

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: XXXX XX, 2022

Region: Mooresville Regional Office
County: Cabarrus
NC Facility ID: 1300002
Inspector's Name: Melinda Wolanin
Date of Last Inspection: 03/02/2021
Compliance Code: 3 / Compliance - inspection

<p style="text-align: center;">Facility Data</p> <p>Applicant (Facility's Name): WSACC - Rocky River Regional WWTP</p> <p>Facility Address: WSACC - Rocky River Regional WWTP 6400 Breezy Lane Concord, NC 28025</p> <p>SIC: 4952 / Sewerage Systems NAICS: 22132 / Sewage Treatment Facilities</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p style="text-align: center;">Permit Applicability (this application only)</p> <p>SIP: 15A NCAC 02D .0516, and .1204 NSPS: 15A NCAC 02D .0524 – Subpart O NESHAP: 15A NCAC 02D .1110 Subparts C & E, 15A NCAC 02D .1111 – Subpart ZZZZ and JJJJJ PSD: N/A PSD Avoidance: 15A NCAC 02Q .0317 NC Toxics: N/A 112(r): N/A Other: 15A NCAC 02Q .0508, 40 CFR Part 503, Subpart E, and 40 CFR 62 Subpart LLL</p>
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Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	<p>Application Number: 1300002.21A Date Received: 03/24/2021 Application Type: Renewal Application Schedule: TV-Renewal</p> <p style="text-align: center;">Existing Permit Data</p> <p>Existing Permit Number: 04475/T21 Existing Permit Issue Date: 09/24/2020 Existing Permit Expiration Date: 01/31/2022</p>
<p>Chris Carpenter Maintenance Manager (704) 788-4164 6400 Breezy Lane Concord, NC 28025</p>	<p>Mark Fowler Facilities Director (704) 788-4164 6400 Breezy Lane Concord, NC 28025</p>	<p>Chris Carpenter Maintenance Manager (704) 788-4164 6400 Breezy Lane Concord, NC 28025</p>	

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2019	2.79	6.03	9.11	115.10	0.2800	0.5569	0.1367 [Phosphorus Metal, Yellow or Wh]
2018	2.74	5.92	8.95	113.01	0.2700	0.5468	0.1342 [Phosphorus Metal, Yellow or Wh]
2017	2.62	5.70	8.56	108.11	1.55	0.5230	0.1283 [Phosphorus Metal, Yellow or Wh]
2016	2.22	26.48	7.25	91.59	1.31	0.4431	0.1087 [Phosphorus Metal, Yellow or Wh]

<p>N Review Engineer: David B. Hughes</p> <p>Review Engineer's Signature: _____ Date: XXXX XX, 2022</p>	<p style="text-align: center;">Comments / Recommendations:</p> <p>Issue 04475/T22 Permit Issue Date: XXXX XX, 2022 Permit Expiration Date: XXXX XX, 2027</p>
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1. Purpose of Application:

Application No. 1300002.21A

This permitting action is a renewal of an existing Title V permit pursuant to 02Q .0513. The existing Title V permit (**04475T21**) was issued on **September 24, 2020**, with an expiration date of **January 31, 2022**. The renewal application **1300002.21A** was received on **March 24, 2021**, or at least six months prior to the original expiration date **January 31, 2022**. 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.

2. Facility Description:

The Water and Sewer Authority of Cabarrus County (WSACC) – Rocky River Regional Waste Water Treatment Plant (WSACC) is a waste water treatment plant (WWTP) that has an existing sewage sludge multiple hearth incinerator (SSI) (22.25 feet in diameter, with a maximum average permitted charging rate of 21,200 wet pounds per hour) fired by twelve (12) No. 2 fuel oil/recycled No. 2 fuel oil-fired burners (18.8 million Btu per hour total heat input rating, ID No. ES-01). The facility is currently operating the existing permitted control devices installed on the SSI including a No. 2 fuel oil-fired afterburner (ID No. CD-03, 7.77 million Btu maximum burner rating), a conditioning system consisting of a spray quencher and two-tray impingement cooler (ID No. CD-04), a wet electrostatic precipitator (ID No. CD-02, 2,439 square feet of collector plate area), and a packed tower scrubber (ID No. CD-06, 169 gallons per minute minimum liquid injection rate and minimum pH of 5.1) for compliance purposes. WSACC became a Title V facility due to the applicability of 40 CFR 62 Subpart LLL (Federal Plan Requirements for Sewage Sludge Incineration Units Constructed On or Before October 14, 2010).

