

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: **Month XX, 2022**

Region: Mooresville Regional Office
County: Gaston
NC Facility ID: 3600338
Inspector's Name: Melinda Wolanin
Date of Last Inspection: 04/30/2019
Compliance Code: 3 / Compliance - inspection

Facility Data	Permit Applicability
<p>Applicant (Facility's Name): NC Municipal Power Agency No. 1 - Gastonia Prime Power Park</p> <p>Facility Address: NC Municipal Power Agency No. 1 - Gastonia Prime Power Park 1109 Gastonia Technology Parkway Dallas, NC 28034</p> <p>SIC: 4911 / Electric Services NAICS: 221119 / Other Electric Power Generation</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p>SIP: 15A NCAC 02D .0516 .0521, .1402(d), 1408, .1423, and .2400 NSPS: Subparts IIII and KKKK NESHAP: Subpart ZZZZ PSD: NA PSD Avoidance: CO, SO₂, and NO_x (as NO₂) NC Toxics: NA 112(r): NA Other: NAA NSR Avoidance for NO_x and VOC</p>

Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	
Jack Yox Lead Generator Specialist (704) 267-2005 PO Box 2819 Huntersville, NC 28070	Steven Allen Field Operations Manager (704) 464-5410 PO Box 2819 Huntersville, NC 28070+2819	Jack Yox Lead Generator Specialist (704) 267-2005 PO Box 2819 Huntersville, NC 28070	<p>Application Number: 3600338.19A Date Received: 04/25/2019 Application Type: Renewal Application Schedule: TV-Renewal</p> <p style="text-align: center;">Existing Permit Data</p> <p>Existing Permit Number: 09878/T04 Existing Permit Issue Date: 07/22/2015 Existing Permit Expiration Date: 01/31/2020</p>

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2019	---	2.34	0.3	2.67	0.05	0.0018	0.0008 [Benzene]
2018	---	2.08	0.26	2.24	0.04	0.0016	0.0007 [Benzene]
2017	---	2.78	0.37	3.2	0.06	0.0021	0.0010 [Benzene]
2016	---	3.03	0.31	2.65	0.09	0.0022	0.0010 [Benzene]
2015	---	2.60	0.31	2.52	0.06	0.0019	0.0009 [Benzene]

<p>Review Engineer: Davis Murphy</p> <p>Review Engineer's Signature: _____ Date: Month XX, 2022</p>	<p style="text-align: center;">Comments / Recommendations:</p> <p>Issue 09878/T05 Permit Issue Date: Month XX, 2022 Permit Expiration Date: Month XX, 202X</p>
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1. Purpose of Application

NC Municipal Power Agency No. 1 - Gastonia Prime Power Park (Gastonia PPP) currently holds Title V Permit No. 09878T04 with an expiration date of January 31, 2020 for an electric power producing facility in Dallas, Gaston County, North Carolina. This permit application is for a permit renewal without modification. The renewal application was received on April 25, 2019, or at least nine months prior to the expiration date. 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.

In the application, the facility requested that the permit condition for regulation 15A NCAC 02D .2400: Clean Air Interstate Rules be removed from the permit since these rules expired on February 1, 2016. This request will be accommodated, see section 5 of this review for further discussion.

2. Facility Description

Gastonia PPP is a peak shaving generation facility. The most recent compliance inspection was performed on February 4, 2021 by Melinda Wolanin, of the DAQ Mooresville Regional Office. According to Ms. Wolanin's inspection report, "the facility is a prime power park that supplies electricity to customers during power outages and during peak demand on an as needed basis." The facility is currently permitted to operate a mix of diesel-fired generators and natural gas and diesel-fired combustion turbines. Summaries of these emissions sources, as stated in the review for permit renewal T03 (2/19/2015) is shown below:

Two diesel-fired peak shaving generators (ID Nos. ES-1 and ES-2)

These are diesel-fired peak shaving generators, having electric output of 2,250 kW for each generator and power output for each engine of 3,286 HP. They have been installed at the facility.

Four diesel-fired peak shaving generators (ID Nos. ES-6 through ES-9)

These are diesel-fired generators, currently classified as peak shaving generators. Each has an electric output of 1825 kW and engine power output of 2447 HP. They have been installed at the facility.

As stated above, the Permittee has requested to reclassify these generators from peak shaving to emergency. The Permittee (responsible official) has reasoned that the generators never operated as peak shavers since their installation.

Up to nine natural gas/No. 2 fuel oil-fired simple cycle combustion turbines (ID Nos. ES-10 through ES-18)

These are natural gas/No. 2 fuel oil-fired simple cycle combustion turbines, consisting of four to nine units, each between 25 MW to 61 MW output, and permitted with four different configurations. It should be noted here that these combustion turbines have not yet been constructed at the facility.

