



State of New Jersey

Department of Environmental Protection

Air Quality, Energy and Sustainability

Division of Air Quality

Bureau of Stationary Sources

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Trenton, NJ 08625-0420

PHILIP D. MURPHY

Governor

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Lt. Governor

SHAWN M. LATOURETTE

COMMISSIONER

Air Pollution Control Operating Permit Significant Modification

Permit Activity Number: BOP210001

Program Interest Number: 75508

Mailing Address	Plant Location
PAUL OSTBERG GENERAL MGR CALPINE NEW JERSEY GENERATION 4001 E MAIN ST Millville, NJ 08332	CUMBERLAND ENERGY CENTER Rt 49 West Of Union Rd Millville Cumberland County

Initial Operating Permit Approval Date:

January 24, 2002

Operating Permit Approval Date:

Draft

Operating Permit Expiration Date:

January 23, 2022 (Operating Under Application Shield)

AUTHORITY AND APPLICABILITY

The New Jersey Department of Environmental Protection (Department) approves and issues this Air Pollution Control Operating Permit under the authority of Chapter 106, P.L. 1967 (N.J.S.A. 26:2C-9.2). This permit is issued in accordance with the air pollution control permit provisions promulgated at Title V of the Federal Clean Air Act, 40 CFR 70, Air Pollution Control Act codified at N.J.S.A. 26:2C and New Jersey State regulations promulgated at N.J.A.C. 7:27-22.

The Department approves this operating permit based on the evaluation of the certified information provided in the permit application that all equipment and air pollution control devices regulated in this permit comply with all applicable State and Federal regulations. The facility shall be operated in accordance with the conditions of this permit. This operating permit supersedes any previous Air Pollution Control Operating Permits issued to this facility by the Department including any general operating permits, renewals, significant modifications, minor modifications, seven-day notice changes or administrative amendments to the permit.

Changes made through this permit activity are provided in the Reason for Application.

PERMIT SHIELD

This operating permit includes a permit shield, pursuant to the provisions of N.J.A.C. 7:27-22.17.

COMPLIANCE SCHEDULES

This operating permit does not include compliance schedules as part of the approved compliance plan.

COMPLIANCE CERTIFICATIONS AND DEVIATION REPORTS

The permittee shall submit to the Department and to United States Environmental Protection Agency (US EPA) periodic compliance certifications, in accordance with N.J.A.C. 7:27-22.19. **The annual compliance certification** is due to the Department and EPA within 60 days after the end of each calendar year during which this permit was in effect. **Semi-annual deviation reports** relating to compliance testing and monitoring are due to the Department within 30 days after the end of the semi-annual period. The schedule and additional details for these submittals are available in Subject Item - FC, of the Facility Specific Requirements of this permit.

ACCESSING PERMITS

The facility's current approved operating permit and any previously issued permits (e.g. superseded, expired, or terminated) are available for download in PDF format at: <http://www.nj.gov/dep/aqpp>. After accessing the website, click on "Approved Operating Permits" listed under "Reports" and then type in the Program Interest (PI) Number as instructed on the screen. If needed, the RADIUS file for your permit, containing Facility Specific Requirements (Compliance Plan), Inventories and Compliance Schedules can be obtained by contacting the Helpline number given below. RADIUS software, instructions, and help are available at the Department's website at <http://www.nj.gov/dep/aqpp>.

HELPLINE

The Operating Permit Helpline is available for any questions at (609) 633-8248 from 9:00 AM to 4:00 PM Monday to Friday.

RENEWING YOUR OPERATING PERMIT AND APPLICATION SHIELD

The permittee is responsible for submitting a timely and administratively complete operating permit renewal application pursuant to N.J.A.C. 7:27-22.30. Only applications which are timely and administratively complete are eligible for an application shield. The details on the contents of the renewal application, submittal schedule, and application shield are available in Section B - General Provisions and Authorities of this permit.

COMPLIANCE ASSURANCE MONITORING

Facilities that are subject to Compliance Assurance Monitoring (CAM), pursuant to 40 CFR 64, shall develop a CAM Plan for modified equipment as well as existing sources. The rule and guidance on how to prepare a CAM Plan can be found at EPA's website: <https://www.epa.gov/air-emissions-monitoring-knowledge-base/compliance-assurance-monitoring>. In addition, CAM Plans must be included as part of the permit renewal application. Facilities that do not submit a CAM Plan may have their permit applications denied, pursuant to N.J.A.C. 7:27-22.3.

ADMINISTRATIVE HEARING REQUEST

If, in your judgment, the Department is imposing any unreasonable condition of approval, you may contest the Department's decision and request an adjudicatory hearing pursuant to N.J.S.A. 52:14B-1 et seq. and N.J.A.C. 7:27-22.32(a). All requests for an adjudicatory hearing must be received in writing by the Department within 20 calendar days of the date you receive this letter. The request must contain the information specified in N.J.A.C. 7:27-1.32 and the information on the NJ04 - Administrative Hearing Request Checklist and Tracking Form available at <https://www.state.nj.us/dep/aqpp/applying.html>.

If you have any questions regarding this permit approval, please call Michael Hogan at (609) 633-1124.

Approved by:

Aliya M. Khan

Enclosure

CC: Suilin Chan, United States Environmental Protection Agency, Region 2

Facility Name: CUMBERLAND ENERGY CENTER
Program Interest Number: 75508
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Section A

Facility Name: CUMBERLAND ENERGY CENTER

Program Interest Number: 75508

Permit Activity Number: BOP210001

POLLUTANT EMISSIONS SUMMARY

Table 1: Total emissions from all Significant Source Operations¹ at the facility.

Facility's Potential Emissions from all Significant Source Operations (tons per year)										
Source Categories	VOC (total)	NO _x	CO	SO ₂	TSP (total)	PM ₁₀ (total)	PM _{2.5} ² (total)	Pb	HAPs* (total)	CO ₂ e ³
Emission Units Summary	34.6	174	198	8.94	94.6	99.4	99.4	0.0455	6.09	
Batch Process Summary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Group Summary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Total Emissions	34.6	174	198	8.94	94.6	99.4	99.4	0.0455	6.09	524,000

Table 2: Estimate of total emissions from all Insignificant Source Operations¹ and total emissions from Non-Source Fugitives at the facility.

Emissions from all Insignificant Source Operations and Non-Source Fugitive Emissions (tons per year)									
Source Categories	VOC (total)	NO _x	CO	SO ₂	TSP (total)	PM ₁₀ (total)	PM _{2.5} ² (total)	Pb	HAPs (total)
Insignificant Source Operations	1.54	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Non-Source Fugitive Emissions ⁴	N/A	N/A	N/A	N/A	0.2	N/A	N/A	N/A	N/A

VOC: Volatile Organic Compounds

NO_x: Nitrogen Oxides

CO: Carbon Monoxide

SO₂: Sulfur Dioxide

N/A: Indicates the pollutant is not emitted or is emitted below the reporting threshold specified in N.J.A.C. 7:27-22, Appendix, Table A and N.J.A.C. 7:27-17.9(a).

TSP: Total Suspended Particulates

Other: Any other air contaminant

regulated under the Federal CAA

PM₁₀: Particulates under 10 microns

PM_{2.5}: Particulates under 2.5 microns

Pb: Lead

HAPs: Hazardous Air Pollutants

CO₂e: Carbon Dioxide equivalent

*Emissions of individual HAPs are provided in Table 3 on the next page.

Emissions of "Other" air contaminants are provided in Table 4 on the next page.

¹ Significant Source Operations and Insignificant Source Operations are defined at N.J.A.C. 7:27-22.1.

² PM_{2.5} has been included in air permitting rules as of December 9, 2017. Consequently, PM_{2.5} totals in this section may not be up to date. The Department is in the process of updating these limits during each permit modification, and the entire permit will be updated at the time of permit renewal.

³ Total CO₂e emissions for the facility.

⁴ Non-Source Fugitive Emissions are included if the facility falls into one or more categories listed at N.J.A.C. 7:27-22.2(a)2.

