NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date:

Region: Mooresville Regional Office
County: Cabarrus
NC Facility ID: 1300164
Inspector's Name: Abanoub Tadros
Date of Last Inspection: 10/25/2022
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Concord Energy, LLC

Facility Address:
Concord Energy, LLC
5185 Morehead Road
Concord, NC 28027

SIC: 4911 / Electric Services
NAICS: 221119 / Other 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 .0516, .0521, .0524, .1111, .1409(b); 02Q .0317
NSPS: Subparts GG, JJJJ, KKKK
NESHAP: GACT ZZZZ
PSD: NA
PSD Avoidance: 02Q .0317
NC Toxics: 02D .1100, 02Q .0711
112(r): NA
Other: NA

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Suparna Chakladar Vice President (951) 833-4153 5087 Junction Road Lockport, NY 14094	Anthony Falbo COO (716) 439-1004 5087 Junction Road Lockport, NY 14094	Suparna Chakladar Vice President (951) 833-4153 5087 Junction Road Lockport, NY 14094

Application Data

Application Number: 1300164.22A
Date Received: 10/28/2022
Application Type: Renewal
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 09985/T04
Existing Permit Issue Date: 05/28/2019
Existing Permit Expiration Date: 04/30/2023

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2021	2.87	83.71	9.29	60.87	16.47	4.44	3.28 [Hydrogen chloride (hydrochlori]
2020	1.84	61.38	7.31	48.35	12.96	3.51	2.59 [Hydrogen chloride (hydrochlori]
2019	1.17	85.89	9.72	63.72	17.25	4.67	3.45 [Hydrogen chloride (hydrochlori]
2018	0.8800	84.76	9.65	63.24	17.12	4.63	3.42 [Hydrogen chloride (hydrochlori]
2017	0.7000	80.27	9.83	66.99	17.40	4.71	3.48 [Hydrogen chloride (hydrochlori]

Review Engineer: Eric L. Crump, P.E.

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

Comments / Recommendations:
Issue 09985/T05
Permit Issue Date:
Permit Expiration Date:

1. Purpose of Application

Concord Energy, LLC (hereinafter referred to as Concord) is an electric power generation facility located in Concord, Cabarrus County, North Carolina. The facility currently operates under Title V Permit No. 09985T04 with an expiration date of April 30, 2023. Concord has applied for renewal of their Title V air quality permit. The renewal application was received on October 28, 2022, or at least six months prior to the expiration date as required by General Condition 3.K of the current permit. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

Concord has not reported the addition, removal, or modification of any sources at the facility in permit renewal application No. 1300164.22A.

2. Facility Description

The Concord facility uses the landfill gas produced by the Charlotte Motor Speedway Landfill[1] to run three combustion turbines (two with 63.44 million British thermal unit per hour (mmBtu/hr) heat input, one with 63.84 mmBtu/hr heat input). The turbines, with their associated electrical generators (each 5,900 kilowatt (kW) output) generate electricity for sale to Duke Energy Carolinas LLC (Duke) or another entity. The combustion turbines also use No. 2 fuel oil for cold startup only. The facility also has two landfill gas-fired, spark ignition, 2233 horsepower (hp) reciprocating internal combustion engines, each with an associated electrical generator (1600 kW output).

One of the turbines was previously permitted as CMS Energy, LLC. Fortistar Methane Group is the parent company for the CMS Energy facility and Concord Energy, LLC. The two facilities were combined into a single entity under Air Permit No 09985T03, which was issued to Concord Energy, LLC on April 23, 2014.

3. Application Chronology

May 28, 2019	Division of Air Quality (DAQ) issues Permit No. 09985T04 to Concord as a Title V renewal.
October 28, 2022	DAQ receives permit renewal application No. 1300164.22A from Concord.
June 30, 2023	Draft permit and review sent for DAQ supervisory review.
July 13, 2023	DAQ supervisor provides comments on draft permit and review
August 9, 2023	DAQ sends draft permit to Concord, Stationary Source Compliance Branch (SSCB) and Mooresville Regional Office (MRO) for review and comment.
August 14, 2023	DAQ receives comments on draft permit from MRO.
August 15, 2023	DAQ receives comments on draft permit from SSCB.
August 18, 2023	DAQ receives comments on draft permit from Concord.