Scenario	Manufacturer	Model	Number of Turbines	Output of Each Turbine MW	Heat Input Rate Million Btu/hr	
					Natural Gas	Diesel
1	General Electric	LMS6000 PG	4	55	188	188
2	Pratt & Whitney	FT8-3	4	61	208	208
3	Solar	Titan 250	9	25	85	85
4	General Electric	LMS2500	9	25	79	79

As noted in the discussion above, the diesel-fired generators (ID Nos. ES-6 through ES-9) are now emergency generators, not peak shaving. Following the issuance of permit T03, a permit modification application was submitted, requesting to designate the catalytic oxidizer and selective catalytic reduction systems associated with engines ES-6 through ES-9 as “voluntary.” Since these engines are emergency engines, they are no longer required to comply with the non-emergency emissions limits under 40 CFR 63 Subpart ZZZZ. This change was incorporated into permit T04, which was issued on July 22, 2015. The facility is a Title V facility because emissions of criteria air pollutants exceed 100 tons per year. Specifically, potential emissions of Carbon Monoxide and Nitrogen Oxides exceed 100 tons per year, each.

3. History/Background/Application Chronology

History/Background

February 19, 2015 TV permit renewal issued. Air Permit No. 09878T03 was issued on February 19, 2015 with an expiration date of January 31, 2020.

July 22, 2015 Air Permit No. 09878T04 was issued for a minor modification. The modification was made to describe the control devices on diesel-fired emergency generators ES-6 through ES-9 as “voluntary.”

Application Chronology

April 25, 2019 Received permit application 3600338.19A for renewal.

April 30, 2019 Sent acknowledgment letter indicating that the application for permit renewal was complete.

December 17, 2021 Draft permit and review forwarded for comments.

December 22, 2021 Email received from Mooresville Regional Office (MRO) stating there were no comments

December 31, 2021, Email received from applicant stating there were no comments

Month XX, 2022 Draft permit and permit review forwarded to public notice.

Month XX, 2022 Public comment period ends. **XX comments received.**

Month XX, 2022 EPA comment period ends. *XX comments received.*

Month XX, 2022 Permit issued.

4. Permit Modifications/Changes and TVEE Discussion

The following table describes the modifications to the current permit as part of the renewal process.

Page No.	Section	Description of Changes
--	Cover page and Throughout	<ul style="list-style-type: none"> Updated all dates and permit revision/application numbers. Added Notice Regarding the Right to Contest a Division of Air Quality Permit Decision Updated Summary of Changes to Permit
--	Throughout	<ul style="list-style-type: none"> Updated 15A NCAC 2D to 15A NCAC 02D Updated 15A NCAC 2Q to 15A NCAC 02Q Revised to reflect current shell language
1	First Page of Permit	Added a notation to alert Permittee to the due date for submitting a permit application for the renewal of the permit.
2	Table of Contents	Added Section 2.3 for Insignificant Activities per 15A NCAC 02Q .0503(8) and Section 2.4 for Cross State Air Pollution (CSAPR) Permit Requirements
3	List of Acronyms	Moved list of acronyms from back of the permit to Page 3.
4	1 – Emission Source and Control Device Table	Removed footnote for minor modification of control devices CD-6A through CD-9A and CD-6B through CD-9B.
5	2.1 A.1	Added condition for 15A NCAC 02D .0516
5-10	2.1 A.2 through A.9	Revised standard language to be consistent with current shell standards. No changes in intent were made.
8	2.1 A.6	Update condition title to reflect rule
9-10	2.1 A.8 and A.9	Revise equations for consistency with units.
11	2.1 B.1	Added condition for 15A NCAC 02D .0516
11	2.1 B.2	Revised standard language to be consistent with current shell standards. No changes in intent were made.
12-14	2.1 B.3	<ul style="list-style-type: none"> Revised standard language to be consistent with current shell standards. Removed provisions allowing for emergency demand response operation or operation during periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. Added conditions to allow operation for up to 50 hours per year for non-emergency situations where power is supplied as part of a financial arrangement with another entity.
15	2.1 C	<ul style="list-style-type: none"> Removed 02D .2400 from table. Added 40 CFR Part 97, Subparts AAAAA, BBBBB, and CCCCC to table
15	2.1 C.1	Revised standard language to be consistent with current shell standards. No changes in intent were made.
16	2.1 C.2.c	Reformatted condition
18	2.1 C.2.i.ii.(B)	Corrected cross reference
19	2.1 C.4	Update condition title to reflect rule and reformatted condition to more accurately reflect rule requirements
--	2.1 C.5	Removed 02D .2400 Condition

Page No.	Section	Description of Changes
21-25	2.2 A.1 through A.5	Revised standard language to be consistent with current shell standards. No changes in intent were made.
26	2.3	Added Insignificant Activities list section
26	2.4	Added Cross State Air Pollution Rule (CSAPR) Condition.
27-35	3	Updated General Conditions (v6.0, 01/07/2022)

This permit renewal is without modification. Minor edits consistent with current DAQ policy were made to the Title V Equipment Editor.