Section A

Facility Name: CUMBERLAND ENERGY CENTER

Program Interest Number: 75508

Permit Activity Number: BOP210001

POLLUTANT EMISSIONS SUMMARY

Table 3: Summary of Hazardous Air Pollutants (HAP) Emissions from Significant Source Operations ⁵:

HAP	TPY
Acrolein	0.0689
Arsenic	0.0358
Benzene	0.179
Butadiene (1, 3-)	0.0633
Cadmium	0.0156
Formaldehyde	3.03
Lead	0.0455
Manganese	2.57
Mercury	0.003
Selenium	0.0814

Table 4: Summary of “Other” air contaminants emissions from Significant Source Operations:

Other Air Contaminant	TPY
Ammonia	32.3
H2SO4	6.8

⁵ Do not sum the values below for the purpose of establishing a total HAP potential to emit. See previous page for the allowable total HAP emissions.

Section B

Facility Name: CUMBERLAND ENERGY CENTER

Program Interest Number: 75508

Permit Activity Number: BOP210001

GENERAL PROVISIONS AND AUTHORITIES

1. No permittee shall allow any air contaminant, including an air contaminant detectable by the sense of smell, to be present in the outdoor atmosphere in a quantity and duration which is, or tends to be, injurious to human health or welfare, animal or plant life or property, or which would unreasonably interfere with the enjoyment of life or property. This shall not include an air contaminant that occurs only in areas over which the permittee has exclusive use or occupancy. Requirements relative only to nuisance situations, including odors, are not considered federally enforceable. [N.J.A.C. 7:27-22.16(g)8]
2. Any deviation from operating permit requirements which results in a release of air contaminants shall be reported to the Department as follows:
 - a. If the air contaminants are released in a quantity or concentration which poses a potential threat to public health, welfare or the environment or which might reasonably result in citizen complaints, the permittee shall report the release to the Department:
 - i. Immediately on the Department hotline at 1-(877) 927-6337, pursuant to N.J.S.A. 26:2C-19(e); and
 - ii. As part of the compliance certification required in N.J.A.C. 7:27-22.19(f). However, if the deviation is identified through source emissions testing, it shall be reported through the source emissions testing and monitoring procedures at N.J.A.C. 7:27-22.18(e)3; or
 - b. If the air contaminants are released in a quantity or concentration which poses no potential threat to public health, welfare or the environment and which will not likely result in citizen complaints, the permittee shall report the release to the Department as part of the compliance certification required in N.J.A.C. 7:27-22.19(f), except for deviations identified by source emissions testing reports, which shall be reported through the procedures at N.J.A.C. 7:27-22.18(e)3; or
 - c. If the air contaminants are released in a quantity or concentration which poses no potential threat to public health, welfare or the environment and which will not likely result in citizen complaints, and the permittee intends to assert the affirmative defense afforded by N.J.A.C. 7:27-22.16(l), the violation shall be reported by 5:00 PM of the second full calendar day following the occurrence, or of becoming aware of the occurrence, consistent with N.J.A.C. 7:27-22.16(l). [N.J.A.C. 7:27-22.19(g)1]
3. The permittee shall comply with all conditions of the operating permit including the approved compliance plan. Any non-compliance with a permit condition constitutes a violation of the New Jersey Air Pollution Control Act N.J.S.A. 26:2C-1 et seq., or the CAA, 42 U.S.C. §7401 et seq., or both, and is grounds for enforcement action; for termination, revocation and reissuance, or for modification of the operating permit; or for denial of an application for a renewal of the operating permit. [N.J.A.C. 7:27-22.16(g)1]
4. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of its operating permit. [N.J.A.C. 7:27-22.16(g)2]
5. This operating permit may be modified, terminated, or revoked for cause by the EPA pursuant to 40 CFR 70.7(g) and revoked or reopened and modified for cause by the Department pursuant to N.J.A.C. 7:27-22.25. [N.J.A.C. 7:27-22.16(g)3]

6. The permittee shall furnish to the Department, within a reasonable time, any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this operating permit; or to determine compliance with the operating permit. [N.J.A.C. 7:27-22.16(g)4]
7. The filing of an application for a modification of an operating permit, or of a notice of planned changes or anticipated non-compliance, does not stay any operating permit condition. [N.J.A.C. 7:27-22.16(g)5]
8. The operating permit does not convey any property rights of any sort, or any exclusive privilege. [N.J.A.C. 7:27-22.16(g)6]
9. Upon request, the permittee shall furnish to the Department copies of records required by the operating permit to be kept. [N.J.A.C. 7:27-22.16(g)7]
10.
 - a. For emergencies (as defined at 40 CFR 70.6(g)(1)) that result in non-compliance with any promulgated federal technology-based standard such as NSPS, NESHAPS, or MACT, a federal affirmative defense is available, pursuant to 40 CFR 70. To assert a federal affirmative defense, the permittee must use the procedures set forth in 40 CFR 70. The affirmative defense provisions described below may not be applied to any situation that caused the Facility to exceed any federally delegated regulation, including but not limited to NSPS, NESHAP, or MACT.
 - b. For situations other than those covered above, an affirmative defense is available for a violation of a provision or condition of the operating permit only if:
 - i. The violation occurred as a result of an equipment malfunction, an equipment startup or shutdown, or during the performance of necessary equipment maintenance; and
 - ii. The affirmative defense is asserted and established as required by N.J.S.A. 26:2C-19.1 through 19.5 and any implementing rules. [N.J.A.C. 7:27-22.16(l)]
11. In the event of a challenge to any part of this operating permit, all other parts of the permit shall continue to be valid. [N.J.A.C. 7:27-22.16(f)]
12. Each owner and each operator of any facility, source operation, or activity to which this permit applies is responsible for ensuring compliance with all requirements of N.J.A.C. 7:27-22. If the owner and operator are separate persons, or if there is more than one owner or operator, each owner and each operator is jointly and severally liable for any fees due under N.J.A.C. 7:27-22, and for any penalties for violation of N.J.A.C. 7:27-22. [N.J.A.C. 7:27-22.3]
13. The permittee shall ensure that no air contaminant is emitted from any significant source operation at a rate, calculated as the potential to emit, that exceeds the applicable threshold for reporting emissions set forth in the Appendix to N.J.A.C. 7:27-22 or 7:27-17.9(a), unless emission of the air contaminant is authorized by this operating permit. [N.J.A.C. 7:27-22.3(c)]
14. Consistent with the provisions of N.J.A.C. 7:27-22.3(e), the permittee shall ensure that all requirements of this operating permit are met. In the event that there are multiple emission limitations, monitoring, recordkeeping, and/or reporting requirements for a given source operation, the facility must comply with all requirements, including the most stringent.
15. Consistent with the provisions of N.J.A.C. 7:27-22.3(s), Except as otherwise provided in this subchapter, the submittal of any information or application by a permittee including, but not limited to, an application or notice for any change to the operating permit, including any administrative amendment, any minor or significant modification, renewal, a notice of a seven-day notice change, a notice of past or anticipated noncompliance, does not stay any operating permit condition, nor relieve a permittee from the obligation to obtain other necessary permits and to comply with all applicable Federal, State, and local requirements.

16. Applicable requirements derived from an existing or terminated consent decree with EPA will not be changed without advance consultation by the Department with EPA. N.J.A.C. 7:27-22.3(uu).
17. Unless specifically exempted from permitting, temporary mobile equipment for short-term activities may be periodically used at major facilities, on site for up to 90 days if the requirements listed below, (a) through (h) are satisfied.
 - a. The permittee will ensure that the temporary mobile equipment will not be installed permanently or used permanently on site.
 - b. The permittee will ensure that the temporary mobile equipment will not circumvent any State or Federal rules and regulations, even for a short period of time, and the subject equipment will comply with all applicable performance standards.
 - c. The permittee cannot use temporary mobile equipment unless the owner or operator of the subject equipment has obtained and maintains an approved Air Pollution Control Permit, issued pursuant to N.J.A.C. 7:27-8 or 22, prior to bringing the temporary mobile equipment to operate at the major facility.
 - d. The permittee is responsible for ensuring the temporary mobile equipment's compliance with the terms and conditions specified in its approved Air Pollution Control Permit when the temporary mobile equipment operates on the property of the permittee.
 - e. The permittee will ensure that temporary mobile equipment utilized for short-term activities will not operate on site for more than a total of 90 days during any calendar year.
 - f. The permittee will keep on site a list of temporary mobile equipment being used at the facility with the start date, end date, and record of the emissions from all such equipment (amount and type of each air contaminant) no later than 30 days after the temporary mobile equipment completed its job in accordance with N.J.A.C. 7:27-22.19(i)3.
 - g. Emissions from the temporary mobile equipment must be included in the emission netting analysis required of the permittee by N.J.A.C. 7:27-18.7. This information is maintained on site by the permittee and provided to the Department upon request in accordance with existing applicable requirements in the FC Section of its Title V permit.
 - h. Where short-term activities (employing temporary mobile equipment) will reoccur on at least an annual basis, the permittee is required to include such activities (and the associated equipment) within one year of the first use, in its Title V permit through the appropriate modification procedures.
18. Consistent with the provisions of N.J.A.C. 7:27-22.9(c), the permittee shall use monitoring of operating parameters, where required by the compliance plan, as a surrogate for direct emissions testing or monitoring, to demonstrate compliance with applicable requirements.
19. The permittee is responsible for submitting timely and administratively complete operating permit applications:

Administrative Amendments [N.J.A.C. 7:27-22.20(c)];
Seven-Day Notice changes [N.J.A.C. 7:27-22.22(e)];
Minor Modifications [N.J.A.C. 7:27-22.23(e)];
Significant Modifications [N.J.A.C. 7:27-22.24(e)]; and
Renewals [N.J.A.C. 7:27-22.30(b)].
20. The operating permit renewal application consists of a RADIUS application and the application attachment available at the Department's website <http://www.nj.gov/dep/aqpp/applying.html> (Attachment to the RADIUS Operating Permit Renewal Application). Both the RADIUS application and the Application Attachment, along with any other supporting documents must be submitted using the Department's Portal

at: <http://njdeponline.com/>. The application is considered timely if it is received at least 12 months before the expiration date of the operating permit. To be deemed administratively complete, the renewal application shall include all information required by the application form for the renewal and the information required pursuant to N.J.A.C. 7:27-22.30(d). However, consistent with N.J.A.C. 7:27-22.30(c), the permittee is encouraged to submit the renewal application at least 15 months prior to expiration of the operating permit, so that any deficiencies can be identified and addressed to ensure that the application is administratively complete by the renewal deadline. Only renewal applications which are timely and administratively complete are eligible for an application shield.

21. For all source emissions testing performed at the facility, the phrase “worst case conditions without creating an unsafe condition” used in the enclosed compliance plan is consistent with EPA’s National Stack Testing Guidance, dated April 27, 2009, where all source emission testing performed at the facility shall be under the representative (normal) conditions that:
 - i. Represent the range of combined process and control measure conditions under which the facility expects to operate (regardless of the frequency of the conditions); and
 - ii. Are likely to most challenge the emissions control measures of the facility with regard to meeting the applicable emission standards, but without creating an unsafe condition.
22. Consistent with EPA’s National Stack Testing Guidance and Technical Manual 1004, a facility may not stop an ongoing stack test because it would have failed the test unless the facility also ceases operation of the equipment in question to correct the issue. Stopping an ongoing stack test in these instances will be considered credible evidence of emissions non-compliance.
23. Each permittee shall maintain records of all source emissions testing or monitoring performed at the facility and required by the operating permit in accordance with N.J.A.C. 7:27-22.19. Records shall be maintained, for at least five years from the date of each sample, measurement, or report. Each permittee shall maintain all other records required by this operating permit for a period of five years from the date each record is made. At a minimum, source emission testing or monitoring records shall contain the information specified at N.J.A.C. 7:27-22.19(b). [N.J.A.C. 7:27-22.19(a) and N.J.A.C. 7:27-22.19(b)]
24. A Permittee may seek the approval of the Department for a delay in testing required pursuant to this permit by submitting a written request to the appropriate Regional Enforcement Office in accordance with N.J.A.C. 7:27-22.18(k). A Permittee may also seek advanced approval for a longer period for submittal of a source emissions test report required by the permit by submitting a request to the Department’s Regional Enforcement Office in accordance with N.J.A.C. 7:27-22.19. [N.J.A.C. 7:27-22.18(k) and N.J.A.C. 7:27-22.19]

Section C

Facility Name: CUMBERLAND ENERGY CENTER

Program Interest Number: 75508

Permit Activity Number: BOP210001

STATE-ONLY APPLICABLE REQUIREMENTS

N.J.A.C. 7:27-22.16(b)5 requires the Department to specifically designate as not being federally enforceable any permit conditions based only on applicable State requirements. The applicable State requirements to which this provision applies are listed in the table titled "State-Only Applicable Requirements."

STATE-ONLY APPLICABLE REQUIREMENTS

The following applicable requirements are not federally enforceable:

<u>SECTION</u>	<u>SUBJECT ITEM</u>	<u>ITEM #</u>	<u>REF. #</u>
B	---	1	---
B	---	10b	---
D	FC	---	3
D	FC	---	9
D	GR10	---	ALL

Section D

Facility Name: CUMBERLAND ENERGY CENTER
Program Interest Number: 75508
Permit Activity Number: BOP210001

FACILITY SPECIFIC REQUIREMENTS AND INVENTORIES

FACILITY SPECIFIC REQUIREMENTS PAGE INDEX

<u>Subject Item and Name</u>	<u>Page Number</u>
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Facility (FC):

FC	1
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Insignificant Sources (IS):

IS NJID	IS Description	
IS2	Open Top, Unheated Surface Cleaner (Top opening < 6 square ft., Capacity < 100 gallons)	7
IS3	(3) Overboard Drain Tanks (<2,000 gallons each)	9
IS5	Lube Oil Storage Tank and Mist Eliminators (Tank < 2,000 gallons; Mist Eliminators < 50 lb/hr throughput)	10
IS7	Ultra Low Sulfur Distillate (ULSD) Storage Tank (750,000 gallon capacity); [Non applicable VOC > 10,000 gal]	12
IS8	Ultra Low Sulfur Distillate (ULSD) Storage Tank (750,000 gallon capacity); [Non applicable VOC > 10,000 gal]	16

Groups (GR):

GR NJID	GR Designation	GR Description	
GR10	RGGI	RGGI Rule (For SC Turbine in U1 and U4)	18

Emission Units (U):

U NJID	U Designation	U Description	
U1	CT-1	Combustion Turbine	28
U2	CE-1	Natural Gas-fired Gas Compressor Engine	112
U3	SB-1	Abrasive Blast Equipment	127
U4	CT-2	GE LMS100 Combustion Turbine	129
U6	EG-1	(EG-003-4) Emergency Generator, 2500 kW	199

New Jersey Department of Environmental Protection
Reason for Application

Permit Being Modified

Permit Class: BOP **Number:** 200001

Description of Modifications: This is a significant modification application to revise the language found in U4 OS Summary #9 regarding ammonia monitoring and to raise the upper limit temperature of CD4 (SCR catalyst) to 870 degrees F based on vendor spec sheets. The requested language for the ammonia monitoring and vendor spec sheet are included as attachments to this RADIUS file.

Specific Changes Made:

- 1) Change the upper limit of the SCR catalyst temperature to be consistent throughout the permit and equal to the vendor's specification sheet (870 F).
 - * Change temperature at exit of catalyst (U4, OSS, REF #22) from 800 to 870 degrees F.
 - * Change CD3 details (maximum temperature at catalyst bed) and (maximum temperature at reagent injection point) from 840 to 870 degrees F.
 - * Change CD4 details (maximum inlet temperature) and (maximum outlet temperature) from 840 to 870 degrees F.
 - * Change PT4 maximum exhaust temperature in emission point inventory from 836 to 870 degrees F.
 - * Change U4, OS1 maximum temperature in emission unit inventory from 836 to 870 degrees F.
 - * Change U4, OS3 maximum temperature in emission unit inventory from 821 to 870 degrees F.
- 2) Change ammonia (NH3) monitoring requirement from "continuous process monitor" to "continuous monitoring by ammonia flow metering device". Update the following permit conditions to represent this change:
 - * U4, OSS, REF #9 and REF #30
 - * U4, OS1, REF #26
 - * U4, OS3, REF #21
- 3) Incorporate Acid Rain Permit into the operating permit.