[1] Permitted separately as BFI Waste Systems of North America, CMS Landfill V, Facility ID No. 1300110, Air Permit No. 08612T14.

xxx Permit renewal notice published, 30-day public notice and comment period begins, and 45-day EPA comment period begins.

xxx 30-day public notice and comment period ends.

xxx 45-day EPA comment period ends.

4. Changes to Permit and Title V Equipment Editor (TVEE) Discussion

The following table summarizes changes made to the current Concord permit in this permit renewal.

Page No.	Section	Description of Changes
Cover and throughout	---	• Updated all dates and permit revision numbers • Replaced all instances of "§" in CFR citations with "40 CFR Part" as appropriate
Insignificant Activities List	Attachment	Moved to Section 3 of permit
2	Table of Contents	• Changed Section 3 from "General Conditions" to "Insignificant Activities per 15A NCAC 02Q .0503(8)" • Added new Section 4, "General Permit Conditions"
3	List of Acronyms	Relocated here (formerly last page of permit)
4	1	• Removed "Formerly the CMS Charlotte Energy LLC facility" header from table • Removed "thermal oxidizer" from description of control device ID No. CD-FLARE1-CON
5	2.1A 2.1 A.2	Format revisions made to limit/standards summary table Updated section to reflect the most current stipulations for 15A NCAC 02D .0524, 40 CFR Part 60, Subpart KKKK
8	2.1 A.3 2.1 A.3.c	Updated section to reflect the most current stipulations for 15A NCAC 02D .0317 (avoidance of 15A NCAC 02D. 0531) Simplified equation and made minor clarifications to explanations of equation variables
10	2.1 B 2.1 B.1.c, 2.c	• Format revisions made to limit/standards summary table • Changed all mentions of "flare thermal oxidizer" and "thermal oxidizer" to "enclosed flare" and "flare" throughout section Added appropriate source ID number
11	2.1 C 2.1 C.1.c and 2.c	Format revisions made to limit/standards summary table Added appropriate source ID numbers
12	2.1 C.3	Updated section to reflect the most current stipulations for 15A NCAC 02D .0524 and 40 CFR Part 60, Subpart JJJJ
13	2.1 C.4 2.1 C.5	Updated section to reflect the most current stipulations for 15A NCAC 02D .1111 and 40 CFR Part 63, Subpart ZZZZ Updated section to reflect the most current stipulations for 15A NCAC 02D .1409, Stationary Internal Combustion Engines. Included MRR requirements (satisfied by meeting NSPS JJJJ MRR requirements).

Page No.	Section	Description of Changes
15	2.1 D 2.1 D.2	Format revisions made to limit/standards summary table • Updated section to reflect the most current stipulations for 15A NCAC 02D .0524, 40 CFR Part 60, Subpart GG • Combined paragraphs a and b into a single paragraph, combined paragraphs c and d into a single paragraph, and relettered paragraphs accordingly
17	2.2 A	Updated section to reflect the most current stipulations for 15A NCAC 02D .0524, 40 CFR Part 60, Subpart WWW
18	2.2 B	Updated section to reflect the most current stipulations for 15A NCAC 02D .1100, Control of Toxic Air Pollutants
19	2.2 C	Updated section to reflect the most current stipulations for 15A NCAC 02D .0711, Emission Rates Requiring a Permit
20	2.3	Deleted permit shields for "State BACT demonstration, G.S. 62-133.8" and "G.S. 143-215.107(a)"
21	3	Section 3 is now "Insignificant Activities per 15A NCAC 02Q .0503(8)"
22-29	4	Updated General Conditions to version 7.0 dated August 23, 2023

The following change was made to the TVEE: The description for control device ID No. CD-FLARE1-CON was changed from "One enclosed flare thermal oxidizer (8.85 million Btu per hour heat input, 295 scfm maximum flow rate)" to "One enclosed flare (8.85 million Btu per hour heat input, 295 scfm maximum flow rate)".

5. Description of Changes and Estimated Emissions

Concord has not reported the addition, removal, or modification of any sources at the facility. No changes in emissions at the facility are expected.

The following permit shields in the permit were removed in this permit renewal, because upon review DAQ concluded that since they pertained to state-only requirements, they were inappropriate for inclusion in a Title V permit.