3. History/Background/Application Chronology:

February 6, 2017	Air Quality Permit No. 04475T20 issued as a 1 st Time Title V permit.
September 20, 2020	Air Quality Permit No. 04475T21 issued as a Minor Modification as a Title V permit.
March 2, 2021	Melinda Wolanin of the Mooresville Regional Office (MRO) completed the annual compliance inspection of the facility.
March 24, 2021	DAQ received Permit Application 1300002.21A , which is a Title V renewal. The application was deemed complete for processing.
October 13, 2021	DRAFT permit sent to Permittee, Supervisor, MRO and Samir Parekh for comment. Permittee provided comments on draft permit and review via e-mail on November 17, 2021 . Samir Parekh of RCO states via e-mail on October 20, 2021 that he has reviewed the draft permits and had comments regarding CAM applicability. Mooresville Regional Office had no comments.
December 8, 2021	David Hughes (DAQ) and Keith McCulloch (GEL Engineering of NC, Inc) have a phone conversation to discuss CAM applicability for Multiple hearth sewage incinerator (MHI, ID No. ES-01).
December 20, 2021	Teams meeting with David Hughes and Samir Parekh (DAQ) and Keith McCulloch (GEL Engineering of NC, Inc) to discuss CAM applicability for MHI (ES-01) for emission standards 15A NCAC 02D .0516, 40 CFR 60 Subpart O and 40 CFR 60 Subpart MMMM.
January 4, 2022	After multiple emails between David Hughes, Samir Parekh, and Keith McCulloch it was decided on a phone conversation between David Hughes and Keith McCulloch that WSACC would submit a CAM Plan for emission

standards 15A NCAC 02D .0516 and 40 CFR 60 Subpart O. All parties agreed that 40 CFR 60 Subpart MMMM was exempt from CAM.

- March 3, 2022** Melinda Wolanin of the Mooresville Regional Office (MRO) completed the annual compliance inspection of the facility.
- March 18, 2022** Keith McCulloch sends in CAM plan via email.
- April 19, 2022** Rahul Thaker of DAQ finishes up his review of the draft permit and review and sends David Hughes an email informing him that if he has any questions regarding the comments to please schedule a Teams meeting.
- May 25, 2022** Rahul Thaker and David Hughes have an in house meeting to discuss Rahul's comments. All of the questions that David Hughes had for Rahul were answered.
- June 13, 2022** Multiple emails between Keith McCulloch and David Hughes regarding 12-hour block average for the CAM plan. Issues resolved via phone conversation.
- June 22, 2022** Phone conversation between Keith McCulloch, David Hughes and Rahul Thaker to discuss operating parameters for MHI (ID No. ES-01). After a lengthy discussion, DAQ and Keith McCulloch agreed on operating parameters (combustion chamber operating temperature for MHI ES-01, minimum pressure drop and injection rate for packed tower scrubber CD-06).
- XXXX XX, 2022** Draft permit and review sent to 30-day public comment and 45-day EPA review periods.
- XXXX XX, 2022** Jenny Sheppard (DAQ) updated the Title V Equipment Editor (TVEE).
- XXXX XX, 2022** 30-day public comment period ended; no comments received.
- XXXX XX, 2022** 45-day EPA comment period ended; no comments received.
- XXXXXX, 2022** Air Quality Permit No. **04897T23** issued.

4. New Equipment/Changes in Emissions and Regulatory Review:

New Equipment: There is no new equipment associated with this permit application.

Change in Emissions: There are no changes in emissions associated with this permit application.

Regulatory Review: There are no changes to the regulations that affect WSACC since the approved performance test still demonstrates compliance with the updated operational parameters. The following regulations apply to the following equipment. A brief summary of compliance with these regulations will be discussed in this review. If needed, more information can be found in previous permit reviews.

- A. Multiple hearth sewage sludge incinerator (MHI, **ID No. ES-01**): 15A NCAC 02D .0516, 02D .0521, 02D .0524 NSPS Subpart O, 02D .1110 Subparts C & E, 02D .1204, 02Q .0317 (PSD Avoidance), 02Q .0508, 40 CFR Part 503 Subpart E, and 40 CFR Part 62 Subpart LLL.

15A NCAC 02D .0516 – Sulfur Dioxide Emissions from Combustion Sources

The Sulfur Dioxide (SO₂) emissions from combustion sources establishes SO₂ limits for combustion sources. Emissions of SO₂ from any source of combustion shall not exceed 2.3 pounds of SO₂ per MMBtu input.

The burners associated with the MHI have a maximum rated heat input of 18.8 MMBtu/hr. As shown in the May 2020 Amended Title V Operating Permit Application, the calculated maximum potential controlled SO₂ emission rate for the MHI is 3.85 pounds per hour (lb/hr) (0.20 pounds per MMBtu). SO₂ emissions from the MHI are in compliance with this standard. Continued compliance is expected.