5. Regulatory Review

Gastonia PPP is subject to the following regulations. The facility's equipment and operations have not changed since the last permit modification in 2015. The permit was updated to reflect the most current stipulations for all applicable regulations, where necessary.

- 15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources- This regulation applies to the peak shaving generators (ID Nos. ES-1 and ES-2) and emergency generators (ID Nos. ES-6 through ES-9) and limits sulfur dioxide emissions to 2.3 pounds of sulfur dioxide per million BTU input. This regulation does not apply to sources already subject to an emission standard for sulfur dioxide in 15A NCAC 02D .0524, .0527, .1110, .1111, .1206, or .1210. The turbines (ID Nos. ES-10a through ES-13a or ES-10b through ES-13b or ES-10c through ES-18c or ES-10d through ES-18d) are subject to a sulfur dioxide emissions limit under 02D .0524, so this rule does not apply to the turbines. It is noted that the peak shaving generators (ID Nos. ES-1 and ES-2) and emergency generators (ID Nos. ES-6 through ES-9) are subject to fuel requirements under 02D .0524 and 02D .1111, but these requirements are not emissions limits, so this regulation still applies to these sources. The sulfur content in diesel fuel is inherently low, such that compliance with this regulation is demonstrated.
- 15A NCAC 02D .0521, Control of Visible Emissions – The 20% opacity limitation from this regulation applies to all permitted sources at this site. During the last compliance inspection, none of the sources were operating. Due to the inherently low visible emissions from diesel fuel and natural gas, it seems reasonable to expect compliance with this limit if the engines and turbines are properly operated and maintained. Continued compliance is anticipated.
- 15A NCAC 02D .0524, New Source Performance Standards – Gastonia PPP is subject to New Source Performance Standards (NSPS), 40 CFR Part 60, Subparts IIII and KKKK. More discussion on NSPS is provided below in Section 6.
- 15A NCAC 02D .1111, Maximum Achievable Control Technology (MACT) – Gastonia PPP is subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63 Subpart ZZZZ. More discussion on MACT is provided below in Section 6.
- 15A NCAC 02D .1402(d), Reasonably Available Control Technology (RACT) for Nitrogen Oxides - Applicability – Gastonia PPP is subject to RACT for the peak shaving generators and combustion turbines. Gaston County, where this facility is located, was designated a nonattainment

area for the 1997 and 2008 Ozone National Ambient Air Quality Standards (NAAQs). Although this area is now considered an “Attainment/Maintenance” area, sources in Gaston County are still subject to RACT. The emergency generators (ES-6 through 9) are exempt from RACT requirements per 02D .1402(h)(3). The Permittee complies with RACT by complying with 02D .1423 for the peak shaving generators (in accordance with 02D .1418) and 02D .1408 for the turbines.

Historically, this facility proposed to use an alternate calculation and recordkeeping procedure in lieu of a CEMS to comply with 02D .1423 (see discussion below). DAQ has approved this procedure and included it in this permit under this regulation. Permit review R05, notes that:

It needs to be stated here that the same generators are also subject to the NO_x SIP-Call requirement in 2D .1423, which is applicable during the ozone season only (May 1 through September 30), as contrasted with annual requirement for RACT. Thus, the Permittee has used the requirements in 2D .1423 to develop the RACT for the engines/generators.

Therefore, in addition to the alternate calculation recordkeeping procedure, the RACT requirements listed under this regulation will apply year-round, rather than just during ozone season. For a complete discussion of these requirements, refer to sections 02D .1408 and .1418 (for the turbines), and section 02D .1423 (for the peak shaving generators), below.

- 15A NCAC 02D .1408, Stationary Combustion Turbines– Gastonia PPP is subject to RACT for stationary combustion turbines (ID Nos. ES-10a through ES-13a or ES-10b through ES-13b or ES-10c through ES-18c or ES-10d through ES-18d) located in Gaston County, one of the geographic areas outlined in 02D .1402(d), with a heat input rate of greater than 100 million Btu/hour but less than or equal to 250 million Btu/hour. It is noted that this facility has permitted four different potential scenarios for the combustion turbines, consisting of four to nine units, each between 25 MW to 61 MW output, yet they have not been constructed as of the date of this review. Only scenarios “a” and “b” (Emission source ID Nos. ES-10a through ES-13a and ES-10b through ES-13b) will be subject to this rule, if constructed, as the remaining scenarios utilize turbines with heat inputs of less than 100 million Btu/hour. The turbines are permitted to burn both natural gas or No. 2 fuel oil, and NO_x emissions under this rule are limited to 75 parts per million (ppm) by volume corrected to 15 percent oxygen when firing natural gas and 95 ppm by volume corrected to 15 percent oxygen when firing No. 2 fuel oil. The Permittee is required to demonstrate compliance by using either a continuous emissions monitoring system (CEMS) or conducting annual source testing in accordance with 15A NCAC 02D .1415. As previously discussed, these turbines have not been constructed but it seems reasonable to anticipate compliance if the turbines become operational.
- 15A NCAC 02D .1418, New Electric Generating Units, Boilers, Combustion Turbines, and I/C Engines (RACT) – Gastonia PPP is subject to RACT for combustion turbines, permitted after October 31, 2000, serving a generator with a nameplate capacity greater than 25 megawatts electrical and selling any amount of electricity. Two of the permitted combustion turbine scenarios (“a” and “b”) would fall under this regulation. This regulation limits the NO_x emissions to 0.15 lb/million Btu when burning natural gas and 0.18 lb/million Btu when burning No. 2 fuel oil. The permittee is required to demonstrate compliance by using a CEMS meeting the requirements of 40 CFR Part 75. The CEMS must operate each day during the ozone season that the sources operate.