- The exemption from State BACT requirements in accordance with G.S. 62-133.8(g) and 62-133.8(a)(5)(b). This subsection does not apply to a facility that qualifies as a new renewable energy facility under G.S. 62-133.8(a)(5)(b)" that had a contract with GreenPower Corporation prior to January 1, 2007.

- The exemption of the three turbines (ID Nos. ES-TURB1-CON, ES-TURB2-CON, and ES-TURB1-CHAR) from general statute G.S. 143-215.107 for the control of toxic air pollutants because the facility is not a major source of hazardous air pollutants and the Federal Standards do not cover turbines located at area sources.

6. Regulatory Review

Concord is subject to the following state regulations, in addition to the requirements in the General Conditions:

15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources. Under this regulation, emissions of sulfur dioxide (SO_2) from any source of combustion discharged from any vent, stack, or chimney shall not exceed 2.3 pounds of SO_2 per million British thermal units (MMBtu) input. SO_2 formed by either the combustion of sulfur in fuels, wastes, ores, and other substances, or formed or reduced during treatment of flue gases with sulfur trioxide or other materials shall also be accounted for when determining compliance with this standard.

The enclosed flare (ID No. CD-FLARE1-CON), as well as both landfill gas-fired internal combustion engine/generator sets (ID Nos. ES-ICE1-CON and ES-ICE2-CON) are subject to this regulation. Since the sulfur content of the landfill gas used to fire these units is low, no monitoring or recordkeeping is required for sulfur dioxide emissions from landfill gas firing in these units. This permit renewal does not affect this status. Continued compliance is expected.

15A NCAC 02D .0521, Control of Visible Emissions: This regulation establishes opacity limits for visible emissions generated by fuel burning operations and industrial processes where visible emissions are expected to occur (except during startups, shutdowns, and malfunctions approved according to procedures in 15A NCAC 02D .0535, Excess Emissions Reporting and Malfunctions). The regulation establishes opacity limits for visible emissions from sources based on the date the sources were manufactured.

The following sources at the Concord facility are subject to this regulation:

- the three combustion turbines (ID Nos. ES-TURB1-CON, ES-TURB2-CON, and ES-TURB1-CHAR),
- the enclosed flare (ID No. CD-FLARE1-CON), and
- the two engine/generator sets (ID Nos. ES-ICE1-CON and ICE2-CON).

Because the sources at the Concord facility subject to this regulation were manufactured after July 1, 1971, this regulation limits them to 20 percent opacity averaged over a six-minute period. The 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. Since the combustion of landfill gas is relatively clean with respect to visible emissions, no monitoring or recordkeeping is required for visible emissions from landfill gas firing in these units. This permit renewal does not affect this status. Continued compliance is expected.

15A NCAC 02D .0524, New Source Performance Standards. See Section 8 of this review.

15A NCAC 02D .1111, Maximum Achievable Control Technology. See Section 7 of this review.

15A NCAC 02Q .0317, Avoidance Conditions. Under this regulation, the owner or operator of a facility may ask DAQ to place terms and conditions in that facility's permit to avoid the applicability of certain regulatory requirements. DAQ may require monitoring, recordkeeping, and reporting as needed to provide assurance that the avoidance conditions are being met. The Concord permit has an avoidance condition for 15A NCAC 02D .0531, Sources in Nonattainment Areas. This is discussed in Section 9 of this review.

15A NCAC 02Q .0711, Emission Rates Requiring a Permit. See Section 11 of this review.

15A NCAC 02D .1409(b), Stationary Internal Combustion Engines. This rule implements specific stationary source control measures as part of a control strategy necessary to bring these areas into compliance and to maintain compliance with the national ambient air quality standard for ozone. It

applies to facilities with potential NOx emissions of 100 tons or more per year or 560 pounds or more per calendar day during ozone season (May 1 through September 30) located in specified NC counties and areas. Cabarrus County, where Concord is located, is one of those areas. The engines at the Concord facility **(ID Nos. ES-ICE1-CON and ES-ICE2-CON)** are subject to this rule. As engines with a rated capacity of 650 horsepower or more that are not covered under 15A NCAC 02D .1409(c) or 02D .1418 emissions of NO_X are limited to 2.5 grams/hp-hour.