15A NCAC 02D .0521 – Control of Visible Emissions

The MHI is subject to other visual emission regulations (NCAC 02D .0524 – Subpart O) and thus are not subject to 15A NCAC 02D .0521.

15A NCAC 02D .0524 – 40 CFR Part 60, Subpart O

The NSPS Subpart O establishes standards for particulate matter (PM) (1.3 pounds per ton of dry sludge input) and visible emissions (20 percent opacity) for facilities that combust wastes containing more than 10 percent sewage sludge (dry basis) produced by municipal sewage treatment plants, or each incinerator that charges more than 2,205 pounds per day municipal sewage sludge (dry basis). Additionally, NSPS Subpart O establishes monitoring, recordkeeping, and reporting requirements for the sewage sludge incinerator.

The operational parameters for the WESP (**CD-02**), the conditioning system (**CD-04**), and the packed tower scrubber (**CD-06**) are based on the results of performance testing conducted on February 25-26, 2020 and approved on July 10, 2020. For the WESP (**ID No. CD-02**), the minimum average daily power input measured on the secondary side of the transformer shall not be less than **84** Watts. For the conditioning system (**CD-04**), the average daily water flow rate to the quencher shall not be less than **200** gallons per minute and to the cooler shall not be less than **624** gallons per minute. For the packed tower scrubber (**CD-06**), the average daily liquid injection rate to the scrubber shall not be less than **166** gallons per minute. Continued compliance is expected

15A NCAC 02D .1100 – 40 CFR Part 61, Subparts C & E

40 CFR Part 61 establishes National Emission Standards for Hazardous Air Pollutants (NESHAPs) in Subparts A through FF. The applicable provisions, including the emission standards, testing, and monitoring requirements of 40 CFR Part 61 Subparts C (Beryllium) and E (Mercury) apply to the sewage sludge incinerator. Subpart C establishes a beryllium limit of .022 pounds per 24-hour period. Subpart E establishes a mercury limit of 7.1 pounds per 24-hour period. Based on the beryllium and mercury emission rates presented in the May 2020 Amended Title V Operating Permit Application, emissions from the MHI are in compliance with this standard. Continued compliance is expected.

15A NCAC 02D .1204 – Sewage Sludge and Sludge Incinerators

The Sewage Sludge and Sludge Incinerators regulation requires a facility that operates a sewage sludge incinerator to comply with emission standards, test methods and procedures, monitoring requirements, recordkeeping requirements, and reporting requirements.

The Emission Standards for the applicable pollutants are in the following table:

Emission Source	Pollutant	Emission Limit
Multiple hearth sewage sludge incinerator (ID No. ES-01)	Particulate Matter	80 milligrams per dry standard cubic meter or 1.3 pounds per ton of dry sewage sludge input, whichever is more restrictive
	Fugitive emissions from ash handling	Visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) for no more than 5 percent of any compliance test hourly observation period
	Visible emissions	20% opacity
	Sulfur dioxide	26 parts per million by dry volume
	Odorous emissions	As per 15A NCAC 02D .1806
	Hydrogen chloride	1.2 parts per million by dry volume

	Carbon Monoxide	3,800 parts per million by dry volume
	Nitrogen Oxide	220 parts per million by dry volume
	Dioxin and Furan (total mass basis)	5.0 nanograms per dry standard cubic meter
	Dioxin and Furan (toxic equivalency basis)	0.32 nanograms per dry standard cubic meter
	Mercury	0.28 milligrams per dry standard cubic meter, or 3.2 kg (7.1 lb) per 24-hour period, whichever is more restrictive
	Beryllium	10 grams (0.022 lb) per 24-hour period
	Cadmium	0.095 milligrams per dry standard cubic meter
	Lead	0.30 milligrams per dry standard cubic meter
	Monthly average total hydrocarbon concentration	100 parts per million (volumetric basis, corrected 7% oxygen and 0% moisture)
	Lead ⁽¹⁾	12,733 mg/kg
	Arsenic ⁽¹⁾	2,928 mg/kg
	Cadmium ⁽¹⁾	2,073 mg/kg
	Chromium ⁽¹⁾	4,074 mg/kg
	Nickel ⁽¹⁾	509,337 mg/kg

(1) Maximum average daily concentration in sewage sludge fed to the incinerator

The operational parameters as discussed above for NSPS Subpart O as well as the average daily maximum sewage sludge combustion temperature in the multiple hearth sewage sludge incinerator (ES-01) shall not exceed 1,838 °F while the temperature in the combustion zone of the afterburner (CD-03) shall not be less than 1,203 °F (12-hour block average).

15A NCAC 02Q .0508 – Incineration of Off-site Sewage Sludge

As noted in Condition No. 2.1 A.6, WSACC is allowed to incinerate sewage sludge generated off-site provided all limitations of the Title V operating permit and the monitoring, recordkeeping and reporting requirements outlined in Condition 2.1 A.6. a, b, and c are met.