As previously discussed, these turbines have not been constructed but it seems reasonable to anticipate compliance if the turbines are become operational.

This regulation also applies to the two peak shaving generators (ID Nos. ES-1 and ES-2) as they are diesel stationary internal combustion engines rated at greater than or equal to 3,000 brake horsepower permitted after October 31, 2000. The rule stipulates that the engines comply with new source review (NSR) for sources in nonattainment areas (NAA) under 02D .0531 or large internal combustion engine RACT under 02D .1423, whichever rule requires a greater degree of emissions reduction. If the engines are not subject to 02D .0531, only 02D .1423 applies. Since the engines are not subject to 02D .0531, they are to comply with 02D .01423 and no further requirements under 02D .1418 apply. A complete discussion on this rule is shown below.

- 15A NCAC 02D .1423, Large Internal Combustion Engines (RACT) – Gastonia PPP is subject to RACT for the two peak shaving generators as they are diesel stationary internal combustion engines rated at greater than or equal to 3,000 brake horsepower permitted after October 30, 2000. This regulation limits NO_x emissions to 175 ppm by volume corrected to 15 percent oxygen on a dry basis, averaged over a rolling 30-day period. The rule allows the limit to be adjusted based on the engine efficiency, per the equations defined in 02D .1423(c). Gastonia PPP has previously demonstrated that these engines have an engine efficiency of 38% so the emissions limit has been adjusted to 222 ppm. In accordance with 02D .1423(d), the Permittee can demonstrate compliance with this regulation by installing a CEMS or using an alternate calculation and recordkeeping procedure based on actual emissions testing and correlation with operating parameters. Use of the alternate procedure must be approved in advanced by DAQ. Gastonia PPP previously submitted an alternate procedure to DAQ that has been approved and written into the condition associated with this regulation and 02D .1402(d). The permittee used exhaust flow parameters to establish that the emissions limit associated with this rule (222 ppm) is equivalent to 14,259 lb/month of NO_x emissions. Since these generators have NO_x emission rates certified by the engine manufacturer to comply with the NSPS Subpart IIII emission limits, the facility monitors daily engine operating hours and engine load and multiplies the hours of operation by the hourly emission rate corresponding to the engine load, as provided by the engine manufacturer, and shown in the below table.

Load Percent	NO _x Emission Rate Lbs/hr
100	65.9
75	45.4
50	26.9
25	13.3
10	9.1

Gastonia PPP is required to maintain all records necessary to demonstrate compliance with the requirements of this rule and submit a report for actual NO_x emissions during the ozone season by October 31st of each year. Gastonia PPP will also be required to submit semi-annual summary report reports (July 30th and January 30th) of monitoring and recordkeeping activities. Following the most recent compliance inspection, Ms. Wolanin reported that compliance was indicated for both 02D .1402(d) and .1423. Continued compliance is anticipated.

- 15A NCAC 02D .1425, NO_x SIP Call Budget – According to the public notice document associated with this regulation:

On March 8, 2019 (84 FR 8422), the Environmental Protection Agency (EPA) finalized the NO_x SIP Alternative Monitoring Rule providing states with flexibility to allow large non-Electric Generating Units (EGU) subject to the NO_x SIP Call to use monitoring methods other than a Continuous Emissions Monitoring System (CEMS) to demonstrate compliance with the state’s NO_x SIP Call budget. During the 2020 rule readoption process for Group 6, the existing Paragraph (j) of 15A NCAC 02D .1404 allowed facilities to use alternative monitoring in compliance of the NO_x SIP Call budget, at the time it was believed this was sufficient to comply with the EPA’s rule. Based on consultation with the EPA, the Division of Air Quality (DAQ) determined the existing Paragraph (j) of 15A NCAC 02D .1404 does not fulfill the requirements specified in the EPA’s NO_x SIP Call Alternative Monitoring Rule for large non-EGUs, therefore North Carolina DAQ requested the Environmental Management Commissions (EMC) to amend existing rules (15A NCAC 02D .1401, .1402) and adopt new rules (15A NCAC 02D .1424, .1425) to fully implement the monitoring flexibility offered by EPA. On September 9, 2021, the EMC approved proceeding to public comment.