- If the emissions from either of these engines exceed this limit after reasonable effort as defined in 15A NCAC 02D .1401, or if the requirements of this Rule are not RACT for the particular stationary internal combustion engine, Concord may petition the DAQ for an alternative limitation or standard under 15A NCAC 02D .1412.
- If source testing is used to determine compliance with this rule, Concord must use the methods and procedures in 15A NCAC 02D .2600. It should be noted that this testing requirement can be met using the annual source test that is required under 40 CFR Part 60, Subpart JJJJ. The allowable NO_X limit of 2.0 g/hp-hr under NSPS Subpart JJJJ is lower than the allowable limit under 02D .1409(b) of 2.5 g/hp-hr.
- Concord demonstrates compliance with this rule by meeting the monitoring, recordkeeping, and reporting requirements for 40 CFR Part 60, Subpart JJJJ.

This permit renewal does not affect this status. Continued compliance is expected.

North Carolina General Statute §62-133.8 "Renewable Energy and Energy Efficiency Portfolio Standard. Senate Bill 3 (SB3) – Session Law 2007-397 – contains a requirement for any biomass combustion process that is not already subject to the Best Available Control Technology (BACT) requirements of the Prevention of Significant Deterioration program and that is determined to be a "new renewable energy facility" to meet BACT. As explained in detail in a previous permit review (B. Pullen, Permit No. 09985T03, April 23, 2014), the Concord facility is exempt from this SB3 BACT requirement because it does not meet the definition of a "new renewable energy facility" in accordance with G.S. §62-133.8(g) and G.S. §62-133.8(a)(5)(b). This exemption has been noted in the permit in Section 2.3, "Permit Shield for Non-applicable Requirements".

Note: The permit has been updated to reflect the most current stipulations for all applicable regulations.

7. National Emission Standards for Hazardous Air Pollutants (NESHAPS): Maximum and/or Generally Achievable Control Technology (MACT/GACT)

Concord is an area source as defined in 40 CFR Part 63.2 with regard to hazardous air pollutants (HAPs) because it has been determined that the facility does not have 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.

Both landfill gas-fired spark ignition reciprocating internal combustion engines with their associated generators (ID Nos. ES-ICE1-CON and ES-ICE2-CON) are subject to 40 CFR Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines—which applies to both major and area source facilities. Under Subpart ZZZZ, Concord complies with this regulation by meeting the requirements of 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. These requirements are discussed in Section 8 of this permit review.

As discussed in a previous permit review (B. Pullen, Permit No. 09985T03, April 23, 2014), the turbines (ID Nos. ES-TURB1-CON, ES-TURB2-CON, and ES-TURB1-CHAR) are not subject to 40 CFR Part 63,

Subpart YYYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, because the facility-wide emissions of hazardous air pollutants (HAPs) are less than the major source thresholds (10 tons per year of a single HAP; 25 tons per year of all HAPs).

This permit renewal does not affect the status of the Concord facility with respect to NESHAPs. Continued compliance is expected.

8. New Source Performance Standards (NSPS)

Concord is subject to the following NSPS:

40 CFR Part 60, Subpart GG, Standards of Performance for Stationary Gas Turbines. The gas turbine originally permitted under CMS Energy (ID Nos. ES-TURB1-CHAR, as discussed in Section 1 of this review) is subject to this NSPS because its heat input is greater than 10 MMBtu/hour, and it was constructed after October 3, 1977, but prior to February 18, 2005.

Subpart GG establishes the following SO_2 and NO_X limits:

- SO_2: Per 60.333, each turbine burning at least 50 percent biogas[2] on a calendar month basis, as determined based on total heat input must not cause to be discharged into the atmosphere any gases containing SO_2 more than 65 nanograms SO_2 per joule (ng/J) (0.15 pounds (lb) of SO_2 per MMBtu) heat input.
- NO_X: Per 40 CFR 60.332, for stationary gas turbines with a heat input at peak load equal to or greater than 10 MMBtu/hr) but less than or equal to 100 MMBtu/hr, this turbine shall not emit any gases which contain nitrogen oxides in excess of 0.189 percent by volume at 15% O_2 and on a dry basis (using the equation at 40 CFR 60.322(a)(2)).

