidance)
- 15A NCAC 02Q .0402 "Acid Rain Procedures"
- Cross State Air Pollution Rule (CSAPR)
  (40 CFR Part 97, Subparts AAAAA and CCCCC)
- 15A NCAC 02Q .0508(i)(16) and (m) (Consent Decree)

- 15A NCAC 02D .1407 (RACT) "Boilers and Indirect Process Heaters"
- 15A NCAC 02D .1425 "NOx SIP Call Budget"

A. Two Coal/No. 2 Fuel Oil-fired Electric Utility Boilers (ID Nos. ES-1 and ES-5):

- **Boiler ES-1 equipped with a low NOx concentric firing system, separated overfire air (SOFA), lowered-fire (LOFIR) low-NOx technology, and alkaline-based fuel additive, and exhausting to the following control devices, operating in series:**
  - **selective non-catalytic NOx reduction system (ID No. CD 1b);**
  - **cold-side electrostatic precipitator (ID No. CD-2); and**
  - **flue gas desulfurization spray tower scrubber (ID No. CDU1/2/5FGD)**

- **Boiler ES-5 equipped with a low NOx concentric firing system, separated overfire air (SOFA), lowered-fire (LOFIR) low-NOx technology, and alkaline-based fuel additive, and exhausting to the following control devices, operating in series::**
  - **selective non-catalytic NOx reduction system (ID No. CD 10c);**
  - **flue gas conditioning system with sulfur trioxide injection (ID No. CD-11b);**
  - **powdered activated carbon system (ID No. CDU4/5/ActC)**
  - **cold-side electrostatic precipitator (ID No. CD-11); and**
  - **flue gas desulfurization spray tower scrubber (ID No. CDU1/2/5FGD)**

1. 15A NCAC 02D .0501(c): COMPLIANCE WITH EMISSION CONTROL STANDARDS

   In addition to any control or manner of operation necessary to meet emission standards in 15A NCAC 02D .0500, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards of 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in 15A NCAC 02D .0500 are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

   Emissions of sulfur dioxide from the boilers (ID Nos. ES-1/ES-5) shall not exceed 1.0 pounds per million Btu heat input, upon operation, in accordance with the permit application and modeling analyses received April 12, 2006, to demonstrate compliance with the annual, 24-hour, and 3-hour sulfur dioxide ambient standards. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

   Monitoring/Recordkeeping

   The Permittee shall ensure compliance with 15A NCAC 02D .0501(c) by determining sulfur dioxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 75 except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75 whenever the unit combusts any fuel). Compliance with sulfur dioxide emission standards shall be determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any 24-hour block average exceeds 1.0 pounds per million Btu heat input or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

   Reporting

   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.

CEMS Availability - The Permittee shall submit quarterly sulfur dioxide CEM systems monitor downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

2. 15A NCAC 02D .0519: CONTROL OF NITROGEN OXIDES EMISSIONS

Emissions of nitrogen oxides from these sources when burning coal and oil (No. 2 fuel oil or recycled No.2 fuel oil) shall be calculated by the following equation:

$$E = \frac{(E_C)(Q_C)+(E_O)(Q_O)}{Q_t}$$

Where:

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

Monitoring

The Permittee shall ensure compliance with 15A NCAC 02D .0519 by determining nitrogen oxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 75 except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75).

Recordkeeping

The Permittee shall maintain records of monthly coal and gas consumption (written or electronic form) and shall submit such records within 30 days of a request by DAQ.

Reporting

The Permittee shall submit the continuous emissions monitoring system data showing the 24-hour daily block values for periods of excess nitrogen oxide emissions semiannually.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

5. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

The permit condition for 15A NCAC 02D .0521 previously had two mutually exclusive options for monitoring, recordkeeping and reporting using either the COMS option or the PM CEMS option. The CEMS option was added several years ago when the facility began using PM CEMS for PM monitoring but wanted to retain the use of COMS in case problems arose with using CEMS. Since a PM CEMS is required by the Maximum Achievable Control Technology (MACT) standards in 40 CFR Part 63 Subpart UUUUU (i.e., the MATS rule) and COMS have not been used for several years, DEC was asked (in a July 22, 2021, email) whether they wanted to remove the COMS option from the permit and DEC agreed with its removal in permit No. 03757T49. Also, see item 4 below.

Emission Limit

Visible emissions shall not be more than 40 percent opacity when averaged over a six-minute period except that six-minute periods averaging not more than 90 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

Monitoring/Recordkeeping/Reporting

No monitoring/recordkeeping/reporting is required.

The applicability of this regulation has not changed as part of this renewal processing other than the removal the COMS option noted above. Continued compliance with this regulation is expected.

4. 15A NCAC 02Q .0317: AVOIDANCE CONDITION
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION
The applicability of this regulation was changed in permit No. 03757T49 to remove the 02D .0536 rule in this condition in Section 2.1 A.4 of the permit, as discussed in Section 3 above. With removal of Boilers 3 and 4, this regulation now only applies to Boiler ES-5.

Prior to permit No. 03757T49, this condition was a combination of 02D .0536 PM limits and PSD avoidance PM limits. Both the 02D .0536 and the 02Q .0317 PSD avoidance limits used either one of two mutually exclusive options for monitoring, recordkeeping and reporting: either the COMS option or the PM CEMS option, as discussed in Section 5.A.3 above. When the COMS option was used, monitoring was based on using the CAM Plan in Section 2.1 A.9 of the permit in order to assure continuous compliance with the PM limits. With removal of 02D .0536, CAM is no longer needed for monitoring the under the COMS option for that rule. As noted in Section 5.A.3 above, since a PM CEMS is required by the MATS rule and COMS had not been used for compliance for several years, DEC agreed with its removal in permit No. 03757T49.

With removal of the PM COMS option, PM emissions monitoring in Section 2.1 A.4 was changed in permit No.03757T49 to be demonstrated with PM CEMS only, which is a continuous compliance determination method (CCDM) exemption under CAM, and therefore CAM was also removed in permit No. 03757T49, as noted in Section 3 above.

Therefore, the PSD avoidance PM limits in the revised condition in permit No.03757T49 were then based on compliance with the MATS rule.

In order to avoid applicability of 15A NCAC 02D .0530(g), particulate emissions from utility boiler (ID No. ES-5) shall not exceed 0.20 pounds per million Btu heat input.

Monitoring/Recordkeeping
The monitoring and recordkeeping requirements in the MATS rule in Sections 2.1 A.8.dd and ff of the permit shall satisfy the requirements of this section. A measured exceedance of 0.030 pounds per million Btu heat input (30-boiler operating day rolling average) or 0.30 pounds per megawatt hour (30-boiler operating day rolling average) shall be a violation of the corresponding emission standards in this condition in Section 2.1 A.4.a of the permit.

Reporting
The Permittee shall submit excess emissions and monitoring system performance reports on a three-month basis. The compliance report shall include, at a minimum, the information required in 40 CFR 63.10 and contain the information specified in the MATS rule in Section 2.1 A.8.tt of the permit, along with all 30-boiler operating day rolling average excess emissions (pounds per million Btu or pounds per megawatt hour) using the CEMS outlet data, including periods exempted during periods of startup and shutdown.