This regulation, if adopted as proposed, will apply to two of the permitted combustion turbine scenarios (“a” and “b”) should they be constructed and will directly incorporate the statewide NO_x SIP Call Budgets and the reporting requirements. The public notice document also notes that, “Actual ozone season NO_x emissions associated with the impacted EGUs and large non-EGUs are below their respective emission budgets and this action is not expected to require any additional NO_x controls.” If adopted, Gastonia PPP will be subject to reporting requirements for the turbines. As of the date of this review, this proposed rule is out for public comment, so the permit will not contain a condition for this regulation because it is not adopted yet.

- 15A NCAC 02Q .0317, Avoidance Conditions – Gastonia PPP has accepted permit limits on CO, NO_x, NO_x (as NO₂), SO₂, and VOC emissions to avoid 15A NCAC 02D .0530, Prevention of Significant Deterioration (PSD) and 15A NCAC 02D .0531, Sources in Nonattainment Areas. More discussion on PSD and NAA NSR is provided below in Section 6.
- 15A NCAC 02D .2400, Clean Air Interstate Rules – This regulation is listed in the current permit, but this rule expired effective February 1, 2016. Therefore, this rule will be removed with this revision.
- Cross State Air Pollution Rule (“CSAPR”; 40 CFR Part 97, Subparts AAAAAA , and CCCCC)-

The EPA established the original Cross-State Air Pollution Rule (CSAPR or “Transport Rule”)¹ to address the interstate transport of emissions with respect to the 1997 ozone National Ambient Air Quality Standards (NAAQS) and the 1997 and 2006 fine particulate matter (PM_{2.5}) NAAQS. This CSAPR was a federal implementation plan (FIP), requiring the upwind states to eliminate their “significant” contributions to the downwind states’ non-attainment of these pollutants. With regard to the NO_x ozone season trading program under this rule, EPA required NO_x reductions in two phases (Phase 1 and Phase 2) for the affected states including NC.

¹ 76 FR 48208 (August 8, 2011).

Then the EPA finalized the CSAPR Update (CSAPR Update)² to address the interstate transport of emissions with respect to the 2008 ozone NAAQS. Through this rulemaking, EPA determined that NC did not contribute significantly to nonattainment in or interference with maintenance for the 2008 ozone standard for any downwind states³. Thus, EPA did not finalize the FIP for NC for this NAAQS, because the EPA's analysis supporting the final rule did not indicate that NC was linked to any identified downwind nonattainment or maintenance receptors with respect to the 2008 ozone standard⁴.

In addition, because the 2008 ozone NAAQS is more stringent than the 1997 ozone NAAQS, EPA concluded that North Carolina was not linked to any remaining air quality concerns with respect to the 1997 ozone standard for which the state was regulated in the original CSAPR as above⁵.

Addressing the D. C. Circuit Court⁶ remand with respect to NC's Phase 2 NOx budget under the 1997 ozone standard, EPA concluded that the emissions from the state did not significantly contribute to nonattainment or interfere with maintenance of either the 1997 ozone NAAQS or 2008 ozone NAAQS in other states, and removed the state from the CSAPR ozone season trading program beginning in 2017 when the Phase 2 ozone season emission budget was scheduled to be implemented⁷. Accordingly, starting with the 2017 ozone season, NC was no longer subject to the CSAPR NOx ozone season trading program requirements (40 CFR 97 Subpart BBBBB) and electric generating units (EGUs) in the state were not allocated further allowances by EPA nor obligated to demonstrate compliance with CSAPR NOx ozone season requirements⁸⁹.

Finally, it needs to be noted that even for the more stringent 2015 ozone NAAQS, EPA proposed¹⁰ to approve NC's State Implementation Plan (SIP), concluding that North Carolina sources would not significantly contribute to nonattainment or interfere with maintenance of the 2015 ozone NAAQS in any other state. EPA supplemented¹¹ this approval with the updated modeling analysis based on the most current and technically accurate information, supporting its finding that NC's implementation plan contained adequate measures to prohibit emissions that would significantly contribute or interfere with the maintenance of the 2015 ozone standard in any other states.

DAQ has traditionally included CSAPR requirements in Title V permits for all affected units in NC, such as the subject combustion turbines (ID Nos. ES-10a through ES-13a, OR, ES-10b through ES-13b) at Gastonia PPP, after the US Supreme Court¹² upheld the CSAPR.

² 81 FR 74504 (October 26, 2016).

³ 81 FR 74506, 74507.