40 CFR Part 503, Subpart E

This subpart applies to a person who fires sewage sludge in a sewage sludge incinerator, to a sewage sludge incinerator, and to sewage sludge fired in a sewage sludge incinerator. This subpart also applies to the exit gas from a sewage sludge incinerator stack.

The management practice in §503.45(a), the frequency of monitoring requirement for total hydrocarbon concentration in §503.46(b) and the recordkeeping requirements for total hydrocarbon concentration in §503.47(c) and (n) do not apply if the following conditions are met as stated in §503.40(c)(1-3):

- (1) The exit gas from a sewage sludge incinerator stack is monitored continuously for carbon monoxide.
- (2) The monthly average concentration of carbon monoxide in the exit gas from a sewage sludge incinerator stack, corrected for zero percent moisture and to seven percent oxygen, does not exceed 100 parts per million on a volumetric basis.
- (3) The person who fires sewage sludge in a sewage sludge incinerator retains the following information for five years:
 - (i) The carbon monoxide concentrations in the exit gas; and

- (ii) A calibration and maintenance log for the instrument used to measure the carbon monoxide concentration.

WSACC is subject to this regulation. The emission limitations, operational standards, monitoring requirements, reporting, and recordkeeping requirements are listed in the regulation and in the current Title V operating permit.

40 CFR 62, Subpart LLL – Federal Plan Requirements for Sewage Sludge Incineration Units Constructed On or Before October 14, 2010)

The operational parameter changes from the approved performance test in Table 2.

Table 2. Operating Parameter Limits Established During Testing (Approved July 10, 2020)

Source/Control Device	Operating Limit Description ¹	Value
ES-01	Maximum Combustion Temperature	1,838 °F
CD-02	Minimum Injection Flow Rate	4.0 gpm
	Minimum Amperage	84 watts
CD-03	Minimum Operating Temperature	1,203 °F
CD-04	Minimum Pressure Drop	6.6 in. H ₂ O
	Minimum Conditioner Injection Flow Rate	624 gpm
	Minimum Quencher Injection Flow Rate	200 gpm
CD-06	Minimum Recirculating Flow Rate	166 gpm
	Minimum pH	5.1
	Minimum Mist Eliminator Pressure Drop	0.14 in. H ₂ O
	Minimum Packed Bed Pressure Drop	-0.06 in. H ₂ O

¹ °F=Degrees Fahrenheit; gpm=gallons per minute; in. H₂O=inches water

It should be noted that the DAQ recently incorporated in 02D .1204, for existing sewage sludge incinerator units, the requirements promulgated in 40 CFR 60 Subpart Mmmm “Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units (EG)”. The revised 02D .1204 implementing this EG replace the above federal plan requirement. Continued compliance is expected.

- B. One 2,000 kilowatt diesel fuel-fired emergency generator (20.16 million Btu per hour maximum heat input) (ID No. ES-G-1): 15A NCAC 02D .0516, 02D .0521, 02D .1111 Subpart ZZZZ, and 02Q .0317 (PSD Avoidance).

15A NCAC 02D .0516 – Sulfur Dioxide Emissions from Combustion Sources

Emissions of sulfur dioxide from the emergency generator (ID No. ES-G-1) 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.

The emergency generator has a maximum heat input of 20.16 MMBtu/hr. As shown in the March 2014 Title V Operating Permit Application, the calculated maximum potential uncontrolled SO₂ emission rate for the MHI is 0.03 lb/hr (0.0015 pounds per MMBtu). SO₂ emissions from the emergency generator are in compliance with this standard. Continued compliance is expected.

15A NCAC 02D .0521 – Control of Visible Emissions

The North Carolina control of Visible emissions standards establishes opacity limits for sources, either fuel burning or process, for which no other opacity emission standards are applicable. The opacity emission limits are 40 percent for sources constructed prior to July 1, 1971, and a 20 percent opacity limit for sources constructed after that date.

The emergency generator at WSACC is subject to and complies with the 20 percent opacity limit. Continued compliance is expected.

15A NCAC 02D .1111 – MACT for Existing Emergency Generators at Area Sources of HAPs

The existing/exempt boiler (ID No. I-1) and emergency generator (ID No. ES-G1) at WSACC are subject to GACT Subpart JJJJJ and Subpart ZZZZ (RICE MACT), respectively. The applicability of

these two regulations is listed in WSACC’s current air permit. No changes were proposed to these sources as a result of this renewal. Continued compliance is expected.