The applicability of this regulation has not changed as part of this renewal processing other than as noted above. Continued compliance with this regulation is expected.

5. 15A NCAC 02D .0606: SOURCES COVERED BY APPENDIX P OF 40 CFR PART 51 (SULFUR DIOXIDE MONITORING, CONTINUOUS OPACITY MONITORING, AND EXCESS EMISSIONS)
Fossil fuel-fired steam generators is one of the sources to be monitored as described in 40 CFR Part 51, Appendix P. The permit condition for 15A NCAC 02D .0606 previously had two mutually exclusive options for monitoring, recordkeeping and reporting using either the COMS

option or the PM CEMS option as discussed in Sections 5.A.3 and 5.A.4 above. With removal of the PM COMS option, PM emissions monitoring in Section 2.1 A.5 of the permit was changed in permit No. 03757T49 to be demonstrated with PM CEMS only.

Monitoring/Recordkeeping

The alternative monitoring and recordkeeping procedure in this section applies as allowed by Paragraph 3.9 of Appendix P of 40 CFR Part 51. The Permittee shall install, certify, operate, and maintain a PM CEMS to monitor and record PM emissions according to the applicable Maximum Achievable Control Technology (MACT) standards in 40 CFR 63.10010(i), as specified in Section 2.1 A.8.dd of the permit.

The quarterly excess emissions (EE) reports shall be used as an indication of good operation and maintenance of the electrostatic precipitators. These sources shall be deemed to be properly operated and maintained if the percentage of time the PM emissions, calculated on a one-hour average, greater than 0.030 pounds per million Btu heat input* does not exceed 3.0 percent of the total operating time for any given calendar quarter, adjusted for monitor downtime (MD) as calculated below, except that Total Excess Emission Time contains all one-hour periods greater than 0.030 pounds per million Btu heat input*. In addition, these sources shall be deemed to be properly operated and maintained if the %MD does not exceed 2 percent for any given calendar quarter as calculated below.

* The PM monitored value subject to the 0.030 pounds per million Btu limit shall have a 5% CO_2 diluent cap, or a 14% O_2 diluent cap, substituted in the emission rate calculation for a startup or shutdown hour in which the measured CO_2 concentration is below 5% or whenever the measured O_2 concentration is above 14%.

Calculations for %EE and %MD

Percent Excess Opacity Emission (%EE) Calculation:

$$\%EE = \frac{Total\ Excess\ Emission\ Time*}{Total\ Source\ Operating\ Time*** - Monitor\ Downtime} x100$$

Percent Monitor Downtime (%MD) Calculation:

$$\%MD = \frac{Total\ Monitor\ Downtime**}{Total\ Source\ Operating\ Time***} x\,100$$

* Total Excess Emission Time contains any one-hour period greater than 0.030 pounds per million Btu heat input of PM emissions, including startup, shutdown, and malfunction.

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

The Permittee shall use a continuous emissions monitoring system (CEMS) to monitor and record sulfur dioxide emissions. Continuous emissions monitoring and recordkeeping of sulfur dioxide emissions shall be performed as described in Paragraphs 2 and 3.1.1 through 3.1.5 of Appendix P of 40 CFR Part 51. The monitoring systems shall meet the minimum specifications described in Paragraphs 3.3 through 3.8 of Appendix P of 40 CFR Part 51.

The quarterly excess emissions (EE) reports required under Appendix P of 40 CFR Part 51 shall be used as an indication of good operation and maintenance of the flue gas desulfurization scrubbers. These sources shall be deemed to be properly operated and maintained if sulfur dioxide

emissions do not exceed 1.00 pounds per million Btu calculated on a 24-hour basis. Compliance with the sulfur dioxide emission standard is determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values are summed, and the sum is divided by 24. A minimum of four data points, equally spaced, is required to determine a valid hour value unless the continuous emission monitoring system is installed to meet the provisions of 40 CFR Part 75. If a continuous emission monitoring system is installed to meet the provisions of 40 CFR Part 75, the minimum number of data points is determined by 40 CFR Part 75. In addition, the flue gas desulfurization scrubbers shall be deemed to be properly operated and maintained if the %MD does not exceed 2 percent for any given calendar quarter as calculated above.

Reporting

The Permittee shall submit the excess emissions and monitor downtime reports as required under Appendix P of 40 CFR Part 51 on a three-month basis. Reporting shall be in accordance with Paragraphs 4 and 5.1 of Appendix P of 40 CFR Part 51.

a. Excess PM emissions are defined as any one-hour average greater than 0.030 pounds per million Btu heat input. The quarterly report shall include the number of hours each day and the percent of operating hours during the quarter with average PM emissions recorded by the PM CEMS greater than 0.030 pounds per million Btu including the application of any applicable diluent caps during a startup or shutdown hour.
b. For sulfur dioxide, excess emissions are defined as greater than 1.0 pounds per million Btu calculated on a 24-hour block average basis.

The applicability of this regulation has not changed as part of this renewal processing other than as noted above. Continued compliance with this regulation is expected.

State-enforceable only

6. 15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

Pursuant to 15A NCAC 02D .1100 and in accordance with the approved application for an air toxic compliance demonstration (received May 1, 2006, approved with the T30 permit issued June 30, 2006), the following permit limits shall not be exceeded:

Emission Sources	Toxic Air Pollutants	Emission Limits
Boiler Unit ID No. ES-5	Sulfuric Acid	418.8 lb/hr and 10,051.2 lb/day
	Ammonia	22.4 lb/hr

Monitoring/Recordkeeping

To ensure compliance with the above limits, the following restrictions shall apply:

a. Sulfur trioxide ash conditioning systems are limited to Unit ID No. ES-5.
b. Operation of the sulfur trioxide injection ash conditioning systems shall be operated as follows:
    i. The maximum sulfur trioxide flue gas injection rate shall not exceed 190 pounds per hour for Unit ID No. ES-5.
    ii. The sulfur trioxide injection ash conditioning systems may be operated intermittently based on boiler system requirements necessary to maintain compliance with applicable emissions regulatory requirements.

Reporting

No reporting is required to demonstrate compliance with 15A NCAC 02D .1100 for this source (ID No. ES-5).

The applicability of this regulation has not changed as part of this renewal processing other than removing Boilers ES-3 and ES-4 from this condition. Continued compliance with this regulation is expected.

7. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

In order to avoid applicability of 15A NCAC 02D .0530(g), PM/PM10/PM2.5 emissions from the Unit 5 boiler (ID No. ES-5) shall be less than 10 tons per consecutive 12-month period attributable to injecting powdered activated carbon.

Monitoring/Recordkeeping

The amount of injected powdered activated carbon in the Unit 5 boiler (ID No. ES-5) shall not exceed 12,000,000 pounds per year.

The Permittee shall keep monthly records of the amount of powered activated carbon injected.

Reporting

The Permittee shall submit a semiannual summary report of monitoring and recordkeeping activities. The report shall contain the monthly amount of powdered activated carbon injected in the Unit 5 boiler for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.

The applicability of this regulation has not changed as part of this renewal processing other than removing Boiler ES-4 from this condition. Continued compliance with this regulation is expected.

8. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR PART 63, SUBPART UUUUU)

The Subpart UUUUU requirements were added to permit 03757T41 on March 27, 2017. This regulation no longer applies to Boilers ES-2, ES-3 and ES-4 as those have been removed from the permit. Each of the remaining Electric Generating Units (EGUs) are subject to all applicable requirements pertaining to the existing coal-fired EGUs with heating value greater than or equal to 8,300 Btu/lb.

The Allen units are existing EGUs under the MATS rule since they did not commence construction or reconstruction after May 3, 2011 (§63.9982(d)). An existing EGUs must comply with the MATS rule no later than April 16, 2015 (§63.9984(b)). Duke requested a one-year extension of the compliance date for the MATS standards, as allowed by the rule, in a letter dated October 17, 2014. DAQ approved the request extending the MATS compliance date until April 16, 2016, in a letter dated November 12, 2014. In addition, Duke requested a one-year extension of the compliance date for the MATS work practice standards applicable to startup and shutdown, as allowed by the rule, in a letter dated December 16, 2014, for the Roxboro, Mayo, Belews Creek, Cliffside, Allen and Marshall Stations. NC DAQ approved the request extending the compliance date until April 16, 2016, in a letter to Mr. Larry Hatcher (Vice President, Environmental) from Lee Daniel dated January 16, 2015.

Emission Limitations

The following limits apply as shown in Table 2 to Subpart UUUUU.

a. limit the emissions of filterable particulate matter (PM) to 3.0E-2 lb/MMBtu or 3.0E-1 lb/MWh; or
   limit the emissions of total non-Hg HAP metals to 5.0E-5 lb/MMBtu or 5.0E-1 lb/GWh; or
   limit the emissions of individual HAP metals to:

Constituent	Allowable Level
Antimony (Sb)	8.0E-1 lb/TBtu or 8.0E-3 lb/GWh

Constituent	Allowable Level
Arsenic (As)	1.1E0 lb/TBtu or 2.0E-2 lb/GWh
Beryllium (Be)	2.0E-1 lb/TBtu or 2.0E-3 lb/GWh
Cadmium (Cd)	3.0E-1 lb/TBtu or 3.0E-3 lb/GWh
Chromium (Cr)	2.8E0 lb/TBtu or 3.0E-2 lb/GWh
Cobalt (Co)	8.0E-1 lb/TBtu or 8.0E-3 lb/GWh
Lead (Pb)	1.2E0 lb/TBtu or 2.0E-2 lb/GWh
Manganese (Mn)	4.0E0 lb/TBtu or 5.0E-2 lb/GWh
Nickel (Ni)	3.5E0 lb/TBtu or 4.0E-2 lb/GWh
Selenium (Se)	5.0E0 lb/TBtu or 6.0E-2 lb/GWh

b. i. limit the emissions of hydrogen chloride (HCl) to 2.0E-3 lb/MMBtu or 2.0E-2 lb/MWh; or
ii. limit the emissions of sulfur dioxide (SO_2) to 2.0E-1 lb/MMBtu or 1.5E0 lb/MWh.

c. limit the emissions of mercury (Hg) to 1.2E0 lb/TBtu or 1.3E-2 lb/GWh.

DEC has chosen to comply with this rule for the Allen Steam Station by limiting emissions as follows:

a. filterable particulate matter (PM) to 3.0E-2 lb/MMBtu or 3.0E-1 lb/MWh (using PM CEMS),
b. sulfur dioxide (SO2) to 2.0E-1 lb/MMBtu or 1.5E0 lb/MWh (using SO2 CEMS), and
c. mercury (Hg) to 1.2E0 lb/TBtu or 1.3E-2 lb/GWh (using Hg CEMS and/or sorbent trap(s)).

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

9. Cross State Air Pollution Rule Requirements (40 CFR Part 97, Subparts AAAAA and CCCCC)
For the two Boilers ES-1 and ES-5, the Permittee shall comply with all applicable requirements of 40 CFR Part 97, Subpart AAAAA "TR NOx Annual Trading Program" and Subpart CCCCC "TR SO_2 Group 1 Trading Program".

In permit 03757T49, the applicability of Subpart BBBBB of 40 CFR Part 97was removed because it does not apply to the Allen boilers.

The applicability of this regulation has not changed as part of this renewal processing except that Boilers ES-2, ES-3, and ES-4 have been removed from the permit. Continued compliance with this regulation is expected.

10. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS
Since regulation 15A NCAC 02D .0536 was repealed effective November 1, 2020, it was removed in Permit 03757T49 as discussed in Section 4 above. Regulation 02D .0503 is being added to the permit for Boilers ES-1 and ES-5 in Section 2.1 A.10 of the permit as recommended in a memorandum dated October 11, 2019, from Dennis Igboko, Stationary Source Compliance Branch. This would provide a suitable backstop should the federal MATS rule 0.030 pounds per million Btu heat input standard change (see discussion under streamlining below).

Emission Limit
Emissions of particulate matter discharged from Units 1 and 5 into the atmosphere shall not exceed 0.09 pounds per million Btu heat input.

This rule applies to installations burning fuel, including natural gas and fuel oils, for the purpose of producing heat or power by indirect heat transfer. For the purpose of this rule, the maximum heat input shall be the total heat content of all fuels which are burned in a fuel burning indirect heat exchanger, of which the combustion products are emitted through a stack or stacks. The sum of maximum heat input of all fuel burning indirect heat exchangers at a plant site which are in

operation, under construction, or permitted shall be considered as the total heat input for the purpose of determining the allowable emission limit for particulate matter for each fuel burning indirect heat exchanger. Fuel burning indirect heat exchangers constructed or permitted after February 1, 1983, shall not change the allowable emission limit of any fuel burning indirect heat exchanger whose allowable emission limit has previously been set. The removal of a fuel burning indirect heat exchanger shall not change the allowable emission limit of any fuel burning indirect heat exchanger whose allowable emission limit has previously been established. However, for any fuel burning indirect heat exchanger constructed after, or in conjunction with, the removal of another fuel burning indirect heat exchanger at the plant site, the maximum heat input of the removed fuel burning indirect heat exchanger shall no longer be considered in the determination of the allowable emission limit of any fuel burning indirect heat exchanger constructed after or in conjunction with the removal.

The affected sources to which this regulation applies are the following:

Source	Heat Input (mmBtu/hr)	Date Operation Began
Boiler ES-1	1980	1957
Boiler ES-2	1980	1957
Boiler ES-3	3390	1959
Boiler ES-4	3390	1960
Boiler ES-5	3390	1961
Boiler ES-6(AuxB)	14.6	1993
Total	14,144.6	

Allowable emissions of particulate matter from fuel combustion shall be calculated as follows:

$$E = 1.090\ Q^{-0.2594}$$

where: E = allowable particulate emission rate, pounds per million Btu
Q = maximum heat input rate (total at plant site), million Btu per hour

The first permit we have with a 02D .0503 emission limit for ES-6(AuxB) (before the other five boilers were subject to 02D .0503) is T23 on July 22, 2003, where the limit was 0.09 lb/mmBtu based on a total facility heat input of 14,144.6 lb/mmBtu.