40 CFR Part 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification on or After May 30, 1991, but Before July 18, 2014. Concord is located at the site of the Charlotte Motor Speedway Municipal Solid Waste Landfill, occupying land leased from the landfill. While the Concord facility is separate from the landfill, its turbines and engines at the facility are fired by landfill gas not treated at the landfill—therefore, the entire Concord facility is subject to the provisions of this NSPS. Concord must route all collected landfill gas to a treatment system that compresses, dewaters, and filters the landfill gas in accordance with 40 CFR Part 60.752(b)(2)(iii).

40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. As discussed above in Section 7, the two landfill gas-fired spark ignition reciprocating internal combustion engines with their associated generators (ID Nos. ES-ICE1-CON and ES-ICE2-CON) comply with 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart JJJJ. The engines must meet the following emission standards in Table 1 to Subpart JJJJ:

[2] Per Subpart KKKK definitions (40 CFR 60.4420), landfill gas is considered biogas ("gas produced by the anaerobic digestion or fermentation of organic matter including manure, sewage sludge, municipal solid waste . . . under anerobic conditions.") and is not included in the definition of "natural gas".

Engine type	Maximum engine power	Manufacture date *(after)*	Emission standards ppmvd @ 15% O_2		
			NO_x	CO	VOC
ES-ICE1-CON	2233 hp	June 12, 2006	2.0 g/hp-hr	5.0 g/hp-hr	1.0 g/hp-hr
ES-ICE2-CON	2233 hp	June 12, 2006			

Performance testing is required every 8,760 hours or 3 years, whichever comes first, to demonstrate compliance with these limits. Testing results must be submitted within 60 days of test completion. The engines must be operated and maintained as specified in the permit, and the results of inspections and maintenance must be recorded in a logbook Summary reports of monitoring and recordkeeping must be submitted semiannually.

40 CFR Part 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines. The other two gas turbines at Concord (ID Nos. ES-TURB1-CON and ES-TURB2-CON) are subject to this NSPS because the heat input to each turbine (63.44 MMBtu) is greater than 10 MMBtu/hour, and both turbines were reconstructed after February 18, 2005.[3] Subpart KKKK specifically exempts stationary combustion turbines it regulates from the requirements of Subpart GG.

Subpart KKKK establishes the following SO_2 and NO_X limits:

- SO_2: Per 60.4330(a)(3), total fuel sulfur content must be limited to less than or equal to 0.80 percent by weight (8000 parts per million by weight, or ppmw).
- NO_X: Per 60.4320, nitrogen dioxide emissions must be limited to less than or equal to 0.0189 percent by volume at 15% O_2 and on a dry basis

Concord is required to conduct SO_2 and NO_X performance tests annually (no more than 14 calendar months following the previous performance test). If the result from the NO_X performance test is less than or equal to 75 percent of the NO_X emission limit for the turbine, Concord may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). Reports of excess emissions and monitor downtime for SO_2 are required; for NO_X, written reports of performance tests are required. Semiannual summary reports of monitoring are required.

This permit renewal does not affect the status of the Concord facility with regard to Subparts GG, WWW, JJJJ, and KKKK of 40 CFR Part 60. Continued compliance is expected.

9. New Source Review (NSR)/Prevention of Significant Deterioration (PSD)

The Concord facility is currently a major PSD source due to potential emissions of carbon monoxide, which exceed the major source threshold of 100 tons per year. There are no emissions increases due to this permit renewal application.

15A NCAC 02D .0531, Sources in Nonattainment Areas is a state regulation that implements a program for NSR in nonattainment areas as required by 40 CFR 51.165. To avoid the applicability of this

[3] Previous application reviews list this date as May 19, 2009, because a new direct final rule amending Subpart KKKK was published in the Federal Register on March 20, 2009. However, that direct final rule did not modify the original applicability date in the regulation, which is for "stationary combustion turbines that commenced construction, modification or reconstruction after February 18, 2005." (40 CFR Part 60.4300))

regulation, Concord accepted an avoidance condition under 15A NCAC 02D .0317 in their permit. This condition limits NO_X emissions from the combustion turbines (ID Nos. ES-TURB1-CON, ES-TURB2-CON and the flare (CD-FLARE1-CON) to less than 100 tons per year and less than 560 pounds of nitrogen dioxide per day during the ozone season (May 1 through September 30). Daily and monthly NO_X emissions are to be calculated using the emission factors as written in the permit. Semi-annual reports must be submitted containing:

- The monthly nitrogen dioxide emissions for the previous 17 months. Emissions must be calculated for each of the 12-month periods over the previous 17 months; and
- The daily hours of startup firing No. 2 fuel oil for each turbine.