BOP210001

**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Subject Item: FC

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	General Provisions: The permittee shall comply with all applicable provisions of N.J.A.C. 7:27-1. [N.J.A.C. 7:27- 1]	None.	None.	None.
2	Control and Prohibition of Open Burning: The permittee is prohibited from open burning of rubbish, garbage, trade waste, buildings, structures, leaves, other plant life and salvage. Open burning of infested plant life or dangerous material may only be performed with a permit from the Department. [N.J.A.C. 7:27- 2]	None.	None.	Obtain an approved permit: Prior to occurrence of event (prior to open burning). [N.J.A.C. 7:27- 2]
3	Prohibition of Air Pollution: The permittee shall not emit into the outdoor atmosphere substances in quantities that result in air pollution as defined at N.J.A.C. 7:27-5.1. [N.J.A.C. 7:27- 5]	None.	None.	None.
4	Prevention and Control of Air Pollution Control Emergencies: Any person responsible for the operation of a source of air contamination set forth in Table 1 of N.J.A.C. 7:27-12 is required to prepare a written Standby Plan, consistent with good industrial practice and safe operating procedures, and be prepared for reducing the emission of air contaminants during periods of an air pollution alert, warning, or emergency. Any person who operates a source not set forth in Table 1 of N.J.A.C. 7:27-12 is not required to prepare such a plan unless requested by the Department in writing. [N.J.A.C. 7:27-12]	None.	None.	Comply with the requirement: Upon occurrence of event. Upon proclamation by the Governor of an air pollution alert, warning, or emergency, the permittee shall put the Standby Plan into effect. In addition, the permittee shall ensure that all of the applicable emission reduction objectives of N.J.A.C. 7:27-12.4, Table I, II, and III are complied with whenever there is an air pollution alert, warning, or emergency. [N.J.A.C. 7:27-12]
5	Emission Offset Rules: The permittee shall comply with all applicable provisions of Emission Offset Rules. [N.J.A.C. 7:27-18]	None.	None.	None.
6	Emission Statements: The permittee shall comply with all the applicable provisions of N.J.A.C. 7:27-21. [N.J.A.C. 7:27-21]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	Compliance Certification: The permittee shall submit an annual Compliance Certification for each applicable requirement, pursuant to N.J.A.C. 7:27-22.19(f). [N.J.A.C. 7:27-22]	None.	None.	Submit an Annual Compliance Certification: Annually to the Department and to EPA within 60 days after the end of each calendar year during which this permit was in effect. The Compliance Certification shall be certified pursuant to N.J.A.C. 7:27-1.39 by the responsible official and submitted electronically through the NJDEP online web portal. The certification should be printed for submission to EPA. The NJDEP online web portal can be accessed at: http://www.state.nj.us/dep/online/ . The Compliance Certification forms and instructions for submitting to EPA are available by selecting Documents and Forms and then Periodic Compliance Certification. [N.J.A.C. 7:27-22]
8	Prevention of Air Pollution from Consumer Products and Architectural Coatings: The permittee shall comply with all applicable provisions of N.J.A.C. 7:27-24 and [N.J.A.C. 7:27-23]	None.	None.	None.
9	Any operation of equipment which causes off-property effects, including odors, or which might reasonably result in citizen's complaints shall be reported to the Department to the extent required by the Air Pollution Control Act, N.J.S.A. 26:2C-19(e). [N.J.S.A. 26: 2C-19(e)]	Other: Observation of plant operations. [N.J.S.A. 26: 2C-19(e)].	Other: Maintain a copy of all information submitted to the Department. [N.J.S.A. 26: 2C-19(e)].	Notify by phone: Upon occurrence of event. A person who causes a release of air contaminants in a quantity or concentration which poses a potential threat to public health, welfare or the environment or which might reasonably result in citizen complaints shall immediately notify the Department. Such notification shall be made by calling the Environmental Action Hotline at (877) 927-6337. [N.J.S.A. 26: 2C-19(e)]
10	Prevention of Significant Deterioration: The permittee shall comply with all applicable provisions of Prevention of Significant Deterioration (PSD). [40 CFR 52.21]	None.	None.	None.

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	The permittee shall comply with all applicable provisions of National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Asbestos, Subpart M. [40 CFR 61]	Other: Comply with 40 CFR 61.145 and 61.150 when conducting any renovation or demolition activities at the facility. [40 CFR 61].	Other: Comply with 40 CFR 61.153 when conducting any renovation or demolition activities at the facility. [40 CFR 61].	Comply with the requirement: Upon occurrence of event. The permittee shall comply with 40 CFR 61.153 when conducting any renovation or demolition activities at the facility. [40 CFR 61]
12	Protection of Stratospheric Ozone:1) If the permittee manufactures, transforms, destroys, imports, or exports a Class I or Class II substance, the permittee is subject to all the requirements as specified at 40 CFR 82, Subpart A; 2) If the permittee performs a service on motor "fleet" vehicles when this service involves an ozone depleting substance refrigerant (or regulated substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified at 40 CFR 82, Subpart B. 3) The permittee shall comply with the standards for labeling of products containing or manufactured with ozone depleting substances pursuant to 40 CFR 82, Subpart E. 4). The permittee shall comply with the standards for recycling and emission reductions of Class I and Class II refrigerants or a regulated substitute substance during the service, maintenance, repair, and disposal of appliances pursuant to 40 CFR 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B. 5) The permittee shall be allowed to switch from any ozone depleting substance to any alternative that is listed in the Significant New Alternative Program (SNAP) promulgated pursuant to 40 CFR 82, Subpart G. [40 CFR 82]	Other: Comply with 40 CFR 82 Subparts A, B, E, F, and G. [40 CFR 82].	Other: Comply with 40 CFR 82 Subparts A, B, E, F, and G. [40 CFR 82].	Comply with the requirement: Upon occurrence of event. The permittee shall comply with 40 CFR 82 Subparts A, B, E, F, and G. [40 CFR 82]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	Deviation Reports: The permittee shall submit to the Department a certified six-month Deviation Report relating to testing and monitoring required by the operating permit. [N.J.A.C. 7:27-22.19(d)3], [N.J.A.C. 7:27-22.19(e)], and [N.J.A.C. 7:27-22.19(c)]	None.	Other: The permittee shall maintain deviation reports for a period of five years from the date each report is submitted to the Department. [N.J.A.C. 7:27-22.19(a)] and [N.J.A.C. 7:27-22.19(e)].	Submit a report: As per the approved schedule. The six-month deviation reports for the period from January 1 through June 30 shall be submitted by July 30 of the same calendar year, and for the period from July 1 through December 31, shall be submitted by January 30 of the following calendar year. The annual compliance certification required by N.J.A.C. 7:27-22.19(f) may also be considered as your six-month Deviation Report for the period from July 1 – December 31, if submitted by January 30 of the following calendar year. The reports shall be certified pursuant to N.J.A.C. 7:27-1.39 by the responsible official and submitted electronically through the NJDEP online web portal. The NJDEP online web portal can be accessed at: http://www.state.nj.us/dep/online/ . The Compliance Certification forms are available by selecting Documents and Forms and then Periodic Compliance Certification. [N.J.A.C. 7:27-22]
14	Used Oil Combustion: No person shall combust used oil except as authorized pursuant to N.J.A.C. 7:27-20. [N.J.A.C. 7:27-20.2]	None.	None.	Comply with the requirement: Prior to occurrence of event (prior to burning used oil) either register with the Department pursuant to N.J.A.C. 7:27-20.3 or obtain a permit issued by the Department pursuant to N.J.A.C. 7:27-8 or 7:27-22, whichever is applicable. [N.J.A.C. 7:27-20.2(d)]
15	Prevention of Accidental Releases: Facilities producing, processing, handling or storing a chemical, listed in the tables of 40 CFR Part 68.130, and present in a process in a quantity greater than the listed Threshold Quantity, shall comply with all applicable provisions of 40 CFR 68. [40 CFR 68]	Other: Comply with 40 CFR 68. [40 CFR 68].	Other: Comply with 40 CFR 68. [40 CFR 68].	Other (provide description): Other. Comply with 40 CFR 68 as described in the Applicable Requirement. [40 CFR 68]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
16	The Department and its authorized representatives shall have the right to enter and inspect any activity subject to N.J.A.C. 7:27-22, or portion thereof, pursuant to N.J.A.C. 7:27-1.31. [N.J.A.C. 7:27-22.16(g)9]	None.	None.	None.
17	The permittee shall pay fees to the Department pursuant to N.J.A.C. 7:27. [N.J.A.C. 7:27-22.16(g)10]	None.	None.	None.
18	Each permittee shall meet all requirements of the approved source emissions testing and monitoring protocol during the term of the operating permit. Whenever the permittee makes a replacement, modification, change or repair of a certified CEMS or COMS that may significantly affect the ability of the system to accurately measure or record data, the permittee must recertify the CEMS or COMS in accordance with Section V.B. and Appendix E of Technical Manual 1005. The permittee is responsible for any downtime associated with the replacement, modification, change or repair of the CEMS or COMS. [N.J.A.C. 7:27-22.18(j)]	None.	None.	Comply with the requirement: Upon occurrence of event. The permittee is responsible for contacting the Emission Measurement Section to determine the need for recertification and/or to initiate the recertification process. [N.J.A.C. 7:27-22.18(j)]
19	Each process monitor must be operated at all times when the associated process equipment is operating except during service outage time not to exceed 24 hours per calendar quarter. [N.J.A.C. 7:27-22.16(a)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. The permittee must keep a service log to document any outage. [N.J.A.C. 7:27-22.16(o)]	None.
20	Continuous recording for process monitors must be at a sufficient frequency and resolution to be able to document compliance or non-compliance in accordance with Technical Manual 1005 for CEMS (TM1005(B)(3)). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	Stack testing after permit expiration: If an operating permit has expired, the conditions of the operating permit, including the requirements for stack testing during the expired permit term, remain enforceable until the operating permit is reissued. [N.J.A.C. 7:27-22.30(j)] and [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Subject Item: IS2 Open Top, Unheated Surface Cleaner (Top opening < 6 square ft., Capacity < 100 gallons)