C. Multiple Emission Sources and Specific Limitations and Conditions

Multiple hearth sewage sludge incinerator (MHI, ID No. ES-01)

One 2,000 kilowatt diesel fuel-fired emergency generator (ID No. ES-G-1)

15A NCAC 02Q .0317 – PSD Avoidance for PM₁₀, PM_{2.5}, CO, and SO₂

The facility has requested to keep this avoidance condition in their permit. WSACC shall continue to maintain records and submit required semi-annual reports. Continued compliance is expected.

15A NCAC 02D .0540 – Particulates from Fugitive Dust Emission Sources

The source specific 02D .0540 is not needed as it is already included in General Conditions MM.

15A NCAC 02D .0535 – Excess Emissions Reporting and Malfunction

The source specific 02D .0535 is not needed as it is already included in General Conditions I.A.3.a.

5. Changes to Permit and TVEE

The following changes were made to the WSACC – Rocky River WWTP, Air Permit No. 04475T21:

Page No.	Section	Description of Changes
Global	Global	-Updated the application number and complete date. -Updated permit revision number to T22. -Updated the issuance/effective dates to permit.
Cover Letter	Cover Letter	-Updated PSD increment tracking statement.
3	List of Acronyms	-Moved List of Acronyms from end of permit.
4	Section 1 Equipment Table	-Removed * asterick from emission source (ID No. ES-01) and conditioning system consisting of a spray quencher and two-tray impingement cooler (ID No. CD-04), packed bed scrubber (ID No. CD-06), and a wet electrostatic precipitator (ID No. CD-02). -Removed footnote for minor modification of emission source (ID No. ES-01), and control devices (ID Nos. CD-04, CD-06, and CD-02).
5	2.1 A Table	-Added regulations 15A NCAC 02D .0540, and .0535 to Section 2.2 A.2, and 2.2 A.3 respectively.
5	2.1 A	-Removed descriptions for emission source (ID No. ES-01) and control devices (ID Nos. CD-03, CD-06 and CD-02).
---	2.1 A.2	-Removed 15A NCAC 02D 0521: Control of Visible Emissions. Sewage Sludge Incinerator (ID No. ES-01) is subject to Visible Emissions requirements under 40 CFR Part 60, Subpart O.
7 & 8	2.1 A.2.g.i	-Condition 2.1 A.4.u.xi was relocated to this condition. Also revised to reflect 40 CFR 60.155 (a)(1)(i) which states that a scrubber pressure drop reduction of more than 30 percent from the average scrubber pressure drop recorded during the most recent performance test shall be reported.
8	2.1 A.3	-Updated shell language for 15A NCAC 02D .1110: National Emission Standards for Hazardous Air Pollutants Subparts C and E.
8 - 12	2.1 A.4	-Updated shell language for 15A NCAC 02D .1204: Sewage Sludge and Sludge Incinerators (State Enforceable Only).
9	2.1 A.4.c Table	-Added 12-hour block average to Operating Parameter/Operating Requirement.

Page No.	Section	Description of Changes
12	2.1 A.4.u.x	-Revised average daily combustion temperature in the multiple hearth sewage sludge incinerator (ID No. ES-01) from 1,838 °F to 2,206 °F. Revised temperature to reflect requirement under 40 CFR Part 503 Subpart E which states the maximum value established under the 40 CFR Part 503 Subpart E of 20% above the most recent established maximum combustion temperature of the MHI.
13 - 15	2.1 A.6	-Updated shell language for 40 CFR Part 503, Subpart E – Standards For the Use or Disposal of Sewage Sludge Incineration.
13 & 14	2.1 A.6.d.iv Table	-Added Amount of sewage sludge (metric tons per 365 day period) and frequency.
19	2.1 B	-Removed descriptions for emission source (ID No. ES-G-1).
23	2.2 A	-Removed descriptions for emission source (ID No. ES-01), control devices (ID Nos. CD-03, CD-06 and CD-02) and emission source (ID No. ES-G-1).
24 - 26	Section 2.3 A.1	-Added Compliance Assurance Monitoring (CAM; 40 CFR Part 64) regulation and language for one sewage sludge multiple hearth incinerator (ID No. ES-01) for particulate matter.
26 & 27	Section 2.3 A.2	-Added Compliance Assurance Monitoring (CAM; 40 CFR Part 64) regulation and language for one sewage sludge multiple hearth incinerator (ID No. ES-01) for sulfur dioxide.
28	Section 3 Insignificant Activities	-Moved Insignificant Activities list and removed footnote 3.
29 - 37	Section 4 General Conditions	-Updated shell conditions (v6.0, 01/07/2022).

There were no modifications to the equipment descriptions needed in Title V Equipment Editor (TVEE).

6. NSPS, NESHAP, MACT, PSD, Attainment Status, and CAM:

WSACC is subject to the following NSPS, NESHAP, and MACT regulations. Compliance with all regulations is currently indicated.