⁴ *Id.*, 81 FR 74524.

⁵ *Id.*

⁶ *EME Homer City Generation, L.P., v. EPA*, No. 795 F.3d 118, 129–30, 138, July 28, 2015.

⁷ *Id.*

⁸ 81 FR 74555.

⁹ [States that are Affected by the Cross-State Air Pollution Rule \(CSAPR\) | US EPA](#) and 40 CFR 97.510(a)(16).

¹⁰ 84 FR 71854 (December 30, 2019).

¹¹ 86 FR 37942 (July 19, 2021).

¹² *EPA v. EME Homer City Generation, L. P.*, No. 12-1182, Decided April 29, 2014.

Specifically, DAQ included in the permits the CSAPR trading programs requirements for annual NO_x (40 CFR 97 Subpart AAAAA), ozone season NO_x (Subpart BBBBB), and annual SO₂ (Subpart CCCCC). However, with EPA's removal of NC ozone season NO_x reductions requirements for 1997 ozone NAAQS and EPA's determination that NC is not subject to ozone season NO_x reductions requirements for 2008 ozone NAAQS, the permit condition associated with this regulation will not include the previously applicable requirements in Subpart BBBBB (40 CFR 97) for ozone season NO_x. The condition will include the trading program requirements for annual NO_x and SO₂.

6. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

NSPS

Gastonia PPP is subject to the following New Source Performance Standard (NSPS) regulations. The facility's equipment and operations have not changed since the last permit modification in 2015. The permit was updated to reflect the most current stipulations for all applicable regulations, where necessary.

- 40 CFR Part 60 Subpart IIII – Gastonia PPP is subject to this subpart, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, applicable to the two peak shaving generators. According to permit review R00 (4/15/2008):
According to the application, the units were manufactured in March and April 2007, have displacements of less than 10 liters per cylinder, and have power ratings of 3,016 hp (i.e. greater than 3000 hp). Thus, emissions of NO_x, CO, particulates, and VOC shall be limited to those listed in Table 1 of Subpart IIII (40 CFR 60.4204(b) with reference to 40 CFR 60.4201(b)).
- Therefore, this regulation requires the permittee to comply with the following emissions standards for :

HC: 1.3 g/kW-hr (1.0 g/hp-hr)
NO_x: 9.2 g/kW-hr (6.9 g/hp-hr)
CO: 11.4 g/kW-hr (8.5 g/hp-hr)
PM: 0.54 g/kW-hr (0.4 g/hp-hr)

Additionally, the Permittee is required to burn diesel fuel with a maximum sulfur content of 15 ppm and to operate and maintain the engines and control devices according to the manufacturer's emission related-written instructions. The Permittee also must perform inspections and maintenance on the engine as recommended by the manufacturer. The Permittee must maintain records of all inspection and maintenance and engine certification data. Gastonia PPP previously submitted a permit application on March 17, 2008 indicating that the engines are manufacturer certified to the standards above. This subpart was amended in 2016 to add provisions for engines with auxiliary emission control devices (AECDS). These amendments do not affect this engine since it is not equipped with any AECDS. This subpart was also amended in 2019, but those amendments only affect engines located in remote areas of Alaska, therefore, they do not affect these sources. Following the most recent compliance inspection, Ms. Wolanin reported that the facility was maintaining the appropriate maintenance and fuel oil sulfur content records. Continued compliance is anticipated.

- 40 CFR Part 60 Subpart KKKK – Gastonia PPP is subject to this subpart, Standards of Performance for Stationary Combustion Turbines, applicable to the combustion turbines. The proposed turbines have heat inputs at peak load (HHV) of > 50 MMBtu/h and ≤ 850 MMBtu/h and will be capable of firing natural gas or No. 2 fuel oil. Therefore, the following emission limits apply:
 - NO_x shall not exceed 25 ppm at 15 percent O₂, when fired with natural gas and 74 ppm at 15 percent O₂, when fired with No. 2 fuel oil.
 - If the turbine operates at less than 75 percent of peak load or if the turbine operates at temperatures less than 0°F, NO_x shall not exceed 150 PPM at 15 percent O₂ (for generator outputs of ≤ 30 MW electric) or 96 ppm at 15 percent O₂ (for generator outputs of > 30 MW electric).
 - The SO₂ emissions from each combustion turbine shall not exceed 0.9 lb/MWh gross output, or the Permittee shall not allow any fuel to be burned in each combustion turbine, which contains total potential sulfur emissions in excess of 0.06 lb/million Btu heat input each (fuel sulfur content limit).