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Pursuant to paragraph 1 of the definition of "insignificant source operation" and paragraph 3 of the definition of "significant source operation", a surface cleaner is an insignificant source operation unless it uses a cleaning solution containing 5% or more VOCs, HAPs, or VOCs and HAPs combined and is one of the following: 1) An unheated open top surface cleaner with a top opening of greater than 6.0 square feet (0.56 square meters) or a capacity greater than 100 gallons; 2) A heated open top surface cleaner; 3) A conveyORIZED surface cleaner; or 4) A stationary spray cleaning or surface stripping operation using one half gallon or more of cleaning solution in any one hour. [N.J.A.C. 7:27-22.1]	Monitored by formulation data at the approved frequency Confirm compliance using (Material) Safety Data Sheet (MSDS / SDS) or bill of lading each time cleaning solvent is added to the parts cleaner. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by invoices / bills of lading / certificate of analysis at the approved frequency of each time cleaning solvent is added to the cleaner. Invoices / bills of lading must show materials being delivered. If VOC / HAP content is not given on the invoice / bill of lading, (Material) Safety Data Sheet (MSDS / SDS) may be used to confirm compliance. [N.J.A.C. 7:27-22.16(o)]	None.
2	No halogenated solvents are to be used in this equipment, based on the initial operating permit application. [N.J.A.C. 7:27-22.16(a)]	Monitored by formulation data at the approved frequency. Confirm compliance using (Material) Safety Data Sheet (MSDS / SDS) or bill of lading each time cleaning solution is added to the cleaner. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by invoices / bills of lading / certificate of analysis at the approved frequency of each time cleaning solution is added to the cleaner. Invoices / bills of lading must show materials being delivered. If VOC / HAP content is not given on invoices / bills of lading, (Material) Safety Data Sheets (MSDS / SDS) may be used to confirm compliance. [N.J.A.C. 7:27-22.16(o)]	None.
3	The permittee shall use a tightly fitting working-mode cover that completely covers the machine's opening and that shall be kept closed at all times except when parts are being placed into or being removed from the machine or when solvent is being added or removed. [N.J.A.C. 7:27-16.6(j)1]	Monitored by visual determination upon occurrence of event, based on an instantaneous determination. Monitoring shall occur for each period of inactive use of the machine. [N.J.A.C. 7:27-22.16(a)]	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	The owner or operator of a cold cleaning machine or a heated cleaning machine shall maintain, for not less than two years after the date of purchase of solvent, the information pertaining to the solvent as specified in N.J.A.C. 7:27-16.6(j)4i through 4v, and shall, upon the request of the Department, provide the information to the Department. [N.J.A.C. 7:27-16.6(j)4]	None.	None.	None.
5	Solvent must contain less than 5% by weight of any combination of methylene chloride, perchloroethylene, 1,1,1-trichloroethane, carbon tetrachloride and chloroform. [40 CFR 63.Subpart(T)]	Other: At the time of filling, confirm compliance using (Material) Safety Data Sheet (MSDS / SDS) or bill of lading.[40 CFR 63.Subpart(T)].	None.	None.

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Subject Item: IS3 (3) Overboard Drain Tanks (<2,000 gallons each)

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>The drain tank(s) shall have a maximum capacity of less than 2,000 gallons.</p> <p>Pursuant to paragraph 1 of the definition of "insignificant source operation" and paragraph 8 and 9 of the definition of "significant source operation", stationary storage tanks which have a capacity of less than 2,000 gallons are insignificant source operations. [N.J.A.C. 7:27-22.1]</p>	None.	None.	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Subject Item: IS5 Lube Oil Storage Tank and Mist Eliminators (Tank < 2,000 gallons; Mist Eliminators < 50 lb/hr throughput)

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>The lube oil storage tank shall have a maximum capacity of less than 2,000 gallons.</p> <p>Pursuant to paragraph 1 of the definition of "insignificant source operation" and paragraph 8 and 9 of the definition of "significant source operation", stationary storage tanks which have a capacity of less than 2,000 gallons are insignificant source operations. [N.J.A.C. 7:27-22.1]</p>	None.	None.	None.
2	<p>The combined weight of all the raw materials used by the lube oil mist eliminators shall not exceed 50 pounds in any one hour of operation.</p> <p>Pursuant to paragraph 1 of the definition of "insignificant source operation" and paragraph 6 of the definition of "significant source operation", a source is an insignificant source operation unless the combined weight of all the raw materials used exceeds 50 pounds in any one hour of operation. The weight of the following shall be excluded when determining the combined weight of the raw materials used:</p> <ul style="list-style-type: none"> * Air; * Water; * Containers, provided that the container is not consumed as part of the operation of the equipment; and * Paper, metal, or plastic that is twisted, bent, or folded, in the equipment, provided that the twisting, bending, or folding does not cause visible emissions or air pollution. <p>[N.J.A.C. 7:27-22.1]</p>	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	Opacity may be no greater than 20% exclusive of visible condensed water, except for a period of not longer than 3 minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-6.2(d)] &. [N.J.A.C. 7:27- 6.2(e)]	None.	None.	None.
4	No Visible Emissions, exclusive of condensed water vapor, except for no more than 3 minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Subject Item: IS7 Ultra Low Sulfur Distillate (ULSD) Storage Tank (750,000 gallon capacity); [Non applicable VOC > 10,000 gal]