- NSPS Subpart O – Standards of Performance for Sewage Sludge Treatment Plants (ES-01)
- NESHAP Subparts C & E – National Emissions Standards for Beryllium and Mercury (ES-01)
- MACT Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (ES-G-1)

Prevention of Significant Deterioration (PSD)

The Prevention of Significant Deterioration Standard (15A NCAC 02D .0530) applies to a facility's emissions if the facility is classified as a "major" source as defined under this regulation. Wastewater treatment plants are not one of the 28 source categories subject to the 100 tons per year PSD major source threshold and are therefore subject to the 250 tons per year major source threshold for all regulated NSR pollutants except lead. Air Permit Condition 2.2 A.1 includes a PSD avoidance condition which limits PM₁₀, PM_{2.5}, CO and SO₂ emissions below 250 tpy per consecutive 12-month period.

This renewal application does not result in an increase in criteria pollutant emissions. Therefore, a PSD review is not required for this permit renewal.

Compliance Assurance Monitoring

The 40 CFR Part 64 Compliance Assurance Monitoring (CAM) regulation was developed in order to provide reasonable assurance that facilities comply with emissions limitations by monitoring the operation

and maintenance of their control devices. CAM applies to an emissions unit if all of the following criteria are met:

- the unit is located at a major source for which a Title V permit is required; and
- the unit is subject to an emission limitation or standard for the applicable regulated air pollutant; and
- the unit uses a control device to achieve compliance with a federally enforceable limit or standard; and
- the unit has potential pre-control or post-control emissions of at least 100% of the major source amount; and
- the unit is not otherwise exempt from CAM.

As shown in the Table below (Summary of Facility Emissions), uncontrolled emissions of PM, PM₁₀, PM_{2.5}, CO, and SO₂ are greater than 100 tons per year from the MHI. The MHI is subject to emission limitations/standards and use control devices to achieve compliance with the emission limitations/standards.

	PM (tons/yr)		PM ₁₀ (tons/yr)		PM _{2.5} (tons/yr)		CO (tons/yr)	
	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
MHI (ES-01)	1,277	2.80	345	0.76	281	0.62	396	<250
EG (ES-G-1)	0.10	0.10	0.10	0.10	0.10	0.10	0.86	0.86
Totals	1,277	2.90	345	0.86	281	0.72	397	<250

	NO _x (tons/yr)		SO ₂ (tons/yr)		VOC (tons/yr)		Lead (tons/yr)	
	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
MHI (ES-01)	61	---	357	16.85	20.43	---	1.28	0.0011
EG (ES-G-1)	3.23	---	0.002	0.002	0.09	---	---	---
Totals	64	---	357.50	16.85	20.52	---	1.28	0.0011

	Individual HAP		Total HAP	
	Uncontrolled	Controlled	Uncontrolled	Controlled
MHI (ES-01)	1.28	0.31	15.77	1.26
EG (ES-G-1)	---	---	---	---
Totals	1.28	0.31	15.77	1.26

The multiple hearth incinerator (MHI -ES-01) is subject to the following emission limits/standards for CAM applicability:

1. 15A NCAC 02D .0516 (Non-Exempt Emission Standard – Promulgated **before** November 15, 1990)
2. NSPS Subpart O (Non-Exempt Emission Standard – Promulgated **before** November 15, 1990)
3. NSPS MMMM and/or Part 62 LLL (Exempt Emission Standard – Promulgated **after** November 15, 1990)

§ 64.2 (b) states:

*Exemptions - (1) Exempt emission limitations or standards. The requirements of this part shall not apply to any of the following **emission limitations or standards**:*

- (i) ***Emission limitations or standards** proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act.*

Note that the above exemption is specifically for the emission limitations or standards proposed after November 15, 1990 (NSPS MMMM and/or Part 62 LLL - Exempt Emission Standard).

It does **not exempt emission unit (MHI -ES-01)** for the other Non-Exempt Emission Standards proposed before November 15, 1990 (15A NCAC 02D .0516, NSPS Subpart O).

EPA has further clarified this:

- a. in the CAM rule preamble (54900 Federal Register / Vol. 62, No. 204 / Wednesday, October 22, 1997), and
- b. in the CAM rule Section 64.4.

The preamble on Page 54916 states:

“The Agency notes that if emission limitations or standards other than the exempt emission limits described above apply to the same pollutant-specific emissions unit, the owner or operator would still be subject to part 64 for that pollutant-specific emissions unit and may have to upgrade the existing monitoring or add other types of monitoring. The Agency believes that for many situations in which both exempt and non-exempt emission limits apply to a particular pollutant-specific emissions unit, the monitoring for the exempt limit may be adequate to satisfy part 64 for the other non-exempt emission limit(s). Section 64.4(b)(4) of the rule recognizes this possibility and allows the owner or operator to meet the obligation to explain the appropriateness of its proposed monitoring by stating that it is proposing monitoring for non-exempt limits that is based on the monitoring conducted for certain types of exempt emission limits.”