If the emission limit is calculated before and after February 22, 1983, the limit of particulate matter from the five boilers ES-1 through ES-5 on the permit prior to February 1, 1983 is:

$$E = 1.090\ Q^{-0.2594}$$
$$= 1.090\ (14{,}130)^{-.2594}$$
$$= 0.09138 \text{ lb/mmBtu}$$

And the emission limit of particulate matter from the six boilers ES-1 through ES-5 and ES-6(AuxB) on the permit after February 1, 1983 is:

$$E = 1.090\ Q^{-0.2594}$$
$$= 1.090\ (14{,}144.6)^{-.2594}$$
$$= 0.09136 \text{ lb/mmBtu}$$

In both cases the limit can be taken as 0.09 lb/mmBtu.

The 02D .0503 limits are based on compliance with the MATS rule in Section 2.1 A.8 of the permit.

Streamlining the 02D .0503 condition with MATS
As allowed under 40 CFR 70.6(a)(3)(i)(A):

"If more than one monitoring or testing requirement applies, the permit may specify a streamlined set of monitoring or testing provisions provided the specified monitoring or testing is adequate to assure compliance at least to the same extent as the monitoring or testing applicable requirements that are not included in the permit as a result of such streamlining."

The monitoring (including recordkeeping) for the MATS requirements in Section 2.1 A.8 of the permit is adequate to ensure compliance at least to the same extent as required for the 02D .0503 monitoring requirements in Section 2.1 A.10 of the permit; therefore, streamlining is specified for compliance. The 0.030 pounds per million Btu heat input PM limit for MATS compliance is much more stringent than the 0.09 pounds per million Btu heat input 02D .0503 limit.

Monitoring/Recordkeeping
The monitoring and recordkeeping requirements in Sections 2.1 A.7.bb and dd of the permit shall satisfy the requirements of this section. A measured exceedance of 0.030 pounds per million Btu heat input (30-boiler operating day rolling average) or 0.30 pounds per megawatt hour (30-boiler operating day rolling average) shall be a violation of the corresponding emission standards in Section 2.1 A.10.a of the permit.

Reporting
The Permittee shall submit quarterly excess emissions and monitoring system performance reports. The compliance report shall include, at a minimum, the information required in 40 CFR 63.10 and contain the information specified in Section 2.1 A.8.tt of the permit, along with all 30-boiler operating day rolling average excess emissions (pounds per million Btu or pounds per megawatt hour) using the CEMS outlet data, including periods exempted during periods of startup and shutdown. The PM CEMS data submitted for compliance with 40 CFR Part 63 Subpart UUUUU can be used to satisfy the requirement of this regulation.

The applicability of this regulation is new for these sources as part of this renewal processing. Compliance with this regulation is expected.

State-enforceable only

11. 15A NCAC 02D .1425: NOX SIP CALL BUDGET
    This recently adopted regulation is being added during this renewal. The Permittee is required to submit a report to the Division no later than January 30 of the calendar year after the NOx SIP Call control period listing the NOx emissions from these sources during the NOx SIP Call control period.

    This regulation is part of the recently amended 15A NCAC 02D .1400 rules to address revisions by the EPA on the monitoring provisions for the NOx SIP Call and to incorporate the NOx SIP Call budgets into the rules.

    As required by EPA, the proposed amendments will re-establish the NOx SIP Call statewide ozone season budgets for EGUs and large non-EGUs. The proposed changes are largely administrative in nature and are necessary to satisfy the antibacksliding requirements of 40 CFR Part 51 and facilitate clean-up and synchronization of the approved state and federal requirements. The information provided by the EGU and large non-EGU sources will be used to evaluate state level NOx budgets in Paragraph (d) of this Rule.

    Compliance with this regulation is expected.

12. 15A NCAC 02Q .0402 ACID RAIN PERMITTING PROCEDURES (40 CFR Part 72) Phase II Acid Rain Permit Requirements
    The purpose of this Rule is to implement Phase II of the federal acid rain program pursuant to the requirements of Title IV of the Clean Air Act as provided in 40 CFR Parts 72 and 76. Pursuant to

40 CFR 72.6, any unit listed in Table 2 or 3 of 40 CFR 73.10 is an affected unit and is subject to the requirements of the Acid Rain Program, including the Allen units.

DEC submitted a renewal Acid Rain Permit Application (application 3600039.22B), received August 26, 2022, for these sources.

The effective dates of the acid rain portion of the permit are the same as the Title V permit itself. The Acid Rain Permit Application dated August 26, 2022, will become part of the Title V permit (as an attachment).

The applicable acid rain rules for these sources, as specified in the Acid Rain Permit Application includes the following emission and monitoring requirements:

15A NCAC 02Q .0402 Acid Rain Procedures (40 CFR Part 72 Permits Regulation)
North Carolina air quality regulation 15A NCAC 02Q .0400 implements Phase II of the federal acid rain program pursuant to Title IV of the CAA as provided in 40 CFR Part 72. Issuance or denial of acid rain permits shall follow the procedures under 40 CFR Part 70 (Title V) and Part 72. If the provisions or requirements of Part 72 conflict with or are not included in Part 70, the Part 72 provisions and requirements shall apply and take precedence.

15A NCAC 2Q .0400 "Acid Rain Procedures" (40 CFR Part 73 "Sulfur Dioxide Allowance System")
Establishes the procedures for allocation, tracking, holding and transfer of sulfur dioxide emission allowances, including the initial allowances allocated to each applicable Phase II unit account to be held in calendar years 2010 and each year thereafter (Table 2 of 40 CFR 73.10, column F).

15A NCAC 2Q .0400 "Acid Rain Procedures" (40 CFR Part 76 "Acid Rain Nitrogen Oxides Emission Reduction Program")
Each coal-fired utility unit that is subject to an Acid Rain emissions limit for SO_2 under Phase I or Phase II of the CAA must meet the NOx emission limitations under 40 CFR Part 76 in compliance with 40 CFR 76.5, 76.6 or 76.7, as shown in the application. DEC has an Acid Rain NOx Averaging Plan for the coal fired units at their six facilities dated June 23, 2015, with the Allen boilers subject to the annual average Alternative Contemporaneous Emission Limitation (ACEL) and annual heat input limits as shown in the Averaging Plan and in Section 2.4 of the permit.

15A NCAC 02Q .0402 Acid Rain Procedures (40 CFR Part 75 Continuous Emissions Monitoring)
This regulation establishes requirements for the installation, certification, operation, and maintenance of continuous emissions or opacity monitoring systems.

The applicability of this regulation has not changed as part of this renewal processing except Boilers ES-2, ES-3, and ES-4 have been removed from the permit. Continued compliance with this regulation is expected.