A Reasonably Available Control Technology (RACT) review was performed for the two reciprocating internal combustion engines (ID Nos. ES-ICE1-CON and ES-ICE2-CON) and the three combustion turbines (ID Nos. ES-TURB1-CON, ES-TURB2-CON, and ES-TURB1-CHAR) because the facility-wide NOx emission rate was greater than 100 tons per year or 560 pounds per day during the ozone season. It was determined that there are no applicable requirements for the turbines because the regulation 15A NCAC 02D .1408 (Stationary Combustion Turbines) only applies to combustion turbines with a heat input value greater than 100 million Btu per hour and less than 250 million Btu per hour.

As discussed earlier in Section 5 of this review, 15A NCAC 02D .1409(b) (Stationary Internal Combustion Engines) does apply to the reciprocating internal combustion engines. Under this regulation, emissions of NO_X from engines with a rated capacity of 650 horsepower or more that are not covered under 15A NCAC 02D .1409(c) or 02D .1418 are limited to 2.5 grams/hp-hour. Previous permits did not include monitoring, recordkeeping, or reporting (MRR) requirements for this regulation. However, previous permit reviews have indicated that the MRR requirements in the permit for 40 CFR 60 Subpart JJJJ (see Section 8 of this permit review) are sufficient MRR requirements for demonstrating compliance with 02D .1409(b). Language has been added to the permit to state this.

As discussed earlier in Section 5 of this review, Concord is exempt from SB3 BACT requirements in accordance with G.S. 62-133.8(g) and 62-133.8(a)(5)(b). SB3 BACT requirements do not apply to a facility that qualifies as a new renewable energy facility under G.S. 62-133.8(a)(5)(b) that had a contract with GreenPower Corporation prior to January 1, 2007.

Cabarrus County, where the Concord facility is located, has triggered increment tracking under PSD for PM_{10} and SO_2. However, this permit renewal does not consume or expand increments for any pollutants.

This permit renewal does not affect the status of the Concord facility with regard to PSD or NSR. Continued compliance is expected.

10. Risk Management Plan (RMP) Requirements

40 CFR Part 68 requires stationary sources storing more than threshold quantities of regulated substances to develop a RMP in accordance with Section 112(r) of the Clean Air Act. The RMP lists the potential effects of a chemical accident at the facility, steps the facility is taking to prevent an accident, and emergency response procedures to be followed if an accident should occur.

Concord is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in the Rule. This permit renewal does not affect the 112(r) status of the facility.

11. Compliance Assurance Monitoring (CAM)

The CAM rule (40 CFR 64) applies to each pollutant specific emissions unit located at a major source that is required to obtain a Title V, Part 70 or 71 permit if it meets all of the following criteria:

- It is subject to an emission limitation or standard, and
- It uses a control device to achieve compliance, and
- It has potential pre-control emissions that equal or exceed the major source threshold (i.e., either 100 tpy for criteria pollutants, 10 tpy of any individual HAP, or 25 tpy of any combination of HAP).

The following emission limitations or standards are exempted from the CAM rule:

- NSPS or NESHAP standards proposed after November 15, 1990;
- Stratospheric ozone protection requirements under Title VI of the Clean Air Act
- Acid rain program requirements;
- Emission limitations or standards or other requirements that apply solely under an approved emissions trading program;
- An emissions cap that meets requirements of 40 CFR 70.4(b)(12) or 71.6(a)(13);
- Emission limitations or standards for which a Part 70 or 71 permit specifies a continuous compliance determination method, as defined in 40 CFR 64.1, unless the applicable compliance method includes an assumed control device emission reduction factor that could be affected by the actual operation and maintenance of the control device (e.g., a surface coating line controlled by an incinerator for which continuous compliance is determined by calculating emissions on the basis of coating records and an assumed control device efficiency factor based on an initial performance test; in this example, this part would apply to the control device and capture system, but not to the remaining elements of the coating line, such as raw material usage).
- Certain municipally owned utility units, as defined in 40 CFR 72.2.

Please note that the emission unit is not exempted from the CAM rule if nonexempt emission limitations or standards (e.g., a state rule or an older NSPS emission limits) apply to the emissions unit.