As per Section 64.4(b)(4) of the rule, monitoring for NSPS MMMM and/or Part 62 LLL emission standard is considered presumptively acceptable monitoring, therefore WSACC in their permit application need not explain the justification part of the CAM submittal requirements (40 CFR 64.4) for the other non-exempt emission standard, if the proposed CAM monitoring is patterned after the presumptively acceptable monitoring of exempt emission standard to meet the monitoring of requirements of 40 CFR 64.3.

Therefore, based on §64.2(b) above, CAM is applicable to (MHI -ES-01) for the other non-exempt emission standards and has been added in the permit for the applicable pollutants.

The following tables outline the monitoring, recordkeeping and reporting approach for each control device.

No. 2 fuel oil-fired afterburner (ID No. CD-03)

	<u>Indicator #1</u> Temperature	<u>Indicator #2</u>
Measurement Approach	Temperature will be measured in the combustion zone of the afterburner.	N/A
Indicator Range	An excursion is defined as a 6-hour block average less than the minimum temperature of the combustion zone established during most recent performance test.	N/A
QIP Threshold	12-hour block average less than minimum temperature value established during most recent performance test.	N/A
Performance Criteria: Data Representativeness	Temperature is measured using the SCADA system.	N/A
QA/QC Practices and Criteria	QA/QC practices are followed as set forth in 40 CFR Part 62, Subpart LLL.	N/A
Monitoring Frequency	Monitored Continuously	N/A
Data Collection Procedure	As required by 40 CFR Part 62, Subpart LLL, data is recorded at a minimum of every 15 minutes.	N/A
Data Averaging Period	12-hour block average	N/A

Conditioning system consisting of spary quencher and two-tray impingement cooler (ID No. CD-04)

	<u>Indicator #1</u> Liquid injection flow rate	<u>Indicator #2</u> Pressure Drop
Measurement Approach	Liquid injection flow rate.	Pressure Drop
Indicator Range	An excursion is defined as a 6-hour block average less than the minimum liquid injection flow rate established during most recent performance test (< 200 gallons per minute).	Minimum pressure drop established during most recent performance test.
QIP Threshold	12-hour block average less than minimum liquid injection flow rate established during most recent performance test (< 200 gallons per minute).	12-hour block average less than minimum pressure drop established during most recent performance test.
Performance Criteria: Data Representativeness	Liquid injection flow rate is measured using the SCADA system.	Pressure drop is measured using the SCADA system.
QA/QC Practices and Criteria	QA/QC practices are followed as set forth in 40 CFR Part 62, Subpart LLL.	QA/QC practices are followed as set forth in 40 CFR Part 62, Subpart LLL.
Monitoring Frequency	Monitored Continuously	Monitored Continuously
Data Collection Procedure	As required by 40 CFR Part 62, Subpart LLL, data is recorded at a minimum of every 15 minutes.	As required by 40 CFR Part 62, Subpart LLL, data is recorded at a minimum of every 15 minutes.
Data Averaging Period	12-hour block average	12-hour block average

Wet electrostatic precipitator (ID No. CD-02)

	<u>Indicator #1</u> Power Input	<u>Indicator #2</u> Influent water flow
Measurement Approach	Power input will be measured on the secondary side of the transformer.	Influent water flow rate to the WESP
Indicator Range	An excursion is defined as a 6-hour block average less than the minimum power input value established during most recent performance test (< 84 Watts).	Minimum influent water flow value established during most recent performance test.
QIP Threshold	12-hour block average less than minimum power input value established during most recent performance test (<84 Watts).	12-hour block average less than minimum influent water flow value established during most recent performance test.
Performance Criteria: Data Representativeness	Power input is measured using the SCADA system.	Influent water flow is measured using the SCADA system.
QA/QC Practices and Criteria	QA/QC practices are followed as set forth in 40 CFR Part 62, Subpart LLL.	QA/QC practices are followed as set forth in 40 CFR Part 62, Subpart LLL.
Monitoring Frequency	Monitored Continuously	Monitored Hourly
Data Collection Procedure	As required by 40 CFR Part 62, Subpart LLL, data is recorded at a minimum of every 15 minutes.	As required by 40 CFR Part 62, Subpart LLL, data is recorded at a minimum of every hour.
Data Averaging Period	12-hour block average	12-block average

Packed tower scrubber (ID No. CD-06)