13. Consent Decree (Section 2.5 of the permit)
As discussed in Section 3 above, permit 03757T47 was issued to incorporate the schedule and all requirements of the Consent Decree entered by the Court on October 20, 2015, between the United States Environmental Protection Agency (EPA) and Duke Energy Carolinas, LLC (Duke Energy) into the Allen Steam Station's Title V permit for certain PSD claims pursuant to Duke Energy's Plant Modernization Program. In the application (3600039.22A), DEC states that they submitted retirement notifications for units ES-2 (U2Boiler) and ES-4 (U4Boiler) on January 18, 2022, and on April 6, 2021 for unit ES-3 (U3Boiler). These sources are being removed elsewhere in the permit. However, under Section 2.5 H of the permit, the Consent Decree contains certain requirements before the Decree can be terminated.

No changes are being made to the Consent Decree at this time. Continued compliance with this regulation is expected.

14. 15A NCAC 02D .1109: "112(j) Case-by-Case Maximum Achievable Control Technology"
This regulation was added to permit T36 for the auxiliary boiler ES-6 (AuxB). The Subpart DDDDD MACT was added in permit T44 and the Permittee was to 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" Subpart DDDDD was May 20, 2019. The Subpart DDDDD MACT was added to the permit in accordance with 40 CFR §63.56(b), which states "if the Administrator promulgates a relevant emission standard under section 112(d) or (h) of the Act that is applicable to a source after the date a permit is issued pursuant to §63.52 or §63.54, the permitting authority must incorporate requirements of that standard in the Title V permit upon its next renewal." Therefore, the 02D .1109 condition no longer applies and is being removed with this renewal.

B. No. 2 fuel oil-fired auxiliary boiler (ID No. ES-6 (AuxB))

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

Emission Limit
Emissions of particulate matter from the combustion of natural gas that are discharged from this source into the atmosphere shall not exceed 0.09 pounds per million Btu heat input as shown in Section 5.A.10 above.

Monitoring/Recordkeeping/Reporting
No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of No. 2 fuel oil in this source.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60, SUBPART Dc)
In accordance with 40 CFR 60.40c(a), subpart Dc applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989, and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

This 14.6 million Btu per hour boiler is used for plant heating during the colder months and is not associated with power generation. This boiler was first operated on October 31, 1993, and is subject to NSPS Subpart Dc. There are no Subpart Dc visible emissions standards or particulate matter standards for this boiler.

Emission Limit
The maximum sulfur content of any fuel oil received and burned in the auxiliary boiler shall not exceed 0.5 percent by weight.

Monitoring/Recordkeeping
In addition to any other recordkeeping required by 40 CFR 60.48c or recordkeeping requirements of the EPA, the Permittee shall record and maintain monthly records of the amounts of each fuel

fired during each month. Records must be maintained for a minimum of two years.

Reporting
In addition to any other reporting required by 40 CFR 60.48c or notification requirements to the EPA, the Permittee is required to notify the DAQ of the following:

a. A semiannual summary report of the sulfur content of the distillate fuel oil fired as follows:
b. Distillate Oil - Fuel supplier certification shall include the following information:
    i. The name of the oil supplier;
    ii. A statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 40 CFR § 60.41c; and
    iii. A certified statement signed by the owner or operator of an affected facility that the records of fuel supplier certification submitted represents all of the fuel fired during the semiannual period.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

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

Emission Limit
Visible emissions from this source shall not be more than 20 percent opacity (except during startup, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

Monitoring/Recordkeeping/Reporting
No monitoring/recordkeeping/reporting is required for visible emissions from the firing of No. 2 fuel oil from this source.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

4. 15A NCAC 02D .1407: BOILERS AND INDIRECT PROCESS HEATERS
Facilities with boilers with maximum heat input rate of less than or equal to 50 million Btu per hour shall comply with the following annual tune-up requirements of 15A NCAC 02D .1414.

Monitoring
To ensure compliance the Permittee shall conduct annual boiler tune-ups and any required recordkeeping and reporting requirements on or by December 31st of each calendar year. Boiler tune-ups shall be in accordance with the manufacturer's recommendations including the following:

a. Inspect each burner and clean or replace any component of the burner as required;
b. Inspect the flame pattern and make any adjustments to the burner, or burners, necessary to optimize the flame pattern to minimize total emissions of NOx and carbon monoxide;
c. Inspect the combustion control system to ensure proper operation and correct calibration of components that control the air to fuel ratio and adjust components to meet the manufacturer's established operating parameters; and
d. Inspect any other component of the boilers and make adjustments or repairs as necessary to improve combustion efficiency. The Permittee shall perform the tune-up according to a unit specific protocol approved by the Director. The Director (or designee) shall approve the protocol if it meets the requirements of this Rule. The protocol shall be submitted to the Regional Office for approval.

Recordkeeping
The owner or operator shall maintain records of tune-ups performed. The following information shall be included for each source:

a. Identification of the source;
b. The date and time the tune-up started and ended;
c. The person responsible for performing the tune-up;
d. For boilers, the checklist for inspection of the burner, flame pattern, combustion control system, and all other components of the boiler identified in the protocol, noting any repairs or replacements made;
e. Any stack gas analyses performed after the completion of all adjustments to show that the operating parameters of the boiler, have been optimized with respect to fuel consumption and output; at a minimum these parameters shall be within the range established by the equipment manufacturer to ensure that the emission limitation for nitrogen oxides has not been exceeded; and
f. Any other information requested by the Director (or designee) to show that the boiler is being operated and maintained in a manner to minimize the emissions of nitrogen oxides.

The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
a. The date and time of each recorded action;
b. The results of each annual tune-up and inspection along with any corrective actions taken; and
c. The results of any corrective actions performed.

Reporting
The Permittee shall submit semiannual summary reports.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

5. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR PART 63, SUBPART DDDDD)
This facility is major for HAPs as emitting or has the potential to emit 10 tons per year or more of any single HAP or 25 tons per year or more of any combination of HAPs. Therefore, in accordance with 40 CFR 63.7485, this No. 2 fuel oil-fired auxiliary boiler is subject to MACT Subpart DDDDD.

This auxiliary boiler has a heat input of 14.6 mmBtu/hr and is categorized as an existing source designed to burn light liquid fuel with a heat input capacity equal to or greater than 10 million Btu per hour. A boiler or process heater is existing if it is not constructed or reconstructed after June 4, 2010.

The boiler qualifies as a limited-use boiler as defined in §63.7575, and is limited to an annual capacity factor of no more than 10 percent.

Emission Limits
This limited-use boiler must complete a tune-up every five years as specified in §63.7540. It is not subject to the emission limits in Tables 1 and 2 or 11 through 13, the annual tune-up, or the energy assessment requirements in Table 3, or the operating limits in Table 4 of Subpart 5D.

Work Practice Standards
The following summarizes the Subpart DDDDD Work Practice Standards:

- Conducting a tune-up of the source every five years as specified below:
- Work practice standards including inspect the flame pattern, inspect the system controlling the

air-to-fuel ratio, optimize total emissions of carbon monoxide, and measure the concentrations in the effluent stream of carbon monoxide in parts per million a requirement to 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.

- Maintain records for five years, with at least two years onsite, for each notification and report required to comply with Subpart DDDDD.
- The Permittee shall submit a compliance report to the DAQ every five years.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

C. Emergency/blackout protection diesel generator (ID No. ES-7 (EmGen))

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

Emission Limit
Emissions of sulfur dioxide from this source 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.