CAM was determined in a preceding permit review to not be applicable to sources at the Concord facility because these sources are regulated by both an NSPS and NESHAP (see Sections 7 and 8 of this review) that were proposed after 1990 and control the pollutants that would be subject to CAM. This permit renewal does not affect this status. Continued compliance is expected.

12. Facility-wide Air Toxics Review

Concord is subject to the following emission limits, in accordance with 15A NCAC 02D .1100, Control of Toxic Air Pollutants:

Emission Source	Toxic Air Pollutant	Emission Limit
Combustion Turbine **(ID No. ES-TURB1-CON)**	Benzene	166.74 lbs/year
Combustion Turbine **(ID No. ES-TURB2-CON)** Combustion Turbine **(ID No. ES-TURB1-CHAR)** Enclosed Flare **(ID No. CD-FLARE1-CON)**	Hydrogen chloride	0.927 lbs/hour

These emission limits were established as a facility-wide worst-case single stack modeling demonstration, which was included in permit application No. 1300164.13A. Concord submitted a dispersion modeling analysis to DAQ to satisfy a permit requirement to demonstrate compliance with several NC regulated toxic air pollutants. As documented in an Air Quality Analysis Branch review memorandum of the modeling analysis (Tom Anderson, Meteorologist, to B. Pullen, Permits Section, February 21, 2013), the modeling adequately demonstrated compliance on a source-by-source basis, for all toxics modeled. This permit renewal does not affect this status.

The permit lists several NC toxic air pollutants (TAPs) and their respective toxic permit emission rates (TPERs) as established in 15A NCAC 02Q .0711, "Emission Rates Requiring a Permit".

Pollutant	Carcinogens (lb/yr)	Chronic Toxicants (lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
Acrylonitrile	----------	0.4	0.22	----------
Benzene	8.1	----------	----------	----------
Carbon disulfide	----------	3.9	----------	----------
Dichlorobenzene(p),	----------	----------	----------	16.8
Ethylene dichloride (1,2-dichloroethane)	260	----------	----------	----------
Hexane, n	----------	23	----------	----------
Hydrogen chloride (hydrochloric acid)	----------	----------	----------	0.18
MEK (methyl ethyl ketone, 2-butanone)	----------	78	----------	22.4
MIBK (methyl isobutyl ketone)	----------	52	----------	7.6
Mercury - alkyl compounds, total mass (Component of HGC) (MERCALKYL)	----------	0.0013	----------	----------
Methylene chloride	1600	----------	0.39	----------
Perchloroethylene (tetrachloroethylene)	13000	----------	----------	----------
Toluene	----------	98	----------	14.4
Vinyl chloride	26	----------	----------	----------
Vinylidene chloride	----------	2.5	----------	----------

Concord has demonstrated that its plant-wide actual emissions do not exceed the TPERs. The permit requires Concord to operate and maintain the facility so that emissions of any listed TAPs from the facility, including fugitive emissions, will not exceed the TPERs; and to maintain records that demonstrate compliance with each TPER. Based on the most recent inspection, Concord has been complying with this regulation. Continued compliance will be determined during subsequent inspections.

The three turbines at Concord (ID Nos. ES-TURB1-CON, ES-TURB2-CON, and ES-TURB1-CHAR) are exempt from general statute G.S. 143-215.107 for the control of toxic air pollutants because the facility is not a major source of hazardous air pollutants and the Federal standards do not cover turbines located at area sources.

13. Facility Emissions Review

The table in the header page of this review summarizes emissions Concord has reported in the annual emissions inventories after application of required emission controls for the years 2017 through 2021. Annual emissions of criteria pollutants (SO_2, NO_X, VOC, CO, and PM_{10}) and HAP have remained relatively steady over that time.

14. Compliance History and Status

The following chronology dates from when the Concord permit was last renewed on May 28, 2019.