	<u>Indicator #1</u> Liquid injection flow rate/pressure drop	<u>Indicator #2</u> pH

Measurement Approach	Liquid injection flow rate/pressure drop	pH
Indicator Range	An excursion is defined as a 6-hour block average less than the minimum liquid injection flow rate and pressure drop established during most recent performance test (< 166 gallons per minute).	Minimum pH established during most recent performance test.
QIP Threshold	12-hour block average less than minimum liquid injection flow rate or pressure drop established during most recent performance test (< 166 gallons per minute).	3-hour block average less than minimum pH established during most recent performance test.
Performance Criteria: Data Representativeness	Liquid injection flow rate and pressure drop are measured using the SCADA system.	pH is measured using the SCADA system.
QA/QC Practices and Criteria	QA/QC practices are followed as set forth in 40 CFR Part 62, Subpart LLL.	QA/QC practices are followed as set forth in 40 CFR Part 62, Subpart LLL.
Monitoring Frequency	Monitored Continuously	Monitored Continuously
Data Collection Procedure	As required by 40 CFR Part 62, Subpart LLL, data is recorded at a minimum of every 15 minutes.	As required by 40 CFR Part 62, Subpart LLL, data is recorded at a minimum of every 15 minutes.
Data Averaging Period	12-hour block average	3-hour block average

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

- e. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum the following information, as applicable:
- i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
 - ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
 - iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

7. Facility Wide Air Toxics:

NC's air toxics program requires an air toxic permit for the existing facilities in accordance with 15A NCAC 02Q .0706 for the non-exempt sources, listed in 15A NCAC 02Q .0702. In general, the facility is required to demonstrate compliance with established ambient air quality standards if the modification results in a net increase in TAP emissions for any pollutant it was previously emitting or the facility's actual (or permitted if higher) TAP emission rates for any new TAP (which it was not emitting previously) exceed the TAP permitting emissions rates (TPER) listed in Section 02Q .0711

This facility is currently not subject to this state requirement on toxic air pollution. Because the facility's incinerator (**ID No. ES-01**) is subject to Part 61 NESHAPS, it is exempt from air toxics permitting in accordance with 15A NCAC 02Q .0702(a)(27)(A).

As noted in 15A NCAC 02Q .0702 (a)(18), this regulation does not apply to combustion sources. Combustion sources are defined in 15A NCAC 02Q .0703 as boilers, space heaters, process heaters, internal combustion engines, and combustion turbines that combust wood, unadulterated fossil fuels, or

non-hazardous secondary materials that are not solid wastes pursuant to 40 CFR Part 241. Therefore, the emergency generator (**ID No. ES-G-1**) is not subject to this regulation.

In accordance with previous permit reviews regarding air toxics and previous modeling that had been approved by Henry Manfrediz, Meteorologist in the Air Quality Analysis Branch, through a memorandum dated March 3, 1997, no unacceptable risk to human health is suggested. No further air toxics evaluation is required at this time.

8. Facility Emission Review

See Table in the header for a summary of the actual emissions as reported to DAQ from the years 2016 to 2019.

WSACC is a PSD minor source located in Cabarrus County, which is in attainment for all criteria pollutants. Cabarrus County has triggered increment tracking under PSD for PM₁₀ and SO₂. However, this renewal does not consume or expand increments for any pollutants.

9. Stipulation Review:

The facility was found in compliance during the most recent inspection conducted on March 3, 2022 by Melinda Wolanin of the Mooresville Regional Office (MRO).

Compliance History (5-year)

- 03/03/17 A Notice of Deficiency (NOD) was issued for failure to submit timely reports within the required time frame.
- 07/10/18 A Notice of Violation (NOV) was issued for failure to submit timely emission inventory within the required time frame.
- 05/01/19 A Notice of Violation (NOV) was issued for failure to submit a timely annual compliance certification within the required time frame.

10. Affected State(s) Review:

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

11. Conclusions, Comments, and Recommendations:

PE Seal

Pursuant to 15A NCAC 2Q .0112 “Application requiring a Professional Engineering Seal,” a professional engineer’s seal (PE Seal) is required to seal technical portions of air permit applications for new sources and modifications of existing sources as defined in Rule .0103 of this Section that involve:

- (1) design;
- (2) determination of applicability and appropriateness; or
- (3) determination and interpretation of performance; of air pollution capture and control systems.

A professional engineer’s seal (PE Seal) was not required for this renewal application.

Zoning

A zoning consistency determination was not required for this renewal application.

Recommendations

MRO recommends issuance of the permit and was sent a DRAFT permit prior to issuance (See Section 3. of this document for a discussion).

The Raleigh Central Office (RCO) concurs with MRO's recommendation to issue the Air Permit No. 04475T22.