Monitoring/Recordkeeping/Reporting
No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in this source.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

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

Emission Limit
Visible emissions from this source shall not be more than 20 percent opacity (except during startup, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

Monitoring
To ensure compliance, the Permittee shall perform a Method 9 test for 1 hour using a preapproved protocol to be submitted in accordance with General Condition JJ before the sources operate more than 1,100 hours using No. 2 fuel oil. This monitoring protocol shall be repeated before each subsequent 1,100 hours of operation using No. 2 fuel oil from the last test for each source.

Recordkeeping
The Permittee shall keep records of the hours and associated dates when these sources are in operation using No. 2 fuel oil, and the dates of performance of Method 9 tests.

Reporting
The Permittee shall submit the results of the Method 9 test as a part of the quarterly report for the boilers in Section 2.1 A.3.g and 2.1 A.4.j of the permit.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

3. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

For this emission source (*existing stationary RICE with a site rating of more 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" as promulgated in 40 CFR 63 Subpart ZZZZ "National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines" including

Emergency Engine Compliance Requirements

a. The Permittee shall only operate these sources(s) as emergency stationary reciprocating internal combustion engines (RICE), which is defined as follows: Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in a.i through a.ii below. All emergency stationary RICE must comply with the requirements specified in Section 3.b below in order to be considered emergency stationary RICE. If an engine does not comply with the requirements specified in Section 3.b below, then it is not considered to be an emergency stationary RICE.
   i. The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.
   ii. The stationary RICE is operated under limited circumstances for situations not included in a.i above, as specified in Section 3.b below.

b. In order for the engine to be considered an emergency stationary RICE as defined in Section 3.a above, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in b.i through b.iii below, is prohibited.
   i. There is no time limit on the use of emergency stationary RICE in emergency situations.
   ii. The Permittee may operate the emergency stationary RICE for any combination of the purposes specified in b.ii.(A) below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by b.iii below counts as part of the 100 hours per calendar year allowed by this paragraph b.ii.
      (A) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.
   iii. Emergency stationary RICE located at major sources of HAP 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 b.ii above. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

Stationary RICE subject to limited requirements

c. Sources that meet the requirements of Section 3.a and b above do not have any other applicable requirements under 40 CFR 63 Subpart ZZZZ and Subpart A, including initial notification requirements.

Recordkeeping

d. To ensure compliance with Section 2.1 C.3.c and d above, the Permittee shall maintain the following records. The Permittee shall record:
   i. the hours for each engine spent in emergency operation, including what classified the operation as emergency;
   ii. the hours for each engine spent for non-emergency operation; and
   iii. the dates of operation of each engine.

   The 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 keep a record of the applicability determination on site at the source for a period of 5 years after the determination.

Reporting

e. No reporting is required.

The applicability of this regulation has not changed as part of this renewal processing. The language was updated to DAQ's latest version of the requirements; however there are no new requirements. Continued compliance with this regulation is expected.

D. Limestone, Receiving, Storage, Transfer, and Grinding

- Railcar unloading enclosure dust collection system with fabric filter (ID No. CDRULBF) installed on:
  - Railcar transfer to dual hopper (ID No. ES-8-1) not subject to NSPS OOO notification or opacity requirements,
  - Hopper No. 1 transfer to hopper conveyor No.1 (ID No. ES-8-2A),
  - Hopper No. 2 transfer to hopper conveyor No. 2 (ID No. ES-8-2B), and
  - Hopper conveyors No.1 and No. 2 transfer-to-transfer tower stockpile conveyor (ID No. ES-8-3).

- Preparation building dust collection system with fabric filter (ID No. CDLSBF) installed on:
  - Preparation plant feed conveyor with flop gate transfer to day bin No. 2 feed conveyor (ID No. ES-13),
  - Preparation plant feed conveyor with flop gate transfer to day bin No. 1 (ID No. ES-14), and
  - Day bin No. 2 feed conveyor to day bin No. 2 (ID No. ES-15).

- Day bin No. 1 transfer to wet ball mill No. 1 in preparation building (ID No. ES-16).
- Day bin No. 2 transfer to wet ball mill No. 2 in preparation building (ID No. ES-17).
- Wet ball mill No. 1 and product classifier in preparation building (ID No. ES-18A).
- Wet ball mill No. 2 and product classifier in preparation building (ID No. ES-18B).
- Transfer tower stockpile conveyor transfer to stockpile stack out conveyor in transfer tower (ID No. ES-9).
- Grate feeder transfer to stock pile reclaim conveyor (ID No. ES-11B).
- Stockpile reclaim conveyor transfer to preparation plant feed conveyor in transfer tower (ID No. ES-12).

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

   The Permittee shall not cause, allow, or permit any material in a sand, gravel, or crushed stone operation to be produced, handled, transported or stockpiled without taking measures to reduce to a minimum any particulate matter from becoming airborne to prevent exceeding the ambient air quality standards beyond the property line for particulate matter, both PM10 and total suspended particulates.

   Fugitive non-process dust emissions from sand, gravel, or crushed stone operations shall be regulated by 02D .0540 in Section 5.D.3 below.

The Permittee shall control process-generated emissions from conveyors, screens, and transfer points, such that the applicable opacity standards in 02D .0524 - 40 CFR 60, Subpart OOO in Section 5.D.2 below is not exceeded.

Monitoring/Recordkeeping/Reporting
The Permittee shall comply with the monitoring/recordkeeping/reporting required in Subpart OOO in Section 5.D.2 below.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

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

Emission Limits
On and after the date on which the performance test is completed, the Permittee shall not allow to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any stack emissions that:

a. Contain particulate matter in excess of 0.05 g/dscm (0.022 gr/dscf) [40 CFR 60.672(a)(1)]; and
b. Exhibit greater than 7 percent opacity [40 CFR 60.672(a)(2)].
c. Emission sources with stack emissions affected by these requirements include:
    i. Railcar unloading enclosure dust collection system with fabric filter (ID No. CDRULBF) installed on: dual hopper transfer to hopper conveyor No.1 (ID No. ES-8A), dual hopper transfer to hopper conveyor No. 2 (ID No. ES-8B), and hopper conveyors No. 1 and No. 2 transfer to transfer tower stock pile conveyor (ID No. ES-8-3);
    ii. Preparation building dust collection system with fabric filter (ID No. CDLSBF) installed on: preparation plant feed conveyor with flop gate transfer to day bin No. 2 feed conveyor (ID No. ES-13), preparation plant feed conveyor with flop gate transfer to day bin No. 1 (ID No. ES-14), and day bin No. 2 feed conveyor to day bin No. 2 (ID No. ES-15); and
    iii Any vent of any building enclosing any affected emission source including; the railcar unloading enclosure, transfer tower for ID No. ES-9, transfer tower for ID No. ES-12, and the reagent preparation building.

The Permittee shall not allow to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions that exhibit greater than 10 percent opacity.

The Permittee shall not allow to be discharged into the atmosphere from any building enclosing any transfer point on a conveyor belt or any other affected facility any visible fugitive emissions. Affected buildings include the railcar unloading enclosure, transfer tower for ES-9, transfer tower for ES-12, and the reagent preparation building.