August 27, 2019	Compliance testing conducted by TRC Environmental Corporation for two landfill gas-fired turbine generators (ID Nos. ES-TURB1-CON and ES-TURB2-CON) at Concord facility.
October 3, 2019	Melanie Wolanin, Mooresville Regional Office (MRO) conducts facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements.
September 10, 2020	SO_2 and NO_X compliance testing conducted by TRC Environmental Corporation for two landfill gas-fired turbine generators (ID Nos. ES-TURB1-CON and ES-TURB2-CON) at Concord facility.
December 21, 2020	SSCB issues memo documenting review of turbine generator compliance testing conducted on September 10, 2020. The test results are considered a demonstration of compliance with the applicable SO_2 and NO_X emission limits.
July 15, 2021	SSCB issues memo documenting review of turbine generator compliance testing conducted on August 27, 2019. The test results are considered a demonstration of compliance with the applicable SO_2 emission limits.
November 9, 2021	Compliance testing conducted by TRC Environmental Corporation for two landfill gas-fired turbine generators (ID Nos. ES-TURB1-CON and ES-TURB2-CON) at Concord facility.
November 10, 2021	Melanie Wolanin, MRO conducts facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements.
October 22, 2021	Melinda Wolanin, MRO conducts facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements.
April 20, 2022	SSCB issues memo documenting review of turbine generator compliance testing conducted on November 9, 2021. The test results are considered a demonstration of compliance with the applicable SO_2 emission limits.
October 25, 2022	Abanoub Tadros, MRO conducts facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements.

In summary, Concord appears to have been in compliance with all permit requirements over this time period.

15. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above.

South Carolina is an affected state within 50 miles of the facility. The Mecklenburg County Department of Environmental Protection and the Forsyth County Office of Environmental Assistance and Protection are affected local programs within 50 miles of the facility.

Notice of the DRAFT Title V Permit to Affected States ran from XXXX, 2023, to XXXX, 2023. ***Insert discussion of any comments received from Affected States or Local Programs.***

Public Notice of the DRAFT Title V Permit ran from XXXX, 2023, to XXXX, 2023. ***Insert discussion of any public comments received.***

EPA's 45-day review period ran concurrent with the 30-day Public Notice, from XXXX, 2023, to XXXX, 2023. ***Insert discussion of any comments received from EPA and U.S. EPA Region 4 regarding the DRAFT Title V Permit.***

16. Other Regulatory Considerations

The following items were not required in Permit Application No. 1300164.22A:

- Professional Engineer's seal
- Zoning consistency determination
- Permit fee.

EPA has promulgated a rule (88 FR 47029, July 21, 2023), with an effective date of August 21, 2023, removing the emergency affirmative defense provisions in operating permits programs, codified in both 40 CFR 70.6(g) and 71.6(g). EPA has concluded that these provisions are inconsistent with the EPA's current interpretation of the enforcement structure of the CAA, in light of prior court decisions[4]. Moreover, per EPA, the removal of these provisions is also consistent with other recent EPA actions involving affirmative defenses[5] and will harmonize the EPA's treatment of affirmative defenses across different CAA programs.

[4] NRDC v. EPA, 749 F.3d 1055 (D.C. Cir. 2014).

[5] In newly issued and revised New Source Performance Standards (NSPS), emission guidelines for existing sources, and NESHAP regulations, the EPA has either omitted new affirmative defense provisions or removed existing affirmative defense provisions. See, e.g., National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants; Final Rule, 80 FR 44771 (July 27, 2015); National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; Final Rule, 80 FR 72789 (November 20, 2015); Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units; Final Rule, 81 FR 40956 (June 23, 2016).

As a consequence of this EPA action to remove these provisions from 40 CFR 70.6(g), it will be necessary for states and local agencies that have adopted similar affirmative defense provisions in their Part 70 operating permit programs to revise their Part 70 programs (regulations) to remove these provisions. In addition, individual operating permits that contain Title V affirmative defenses based on 40 CFR 70.6(g) or similar state regulations will need to be revised.

Regarding NCDAQ, it has not adopted these discretionary affirmative defense provisions in its Title V regulations (15A NCAC 02Q .0500). Instead, DAQ has chosen to include them directly in individual Title V permits as General Condition (GC) J.

Per EPA, DAQ is required to promptly remove such impermissible provisions, as stated above, from individual Title V permits, after August 21, 2023, through normal course of permit issuance. These provisions have been removed from the permit in this renewal.

17. Recommendations

DAQ has reviewed the permit application for Concord Energy, LLC located in Concord, Cabaarrus to determine compliance with all procedures and requirements. DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. DAQ recommends the issuance of Air Permit No. 09985T05.