The Permittee has chosen to comply with the SO₂ emissions limit by limiting the fuel sulfur content to not greater than 0.06 lb/million Btu heat input. The Permittee will be required to conduct an initial performance test of one of the combustion turbines¹³, and operate and maintain the dry low NO_x burners (lean premix) in a manner consistent with good air pollution control practices for minimizing emissions. This regulation requires the Permittee to monitor the turbines to demonstrate compliance in accordance with 40 CFR Part 60 Sections 60.4335 and 60.4340. Monitoring requirements vary, depending on the type of NO_x controls the turbines utilize (e.g. water/steam injection, SCR, lean premix, etc.) If the permittee uses water injection to control NO_x emissions, they must install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water or steam to fuel being fired in the turbines, or install a continuous emission monitoring system (CEM). If the permittee is not using water injection to control NO_x emissions, they may either conduct annual performance tests, install a CEM, or install a continuous parameter monitoring system. Previous permits and permit reviews indicate that the facility intends to install lean premix turbines. According to permit review R03 (2/19/2015): “The Permittee has chosen to perform continuous parameter monitoring to demonstrate that the turbines are operating in low-NO_x mode.” Gastonia PPP has proposed to use a parametric monitoring system and monitor each turbine to ensure the low-NO_x combustion mode is operating properly by maintaining a “minimum pilot,” as the appropriate parameter per 40 CFR 60.4340(b)(2)(ii). Therefore, annual performance tests are not required. The permittee can demonstrate compliance with the SO₂ limits by using fuel quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract. The facility is required to develop and comply with a parameter monitoring plan (For NO_x emissions) and submit reports of excess emissions and monitor downtime in accordance with §60.7(c). The Permittee is also required to submit semiannual summary reports to DAQ. The turbines have not been constructed, but it seems reasonable to anticipate compliance with this rule can be achieved.

NESHAP/MACT

Gastonia PPP is an area source of HAPs. The facility is subject to National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63 Subpart ZZZZ (Subpart ZZZZ). This rule applies to the peak shaving and emergency generators. Requirements are summarized as follows:

¹³ This requirement is contingent upon the stack test results of the tested turbine showing that the margin of compliance with NO_x emission limit is sufficient. This requirement is allowed based on an EPA applicability determination dated March 23, 2015, with an ID No. of 1500049.

- For the peak shaving generators, the Permittee complies with this regulation by complying with 40 CFR Part 60 Subpart IIII. No further requirements apply. For complete discussion refer to the NSPS discussion above.
- For the emergency generators, the Permittee is primarily subject to work practice standards. The Permittee is required to:
 - change the oil and filter every 500 hours of operation or annually, whichever comes first,
 - inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and
 - inspect all hoses and belts every 500 hours or annually, whichever comes first, and replacing as necessary.

The Permittee may also use an oil analysis program to extend the oil change interval for the engines. The Permittee is required 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. The Permittee is required to install a non-resettable hours meter on the engine and maintain records of hours of operation of the engine. The engines may be operated for up to 100 hours per calendar year, each, for maintenance and readiness testing. The engines may also be operated for up to 50 hours per calendar year in certain non-emergency situations. These 50 hours are counted as part of the 100 hours per year for maintenance and readiness testing. There is no limit to operating hours during emergency situations. Since the last permit renewal, the U.S. Court of Appeals for the District of Columbia Circuit issued a decision on May 1, 2015 that resulted in the vacatur of portions of 40 CFR 63, Subparts ZZZZ, specifically, section 63.6640(f)(2)(ii)-(iii). The permit was updated to reflect this vacatur and these provisions were removed from the permit. The permittee is required to submit semiannual summary reports of monitoring and recordkeeping activities. Following the most recent compliance inspection, Ms. Wolanin reported that this facility appeared to be in compliance with this regulation. Continued compliance is anticipated.

PSD/NAA NSR

Gastonia PPP has accepted PSD and NAA NSR avoidance conditions to limit emissions of CO, NO_x, NO_x (as NO₂), SO₂, and VOC to less than the respective PSD and NAA NSR thresholds. At the time of the issuance of this facility’s 1st time Title V permit in 2015, Gaston County was designated as a “maintenance area” for the 1997 Ozone NAAQS and the Gastonia Township, in which this facility is located, was designated non-attainment for the 2008 Ozone NAAQS. However, this county and township was considered attainment for SO₂ and CO. Therefore, the avoidance limit thresholds in this permit vary depending on the attainment status of the respective pollutant. A summary of each respective avoidance limit by source and pollutant is shown in the table below.

Emission Source(s)	Pollutant	Limit
Two diesel fired peak shaving generators (ID Nos. ES-1 and ES-2)	CO	250 tons per consecutive 12-month period
	NO _x	100 tons per consecutive 12-month period
Four diesel-fired emergency generators (ID Nos. ES-6 through ES-9) and up to nine natural gas/No. 2 fuel oil-fired simple cycle combustion turbines (ID Nos. ES-10a through ES-13a, OR, ES-10b)	CO	250 tons per consecutive 12-month period
	SO ₂	250 tons per consecutive 12-month period

through ES-13b, OR, ES-10c through ES-18c, OR, ES-10d through ES-18d)	NO ₂	250 tons per consecutive 12-month period
	NO _x	100 tons per consecutive 12-month period
	VOC	100 tons per consecutive 12-month period

Gaston County and the Gastonia Township remain “maintenance areas” for both the 2008 and 1997 Ozone NAAQS. Emissions from each source are required to be tracked and calculated as follows:

For the peak shaving generators (ID Nos. ES-1 and ES-2)

- An emission factor based upon the applicable CO and NO_x standards under NSPS Subpart IIII is multiplied by the monthly energy usage (in hp-hr) for each engine and summed monthly.