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The operating temperature of the tank shall not be greater than 350 degrees F. [N.J.A.C. 7:27-22.1]	None.	None.	None.
2	The vapor pressure of the liquid, excluding the vapor pressure of water, shall be less than 0.02 psia at the liquid's actual temperature or at 70 degrees F, whichever is higher. [N.J.A.C. 7:27-22.1]	None.	None.	None.
3	The tank or vessel shall have no visible emissions, exclusive of water vapor, to the outdoor atmosphere. [N.J.A.C. 7:27-22.1]	None.	None.	None.
4	The tank or vessel shall not emit any air contaminants which may cause an odor detectable outside the property boundaries of the facility. [N.J.A.C. 7:27-22.1]	None.	None.	None.
5	The tank or vessel shall not be subject to any NESHAPS, MACT, or NSPS air pollution control standards, excluding the NSPS requirements to maintain a record of the contents of the tank or vessel, the period of storage of these contents, and the maximum true vapor pressure of the liquid stored. [N.J.A.C. 7:27-22.1]	None.	None.	None.
6	The tank's or vessel's potential to emit each TXS and each HAP shall not exceed the de minimis reporting thresholds as specified in Appendix to N.J.A.C. 7:27-22. [N.J.A.C. 7:27-22.1]	None.	None.	None.
7	The percentage by weight of all HAPs collectively in the raw material stored in the tank, or mixed or blended in the vessel, shall be less than 1.0 percent. [N.J.A.C. 7:27-22.1]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	The owner or operator shall have readily available upon Department request a statement certified in accordance with N.J.A.C. 7:27-1.39, signed by the responsible official, as defined at N.J.A.C. 7:27-1.4, that: (1) specifies the contents of the tank; (2) affirms that the tank or vessel meets the above applicable requirements and (3) attests that the tank or vessel is in compliance with all other applicable State or federal air pollution requirements. [N.J.A.C. 7:27-22.1]	None.	None.	None.
9	Tank content limited to No. 2 and lighter fuel oil. [N.J.A.C. 7:27-22.16(a)]	Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by invoices / bills of lading / certificate of analysis once per bulk fuel shipment. [N.J.A.C. 7:27-22.16(e)]	None.
10	Sulfur Content in Fuel \leq 15 ppmw (0.0015 % by weight). Maximum allowable sulfur content in No. 2 and lighter fuel oil. NOTE: This requirement is effective on and after July 1, 2016. [N.J.A.C. 7:27- 9.2(a)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
11	Fuel stored in New Jersey that met the applicable maximum sulfur content standard of Tables 1A or 1B of N.J.A.C. 7:27-9.2 at the time it was initially stored in New Jersey may be used in New Jersey after the operative date of the applicable standard in 1B. [N.J.A.C. 7:27- 9.2(a)]	None.	None.	None.
12	Throughput \leq 47,201,695 gallons per year. Annual throughput limit, from permit application BOP070001. [N.J.A.C. 7:27-22.16(e)]	Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by invoices / bills of lading / certificate of analysis once per bulk fuel shipment. [N.J.A.C. 7:27-22.16(e)]	None.
13	VOC (Total) \leq 0.27 tons/yr. This limit includes formaldehyde emissions. Annual emission limit for storage tank, from TANKS 4.0.9d program. Based on 47,201,695 gallon/year throughput. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	<p>Fuel Tank Sulfur Content Sampling:</p> <p>Since the Permittee will continue to combust any higher sulfur distillate fuel oil that remains in the fuel storage tank after switching to a lower sulfur distillate fuel and this remaining fuel may mix with the lower sulfur fuel, creating a fuel mixture with an aggregate sulfur content higher than that of the lower sulfur fuel, the permittee shall conduct composite sampling of the storage tank after receipt of every fuel lot delivered to the facility. A fuel lot is defined as a shipment or delivery (ship, barge, a group of trucks, discrete purchase of diesel fuel through a pipeline). Sampling shall begin on July 1, 2016 and continue until the aggregate sulfur content of the fuel in the fuel tank (IS7) is 0.0015% or less.</p> <p>Once the above sampling demonstrates that the aggregate sulfur content of the fuel oil stored in the tank has dropped to 0.0015%, all applicable SO₂ emission limits for the combustion turbine shall be based on 0.0015% sulfur fuel oil instead of 0.0021% sulfur fuel oil.</p> <p>(See SO₂ emission limits in U1: OS Summary, OS1 and OS2</p> <p>[40 CFR 75, Appendix D, Section 2.2] and [N.J.A.C. 7:27-22.16(a)]</p>	<p>Other: Sulfur content in fuel monitored by a sample taken from the oil tank after each additional fuel lot is delivered. Sample according to the single tank composite sampling procedure or all levels sampling procedure in ASTM D4057-95, Standard Practice for Manual Sampling of Petroleum and Petroleum Products.</p> <p>Sampling shall begin on July 1, 2016 and continue until the aggregate sulfur content of the fuel in the fuel tank (IS7) is 0.0015% or less.</p> <p>Once the applicable requirement of this condition is satisfied, fuel oil sampling shall be in accordance with 40 CFR 75, Appendix D, Section 2.2, for purposes of demonstrating compliance with the applicable CSAPR rules for reporting SO₂ and NO_x mass emissions.</p> <p>[40 CFR 75, Appendix D, Section 2.2] and [N.J.A.C. 7:27-22.16(o)].</p>	<p>Recordkeeping by certified lab analysis results per delivery. [N.J.A.C. 7:27-22.16(o)]</p>	<p>None.</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	<p>Since fuel tank sampling (see "Fuel Tank Sulfur Content Sampling" above) shows that the sulfur content of the fuel in fuel tank IS7 is 0.0021% and that in fuel tank IS8 is 0.0006%, Combustion turbine U1 must combust fuel oil from fuel tank IS7, whenever possible, until the remaining higher sulfur fuel in that tank is combusted and the aggregate sulfur content of the fuel in both tanks is 0.0015% or less. This permit condition will no longer apply once the aggregate sulfur content of the fuel in both tanks has been reduced to less than 0.0015%.</p> <p>Fuel oil from fuel tank IS8 may be combusted by combustion turbine U1 only when it is not possible to combust fuel from fuel tank IS7 (in which case the reason shall be documented). [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by fuel flow/firing rate instrument upon occurrence of event. Permittee shall monitor the source of all fuel combusted by the turbine U1 and ensure that, whenever possible, that turbine combusts fuel from fuel tank IS7, until the aggregate sulfur content of the fuel in both tanks is reduced to below 0.0015% sulfur content. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. Beginning on the date that operating permit BOP150001 is approved and until the aggregate sulfur content of the fuel stored in both tanks is less than 0.0015%, the Permittee shall maintain a record of any instance that the turbine U1 combusts fuel from fuel tank IS8 and shall include the reason that fuel from fuel tank IS7 could not be combusted. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Subject Item: IS8 Ultra Low Sulfur Distillate (ULSD) Storage Tank (750,000 gallon capacity); [Non applicable VOC > 10,000 gal]

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The operating temperature shall not be greater than 350 degrees F. [N.J.A.C. 7:27-22.1]	None.	None.	None.
2	The vapor pressure of the liquid, excluding the vapor pressure of water, shall be less than 0.02 psia at the liquid's actual temperature or at 70 degrees F, whichever is higher. [N.J.A.C. 7:27-22.1]	None.	None.	None.
3	The tank shall have no visible emissions, exclusive of water vapor, to the outdoor atmosphere. [N.J.A.C. 7:27-22.1]	None.	None.	None.
4	The tank shall not emit any air contaminants which may cause an odor detectable outside the property boundaries of the facility. [N.J.A.C. 7:27-22.1]	None.	None.	None.
5	The tank(s) shall be subject to the NSPS requirements to maintain a record of the contents of the tank, the period of storage of these contents, and the maximum true vapor pressure of the liquid stored. The tank shall not be subject to any other NESHAPS, MACT, or NSPS air pollution control standards. [N.J.A.C. 7:27-22.1]	None.	None.	None.
6	The tank's potential to emit each TXS and each HAP shall not exceed the de minimis reporting thresholds as specified in N.J.A.C. 7:27-22, Appendix. [N.J.A.C. 7:27-22.1]	None.	None.	None.
7	The percentage by weight of all HAPs collectively in the raw material stored in the tank shall be less than 1.0 percent. [N.J.A.C. 7:27-22.1]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	The owner or operator shall have readily available upon Department request a statement certified in accordance with N.J.A.C. 7:27-1.39, signed by the responsible official, as defined at N.J.A.C. 7:27-1.4, that: (1) specifies the contents of the tank; (2) affirms that the tank meets the applicable requirements of Ref. #1 to #7 above; and (3) attests that the tank is in compliance with all other applicable state or federal air pollution requirements. [N.J.A.C. 7:27-22.1]	None.	None.	None.
9	Tank content limited to No. 2 and lighter fuel oil. [N.J.A.C. 7:27-22.16(a)]	Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by invoices / bills of lading / certificate of analysis once per bulk fuel shipment. [N.J.A.C. 7:27-22.16(e)]	None.
10	Sulfur Content in Fuel \leq 15 ppmw (0.0015 % by weight). Maximum allowable sulfur content in No. 2 and lighter fuel oil. NOTE: This requirement is effective on and after July 1, 2016. [N.J.A.C. 7:27- 9.2(a)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
11	Fuel stored in New Jersey that met the applicable maximum sulfur content standard of Tables 1A or 1B of N.J.A.C. 7:27-9.2 at the time it was initially stored in New Jersey may be used in New Jersey after the operative date of the applicable standard in 1B. [N.J.A.C. 7:27- 9.2(a)]	None.	None.	None.
12	Throughput \leq 47,201,695 gallons per year. Annual throughput limit, from permit application BOP070001. [N.J.A.C. 7:27-22.16(e)]	Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by invoices / bills of lading / certificate of analysis once per bulk fuel shipment. [N.J.A.C. 7:27-22.16(e)]	None.
13	VOC (Total) \leq 0.27 tons/yr. This limit includes formaldehyde emissions. Annual emission limit for storage tank, from TANKS 4.0.9d program. Based on 47,201,695 gallon/year throughput. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Facility Specific Requirements**