Testing
The Permittee completed initial Subpart OOO testing on June 10, 2009 (test reference number 2009-095ST).

Monitoring
Particulate matter emissions from sources ID Nos. ES-8-1, ES-8-2A, ES-8-2B, and ES-8-3 shall be controlled by fabric filter ID No. CDRULBF, and particulate matter emissions from sources ID Nos. ES 13, ES-14, and ES-15 shall be controlled by fabric filter ID No. CDLSBF. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

a. A monthly visual inspection of the system ductwork and bag house for leaks; and
b. An annual internal inspection of the bag house and ducting for structural integrity.

For each emission sources, as listed above, subject to an opacity standard listed, including building enclosures, once a month the Permittee shall observe the emissions point(s) for any visible emissions above normal to ensure compliance.

Recordkeeping
The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
a. The date and time of each recorded action;
b. The results of each inspection;
c. The results of any maintenance performed on the fabric filters, duct work, or baghouse; and
d. Any variance from manufacturer's recommendations, if any, and corrections made.

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

Reporting
The Permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in the permit, including reports of opacity observations made using Method 9 and Method 22 to demonstrate compliance.

The Permittee shall submit semiannual summary reports of the monitoring and recordkeeping activities.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

3. 15A NCAC 02D .0540: PARTICULATES FROM FUGITIVE NON-PROCESS DUST EMISSION SOURCES

The Permittee shall not cause or allow fugitive non-process dust emissions (i.e., particulate matter that is not collected by a capture system and is generated from areas such as pit areas, process areas, haul roads, stockpiles, and plant roads) to cause or contribute to substantive complaints (i.e., complaints that are verified with physical evidence acceptable to the DAQ).

If fugitive non-process dust emissions cause or contribute to substantive complaints, the Permittee shall:
a. Within 30 days upon receipt of written notification from the Director of a second substantive complaint in a 12-month period, submit to the Director a written description of what has been done and what will be done to reduce fugitive non-process dust emissions from that part of the facility that caused the second substantive complaint;
b. Within 90 days of receipt of written notification from the Director of a second substantive complaint in a 12-month period, submit to the Director a control plan; and
c. Within 30 days after the Director approves the plan, be in compliance with the plan.

The Director may require that the Permittee develop and submit a fugitive non-process dust control plan if:

a. Ambient air quality measurements or dispersion modeling acceptable to the DAQ show violation or a potential for a violation of an ambient air quality standard for particulates in 15A NCAC 02D .0400 "Ambient Air Quality Standards;" or
b. If the DAQ observes excessive fugitive non-process dust emissions from the facility beyond the property boundaries.

The control plan shall be submitted to the Director no later than 90 days after notification. The facility shall be in compliance with the plan within 30 days after the Director approves the plan.

A fugitive dust control plan shall:
a. Identify the sources of fugitive non-process dust emissions within the facility;
b. Describe how fugitive non-process dust will be controlled from each identified source;
c. Contain a schedule by which the plan will be implemented;
d. Describe how the plan will be implemented, including training of facility personnel; and
e. Describe methods to verify compliance with the plan.

The Director shall approve the plan if he finds that:
a. The plan contains all required elements;
b. The proposed schedule contained in the plan will reduce fugitive non-process dust emissions in a timely manner;
c. The methods used to control fugitive non-process dust emissions are sufficient to prevent fugitive non-process dust emissions from causing or contributing to a violation of the ambient air quality standards for particulates; and
d. The described compliance verification methods are sufficient to verify compliance with the plan.

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

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

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

State-enforceable only

4. 15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS
See Section 5.H below.

E. Limestone, Receiving, Storage, Transfer, and Grinding

- Railcar transfer to dual hopper (ID No. ES-8-1).
- Stockpile stack out conveyor to stockpile and stockpile (ID No. ES-10).
- Stockpile transfer to grate feed of stockpile reclaim conveyor (ID No. ES-11A).

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

The Permittee shall not cause, allow, or permit any material in a sand, gravel, or crushed stone operation to be produced, handled, transported or stockpiled without taking measures to reduce to a minimum any particulate matter from becoming airborne to prevent exceeding the ambient air quality standards beyond the property line for particulate matter, both PM10 and total suspended particulates.

Fugitive non-process dust emissions from sand, gravel, or crushed stone operations shall be regulated by 02D .0540 in Section 5.E.3 below.

The Permittee shall control process-generated emissions from conveyors, screens, and transfer points, such that the applicable opacity standards in 15 A NCAC 02D .0521 in Section 5.E.2 below is not exceeded.

Monitoring/Recordkeeping/Reporting
The Permittee shall comply with the monitoring/recordkeeping/reporting required in 15 A NCAC 02D .0521in Section 5.E.2 below.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

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

Emission Limits
Visible emissions from these sources shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring
To ensure compliance, once a month the Permittee shall observe the emission points for any visible emissions above normal. If visible emissions from these sources are observed to be above normal, the Permittee shall either:

a. immediately shutdown the source and repair the malfunction,
b. be deemed to be in noncompliance with 15A NCAC 02D .0521 or
c. demonstrate that the percent opacity from the emission points of the emission sources in accordance with 15A NCAC 02D .2601 for 30 minutes is below the above emission limit.

Recordkeeping
The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

a. The date and time of each recorded action;
b. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
c. The results of any corrective actions performed.

Reporting
The Permittee shall submit semiannual summary reports of the observations.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

3. 15A NCAC 02D .0540: PARTICULATES FROM FUGITIVE NON-PROCESS DUST EMISSION SOURCES

See Section 5.D.3 above.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

State-enforceable only

4. 15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS
   See Section 5.H below.

F. Dry Flyash System

- Eight flyash transfer filter separators (ID Nos. ES-FS1/2, ES-FS1/2b, ES-FS3, ES-FS3b, ES-FS4, ES-FS4b, ES-FS5 and ES-FS5b) and associated baghouses (ID Nos. CD-U1/2FS, CD-U1/2FSa, CD-U3FS, CD-U3FSb, CD-U4FS, CD-U4FSb, CD-U5FS and CD-U5FSb)
- Two ash silos (ID Nos. ES-AS1 and ES-AS2) and two (dry) flyash truck loading equipment (ID Nos. ES-FTLD1 and ES-FTLD2) and associated baghouses (ID Nos. CD-S1Bf and CD-S2Bf)
- Two (wet) flyash truck loading equipment (ID Nos. ES-FTLW1 and ES-FTLW2)
- Truck transport (ID No. Fugitive 1), truck unloading (ID No. Fugitive 2), and dry ash landfill management (ID No. Fugitive 3)

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

   Emission Limit
   Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equations:

   $E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour), or
   $E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)

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

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

   Monitoring/Recordkeeping
   Particulate matter emissions from the eight flyash transfer filter separators (ID Nos. ES-FS1/2, ES-FS1/2b, ES-FS3, ES-FS3b, ES-FS4, ES-FS4b, ES-FS5 and ES-FS5b) shall be controlled by the bagfilters (ID Nos. CD-U1/2FS, CD-U1/2FSa, CD-U3FS, CD-U3FSb, CD-U4FS, CD-U4FSb, CD-U5FS and CD-U5FSb), and particulate matter emissions from the two ash silos (ID Nos. ES-AS1 and ES-AS2) and two (dry) flyash truck loading equipment (ID Nos. ES-FTLD1 and ES-FTLD2) shall be controlled by the bagfilters (ID Nos. CD-S1Bf and CD-S2Bf). To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

   a. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   b. An annual (for each 12 month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

   Recordkeeping
   The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

   a. The date and time of each recorded action;
   b. The results of each inspection;
   c. The results of any maintenance performed on the bagfilters; and
   d. Any variance from manufacturer's recommendations, if any, and corrections made.