For the Diesel fired emergency generators (ID Nos. ES-6 through ES-9)

- AP-42 emission factors from Chapter 3.4 for VOC, CO and NO_x are multiplied by the monthly energy usage (in hp-hr) for each engine and summed monthly.
- AP-42 emission factors from Chapter 3.4 for SO₂ are multiplied by the monthly energy usage (in hp-hr) for each engine and summed monthly. This emissions factor is for 15 ppm sulfur diesel fuel since this is what this facility combusts.

For the Combustion Turbines (ID Nos. ES-10a through ES-13a, OR, ES-10b through ES-13b, OR, ES-10c through ES-18c, OR, ES-10d through ES-18d)

- Vendor supplied emissions rates for VOC, NO_x and CO are multiplied by the monthly operating hours for each turbine and summed monthly.
- AP-42 emission factors from table 3.1-2a for SO₂ are multiplied by the monthly heat input for each turbine.

A review of the emission factors referenced above found that they remain appropriate. The equations in the permit for the peak shaving generators were updated for unit consistency, but otherwise no changes were necessary. As shown in the header of this permit review, actual emissions are substantially below the limits shown above, so compliance with the PSD avoidance limits is demonstrated and continued compliance is anticipated.

112(r)

The facility 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 112(r) thresholds. No change with respect to 112(r) is anticipated under this permit renewal.

CAM

The CAM rule (40 CFR 64; 15A NCAC 02D .0614) applies to each pollutant specific emissions unit (PSEU) at major TV facilities that meets all three following criteria:

- the unit is subject to any (non-exempt: e.g., pre-November 15, 1990, Section 111 or Section 112 standard) emission limitation or standard for the applicable regulated pollutant.
- the unit uses any control device to achieve compliance with any such emission limitation or standard.

- The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source (i.e., 100 tons per year for criteria pollutants or 10/25 tons per year for HAPs).

Gastonia PPP does not presently use any control devices to achieve compliance with any emission limits. The control devices on the emergency generators are voluntary and not required for compliance with any emissions limit; therefore, CAM does not apply. This permit renewal does not change the facility's CAM status.

7. Facility Wide Air Toxics

The facility has not been triggered into the air toxics program. The combustion turbines and peak shaving generators are exempt from toxics under 15A NCAC 02Q .0702(a)(18) for "combustion sources except new or modified combustion sources permitted on or after July 10, 2010." The emergency generators were added on June 4, 2012 with this issuance of air permit 09878R02, and toxics was not triggered at that time because the DAQ concluded that the addition did not result in an emissions increase.

8. Facility Emissions Review

The facility-wide potential emissions do not change under this TV permit renewal. Actual emissions for criteria pollutants and HAPs for the years 2015 through 2019 are provided in the header of this permit review.

9. Compliance Status

DAQ has reviewed the compliance status of Gastonia PPP. During the most recent inspection, conducted on February 4, 2021 by Melinda Wolanin of MRO, the facility appeared to be in compliance with all applicable air quality regulations. Further, the facility has had no air quality violations within the last five years. The facility's Annual Compliance Certification was received on February 25, 2021 and indicated compliance with all applicable requirements in 2020.

10. 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 provided to the public under 02Q .0521 above.

South Carolina is an affected State, and Mecklenburg County is an affected local program located within 50 miles of this facility.

Notice of the DRAFT Title V Permit to Affected States ran from XXXX YY, 2022, to XXXX YY, 2022. ***Summary of comments from Affected States were received.***

Public Notice of the DRAFT Title V Permit ran from XXXX YY, 2022, to XXXX YY, 2022. **Summary of comments from the public.**

EPA's 45-day review period ran concurrent with the 30-day Public Notice, from XXXX YY, 2022, to XXXX YY, 2022. **Summary of comments from EPA and U.S. EPA Region 4 received regarding the DRAFT Title V Permit.**

11. Other Regulatory Considerations

- A P.E. seal is NOT required for this renewal application.
- A zoning consistency determination is NOT required for this renewal application.
- A permit fee is NOT required for this renewal application.

12. Recommendations

The permit renewal application for NC Municipal Power Agency No. 1 - Gastonia Prime Power Park located in Dallas, Gaston County, North Carolina has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined 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. 09878T05.