Subject Item: GR10 RGGI Rule (For SC Turbine in U1 and U4)

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>The owners and operators of each CO2 budget source and each CO2 budget unit at the source shall, as of the CO2 allowance transfer deadline, hold CO2 allowances in the sources's compliance account, available for compliance deductions under N.J.A.C. 7:27C-6.9, as follows:</p> <p>1) In the case of an initial control period, the number of CO2 allowances held shall be no less than the amount equivalent to the total CO2 emissions for the initial control period from all CO2 budget units at the source;</p> <p>2) In the case of a control period, the number of CO2 allowances held shall be no less than the total CO2 emissions for the control period from all CO2 budget units at the source, less the CO2 allowances deducted to meet the requirements of N.J.A.C 7:27C-1.4(g) with respect to the previous two interim control periods, as determined in accordance with N.J.A.C 7:27C-6 and 7:27C-8;</p> <p>3) In the case of an interim control period, the number of CO2 allowances held shall be no less than the total CO2 emissions for the interim control period from all CO2 budget units at the source, multiplied by 0.50, as determined in accordance with NJAC 7:27C-6 and 7:27C-8. [N.J.A.C. 7:27C-1.4(f)]</p>	<p>Monitored by calculations at the approved frequency. The Department shall use the emission measurements recorded and reported in accordance with N.J.A.C. 7:27C-8 to determine the unit's compliance. Total tons for a control period shall be calculated as the sum of all recorded hourly emissions (or the tonnage equivalent of the recorded hourly emissions rates) in accordance with N.J.A.C. 7:27C-8. The Department will round total CO2 emissions to the nearest whole ton, so that any fraction of a ton equal to or greater than 0.50 tons is deemed to equal one ton and any fraction of a ton less than 0.50 tons is deemed to equal zero tons. [N.J.A.C. 7:27C- 1.4(d)]</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Maintain records of all CO2 emissions from each CO2 budget unit. [N.J.A.C. 7:27C- 8]</p>	<p>Submit a report: On or before every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1). The CO2 authorized account representative shall submit quarterly reports to the Bureau of Energy and Sustainability, for each calendar quarter beginning with:</p> <p>i. For a unit that commences commercial operation before December 17, 2018, the calendar quarter beginning January 1, 2020; or</p> <p>ii. For a unit commencing commercial operation on or after December 17, 2018, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under N.J.A.C. 7:27C-8.1(d). If the calendar quarter so determined is the third or fourth quarter of 2019, reporting shall commence in the quarter beginning January 1, 2020.</p> <p>Quarterly reports shall be submitted in the manner specified in Subpart H of 40 CFR 75 and 40 CFR 75.64. Quarterly reports shall be submitted for each CO2 budget unit (or group of units using a common stack), and shall include all of the data and information required in Subpart G of 40 CFR 75, except for opacity, heat input, NOx and SO2 provisions.</p> <p>The CO2 authorized account representative shall submit, to the Bureau of Energy and Sustainability, a compliance certification in support of each quarterly report, pursuant to N.J.A.C. 7:27C-8.5(c)3. [N.J.A.C. 7:27- 8.5(c)]</p>

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	CO2 Allowance Tracking System (COATS): CO2 allowances shall be held in, deducted from, or transferred among COATS accounts in accordance with N.J.A.C. 7:27C-5, 6, and 7. [N.J.A.C. 7:27C-1.4(i)] A CO2 allowance shall not be deducted, in order to comply with N.J.A.C. 7:27-1.4(f), for a control period that ends prior to the year for which the CO2 allowance was allocated. [N.J.A.C. 7:27C-1.4(j)] A CO2 offset allowance shall not be deducted, in order to comply with N.J.A.C. 7:27-1.4(f), beyond the applicable percent limitations at N.J.A.C. 7:27C6.9(a)3. [N.J.A.C. 7:27C- 1.4(k)]	Other: The Permittee shall review any transactions recorded in its COATS account for accuracy.[N.J.A.C. 7:27-22.16(o)].	None.	Submit a report: As per the approved schedule Submit compliance certification reports pursuant to N.J.A.C. 7:27C-4.1(a) and CO2 allowance transfer requests, as necessary, pursuant to N.J.A.C. 7:27C-7.1(a), to the Bureau of Energy and Sustainability If information in COATS account is found to be inaccurate, notify the Bureau of Energy and Sustainability. [N.J.A.C. 7:27-22.16(o)]
3	CO2: The owners and operators of a CO2 budget source that has excess emissions in any control period or in the initial control period, or has excess interim emissions in any interim control period, shall: 1. Forfeit the CO2 allowances required for deduction under N.J.A.C. 7:27C-6.9(e); 2. Not use any CO2 offset allowances to cover any part of such excess emissions; and 3. Pay any fine, penalty, or assessment or comply with any other remedy imposed under N.J.A.C. 7:27C-6.9(f). [N.J.A.C. 7:27C- 1.4(n)]	Other: The Permittee shall review any transactions recorded in its COATS account for accuracy.[N.J.A.C. 7:27-22.16(o)].	None.	Submit notification: Upon occurrence of event. If information in COATS account is found to be inaccurate, notify the Bureau of Energy and Sustainability. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	CO2: Account certificate of representation and supporting documents. [N.J.A.C. 7:27C-1.4(o)1]	None.	CO2: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. The owners and operators of the CO2 budget source and each CO2 budget unit at the source shall keep on site at the source the account certificate of representation for the CO2 authorized account representative for the CO2 budget source and each CO2 budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with N.J.A.C. 7:27C-2.4. These documents shall be retained on site at the source until such documents are superseded by a newly submitted account certificate of representation changing the CO2 authorized account representative. [N.J.A.C. 7:27C- 1.4(o)1]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	CO2: Copies of Documents & Reports [N.J.A.C. 7:27C- 1.4(o)]	None.	<p>CO2: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event The owners and operators of the CO2 budget source and each CO2 budget unit at the source shall keep on site at the source each of the following documents for a period of 10 years from the date the document is created. The Department may at any time prior to the end of the 10-year period extend the 10-year period in writing, if it determines that retention of the documents beyond the 10-year period is necessary to determine compliance with the requirements of N.J.A.C. 7:27C:</p> <ul style="list-style-type: none"> - All emissions monitoring information, in accordance with N.J.A.C. 7:27C-8 and 40 CFR 75.57; - Copies of all reports, compliance certifications, and other submissions, and all records made or required under the CO2 Budget Trading Program; and - Copies of all documents used to complete an application for a new or modified operating permit that incorporates the requirements of the CO2 Budget Trading Program and any other submission under the CO2 Budget Trading Program or to demonstrate compliance with the requirements of the CO2 Budget Trading Program. <p>[N.J.A.C 7:27C-1.4(o)2, [N.J.A.C 7:27C-1.4(o)3 and. [N.J.A.C. 7:27C-1.4(o)4]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	CO2: Compliance Certification Report: [N.J.A.C. 7:27C-1.4(p)] and [N.J.A.C. 7:27C- 4.1]	None.	None.	<p>Submit a report: As per the approved schedule. For each control period, including the initial control period, in which a CO2 budget source is subject to the CO2 requirements of N.J.A.C 7:27C-1.4, the CO2 authorized account representative shall submit, to the Bureau of Energy and Sustainability, by March 1 following each relevant three-calendar-year control period, the compliance certification report that includes the following elements listed in N.J.A.C. 7:27C-4.1(b):</p> <ol style="list-style-type: none"> 1. Identification of the CO2 budget source and each CO2 budget unit at the source; 2. At the CO2 authorized account representative's option, the serial numbers of the CO2 allowances that are to be deducted from the CO2 budget source's compliance account under N.J.A.C. 7:27C-6.9 for the control period, including the serial numbers of any CO2 offset allowances that are to be deducted subject to the limitations of N.J.A.C. 7:27C-6.9(a)3; and 3. The compliance certification: <p>In the compliance certification report, the CO2 authorized account representative shall certify whether the CO2 budget source and each CO2 budget unit at the source for which the compliance certification is submitted was operated, during the calendar years covered by the report, in compliance with the requirements of the CO2 Budget Trading Program, based on reasonable inquiry of those persons with primary responsibility for operating the CO2 budget source and the CO2 budget units at the source in compliance with the CO2 Budget Trading Program. [N.J.A.C. 7:27C-4.1(b)] and. [N.J.A.C. 7:27C- 4.1]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	CO2: The owner or operator of each CO2 budget unit shall install all monitoring systems necessary to monitor CO2 mass emissions in accordance with 40 CFR Part 75, except for equation G-1 of Appendix G, which shall not be used to determine CO2 emissions. Compliance with this paragraph may require systems to monitor CO2 concentration, stack gas flow rate, O2 concentration, heat input, and fuel flow rate [N.J.A.C. 7:27C- 8.1(c)1]	Other: The owner or operator of a CO2 budget unit shall meet the monitoring system certification and other requirements of N.J.A.C. 7:27C-8.1(c) and shall quality-assure the data from the monitoring systems in accordance with the schedule prescribed in N.J.A.C. 7:27C-8.1(d)(1) for a CO2 budget unit that commenced commercial operation before December 17, 2018, N.J.A.C. 7:27C-8.1(d)(2) for a CO2 budget unit that commenced commercial operation on or after December 17, 2018 or N.J.A.C. 7:27C-8.1(d)(3) for a CO2 budget unit for which construction of a new stack or flue installation is completed after the applicable deadlines at N.J.A.C. 7:27C-8.1(d)(1) and (2). [N.J.A.C 7:27C-8.1(c)2], [N.J.A.C 7:27C-8.1(c)3] and [N.J.A.C 7:27C-8.1(d)] The owner or operator shall ensure, for each continuous emissions monitoring system (including the automated data acquisition and handling system) the successful completion of all of the initial certification testing required under 40 CFR 75.20 by the applicable deadlines listed above. In addition, whenever the owner or operator installs a monitoring system in order to meet the requirements of N.J.A.C. 7:27C-8 in a location where no such monitoring system was previously installed, initial certification in accordance with 40 CFR 75.20 is required.[N.J.A.C. 7:27C- 8.2(d)].	CO2: Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency. The owner or operator of a CO2 budget unit shall record the data from the monitoring systems in accordance with the schedule prescribed in N.J.A.C. 7:27C-8.1(d)(1) for a CO2 budget unit that commenced commercial operation before December 17, 2018, N.J.A.C. 7:27C-8.1(d)(2) for a CO2 budget unit that commenced commercial operation on or after December 17, 2018 or N.J.A.C. 7:27C-8.1(d)(3) for a CO2 budget unit for which construction of a new stack or flue installation is completed after the applicable deadlines at N.J.A.C. 7:27C-8.1(d)(1) and (2). [N.J.A.C 7:27C-8.1(c)3] and. [N.J.A.C. 7:27C- 8.1(d)]	Submit a report: As per the approved schedule. The owner or operator of a CO2 budget unit shall report the data from the monitoring systems in accordance with the schedule prescribed in N.J.A.C. 7:27C-8.1(d)(1) for a CO2 budget unit that commenced commercial operation before December 17, 2018, N.J.A.C. 7:27C-8.1(d)(2) for a CO2 budget unit that commenced commercial operation on or after December 17, 2018 or N.J.A.C. 7:27C-8.1(d)(3) for a CO2 budget unit for which construction of a new stack or flue installation is completed after the applicable deadlines at N.J.A.C. 7:27C-8.1(d)(1) and (2). [N.J.A.C 7:27C-8.1(c)3] and. [N.J.A.C. 7:27C- 8.1(d)]