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

The Permittee shall submit semiannual summary reports of monitoring and recordkeeping activities.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

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

Emission Limit
Visible emissions from these sources shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring
To ensure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
a. immediately shutdown the source and repair the malfunction,
b. be deemed to be in noncompliance with 15A NCAC 02D .0521 or
c. demonstrate that the percent opacity from the emission points of the emission sources in accordance with 15A NCAC 02D .2601 for 30 minutes is below the above emission limit.

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

Reporting
The Permittee shall submit semiannual summary reports of the observations.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

3. 15A NCAC 02Q .0317: AVOIDANCE CONDITION for
15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

In order to avoid applicability of 15A NCAC 02D .0530, fugitive dust emissions from dryash landfill management (ID No. Fugitive 3) shall be controlled by mixing water with the dry flyash when loading into trucks prior to transporting to the landfill for spreading and compacting.

Monitoring/Recordkeeping
The Permittee shall ensure that, when loading flyash into trucks from the silos, sufficient water is mixed with the flyash to avoid any visible fugitive dust emissions beyond the immediate loading area. The Permittee shall maintain daily records indicating whether any visible emissions are observed from truck loading beyond the immediate loading area. If dust emissions are observed,

the operator shall take corrective action to adjust the amount of water being mixed with the flyash, or call for manual watering of the trucks as filled if the system is malfunctioning, or discontinue operation until repairs are made. The following shall be recorded:

a. The date and time of each recorded action;
b. Whether any visible emissions are observed; and
c. Any corrective action taken.

These records shall be maintained in a logbook (written or electronic format) on-site and be made available to an authorized DAQ representative upon request.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

State-enforceable only

4. 15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS
See Section 5.H below.

G. One Units 4 and 5 DSI ACI storage silo (ID No. ES-U4/5ACISilo) and associated Units 4 and 5 ACI storage silo bin vent filter baghouse (ID No. CD-U4/5ACISiloBf)

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

Emission Limit

Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equations:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour), or
$E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)

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

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

Monitoring

Particulate matter emissions from the Units 4 and 5 DSI ACI storage silo (ID No. ES-U4/5ACISilo) shall be controlled by the bagfilter (ID No. CD-U4/5ACISiloBf). To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

a. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
b. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

Recordkeeping

The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

a. The date and time of each recorded action;
b. The results of each inspection;
c. The results of any maintenance performed on the bagfilter; and
d. Any variance from manufacturer's recommendations, if any, and corrections made.

Reporting
The Permittee shall submit the results of any maintenance performed on the bagfilter within 30 days of a written request by the DAQ.

The Permittee shall submit semiannual summary reports of monitoring and recordkeeping activities.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

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

Emission Limit
Visible emissions from this source shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring
To ensure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
a. immediately shutdown the source and repair the malfunction,
b. be deemed to be in noncompliance with 15A NCAC 02D .0521 or
c. demonstrate that the percent opacity from the emission points of the emission sources in accordance with 15A NCAC 02D .2601 for 30 minutes is below the above emission limit.

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

Reporting
The Permittee shall submit semiannual summary reports of the observations.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

State-enforceable only

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

The Permittee has submitted a toxic air pollutant dispersion modeling analysis dated April 28, 2021 for the facility's toxic air pollutant emissions as listed in the above table. The modeling analysis was reviewed and approved by the AQAB on June 14, 2021. Placement of the emission sources, configuration of the emission points, and operation of the sources shall be in accordance with the submitted dispersion modeling analysis and should reflect any changes from the original analysis submittal as outlined in the AQAB review memo.

Monitoring/Recordkeeping/Reporting
No monitoring, recordkeeping, or reporting is required since the modeled emission rates are

significantly below the toxic Acceptable Ambient Levels.

The applicability of this regulation has not changed as part of this renewal processing. Continued compliance with this regulation is expected.

6. Public Notice

Pursuant to 15A NCAC 02Q .0521, a notice of the draft Title V Operating Permit will be published on the DAQ website to provide for a 30-day comment period with an opportunity for a public hearing. Copies of the draft (proposed) permit, review and public notice will be sent to EPA for their 45-day review, to persons on the Title V mailing list, to the Mooresville Regional Office, and to the Permittee.

7. Other Requirements

PE Seal
NA. No controls are being added.

Zoning
There is no expansion of the facility, therefore zoning consistency is not needed.

Fee Classification
The facility fee classification before and after this modification will remain as "Title V".

8. Comments on the Draft Permit

The draft permit was sent to the to the Applicant, Stationary Source Compliance Branch and the Mooresville Regional Office on July 28, 2023.

SSCB Comments (email to Ed Martin from Samir Parekh dated August 4, 2023)
SSCB had no comments.

DEC Comments (email to Ed Martin from Dan Markley dated August 8, 2923)
DEC had the following comment:

1. In the Auxiliary Boiler MACT Section (2.1.B.5) a couple of the items have been completed. Items 2.1 B.5.e (the initial tune-up) and 2.1 B.5.j (the initial Notice of Compliance Status) have been completed. See attached. Just not sure they should still be in the permit.

Response
A note was added in Section 2.1 B.5.e to indicate that the initial tune up has been completed, and a note was added in Section 2.1 B.5.j to indicate that the Notification of Compliance Status report has been submitted.

MRO Comments (email to Ed Martin from Joe Foutz dated July 31, 2023)
MRO had the following comments.

1. On page 8, it appears there is a footnote "7" on the last 5 sources on the equipment list. However, the footnotes stop at "5".

Response
Footnotes 6 and 7 were accidentally deleted when the Unit 2, 3 and 4 boilers were removed for this application. Because the actual footnotes were tied to the Unit 3 control device Cd-5b, where footnote 6 was first inserted, the removal of Cd-5b also removed the footnotes. The footnotes were put back in the permit. Because it was not clear to which controls footnote 6 applied, Dan Markley confirmed in an email on August 2, 2023, that footnote 6 applies to the SNCR systems on Unit 1 and 5 and to the SO_3 conditioning system on Unit 5.

2. In Section 2.1.B.4, there is no item "e", 2.1.B.4.d followed by 2.1.B.4.f.

   Response
   The "e" was added back for which it had somehow got removed.

3. Font size change. Section 2.4.A and 2.4.B are font 12. 2.4.C and 2.4.D and the remaining sections (2.5.A.) are 10 font.

   Response
   Sections 2.4.C and 2.4.D were changed to font 12 to match Section 2.4.A and 2.4.B, and the remaining sections in 2.5 they should be.

9. Recommendations

TBD