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	CO2: The owner or operator of a CO2 budget unit that commenced commercial operation before December 17, 2018 and did not certify all monitoring systems required under N.J.A.C. 7:27C8.1(c) by June 11, 2019; or a CO2 budget unit that commenced commercial operation on or after December 17, 2018 and did not certify all monitoring systems required under N.J.A.C. 7:27C8.1(c) by June 11, 2019 or the earlier of 90 unit operating days or 180 calendar days after the date on which the unit commenced commercial operation; or a CO2 budget unit for which construction of a new stack or flue installation is completed after the above deadline and did not certify all monitoring systems required under N.J.A.C. 7:27C8.1(c) by the earlier of 90 unit operating days or 180 calendar days after the date on which emissions first exited the new stack or flue and entered the atmosphere; shall, for each such monitoring system, determine, record and report, the necessary data as specified. [N.J.A.C. 7:27C- 8.1(e)]	Other: The owner or operator shall, for each monitoring system, determine maximum (or, as appropriate, minimum) potential values for CO2 concentration, CO2 emissions rate, stack gas moisture content, fuel flow rate, heat input, and any other parameter required to determine CO2 mass emissions in accordance with 40 CFR 75.31(b)(2) or (c)(3) and section 2.4 of Appendix D of 40 CFR Part 75, as applicable.[N.J.A.C. 7:27C- 8.1(e)].	CO2: Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency. The owner or operator shall, for each monitoring system, record maximum (or, as appropriate, minimum) potential values for CO2 concentration, CO2 emissions rate, stack gas moisture content, fuel flow rate, heat input, and any other parameter required to determine CO2 mass emissions in accordance with 40 CFR 75.31(b)(2) or (c)(3) and section 2.4 of Appendix D of 40 CFR Part 75, as applicable. [N.J.A.C. 7:27C- 8.1(e)]	Submit a report: As per the approved schedule. The owner or operator shall, for each monitoring system, report maximum (or, as appropriate, minimum) potential values for CO2 concentration, CO2 emissions rate, stack gas moisture content, fuel flow rate, heat input, and any other parameter required to determine CO2 mass emissions in accordance with 40 CFR 75.31(b)(2) or (c)(3) and section 2.4 of Appendix D of 40 CFR Part 75, as applicable. [N.J.A.C. 7:27C-8.1(e)]
9	No owner or operator of a CO2 budget unit shall use any alternative monitoring system, alternative reference method, or any other alternative for the required continuous emissions monitoring system without having obtained prior written approval in accordance with N.J.A.C. 7:27C-8.6. [N.J.A.C. 7:27C-8.1(j)1]	None.	None.	Obtain approval: Upon occurrence of event. The CO2 authorized account representative of a CO2 budget unit may submit a petition to the Administrator under 40 CFR 75.66, and to the Department requesting approval to apply an alternative to any requirement of 40 CFR Part 75 or to a requirement concerning any additional CEMS required under the common stack provisions of 40 CFR 75.72 or a CO2 concentration CEMS used under 40 CFR 75.71(a)(2). [N.J.A.C. 7:27C-8.6]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	CO2: The owner or operator of a CO2 budget unit shall comply with the initial certification and recertification procedures set forth at N.J.A.C. 7:27C-8.2(d) through (r) for a continuous emissions monitoring system and an excepted monitoring system under Appendix D of 40 CFR Part 75, except as provided in N.J.A.C. 7:27C-8.2(a). The owner or operator of a CO2 budget unit that qualifies to use the low mass emissions excepted monitoring methodology in 40 CFR 75.19 or that qualifies to use an alternative monitoring system under Subpart E of 40 CFR Part 75 shall comply with the initial certification and recertification procedures set forth at N.J.A.C. 7:27C-8.2(q) or (r), respectively. [N.J.A.C. 7:27C- 8.2(c)]	None.	None.	Submit notification: Upon occurrence of event. The CO2 authorized account representative shall submit to the Department, EPA Region 2 office and the Administrator a written notice of the dates of certification in accordance with N.J.A.C. 7:27C-8.4. [N.J.A.C. 7:27C-8.2(h)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	<p>CO2: . The owner or operator shall recertify a monitoring system in accordance in 40 CFR 75.20(b) whenever the owner or operator makes the replacement, modification, or changes described in N.J.A.C. 7:27C-8.2(f). [N.J.A.C. 7:27C-8.2(f)]</p> <p>A provisionally certified monitor may be used under the CO2 Budget Trading Program for a period not to exceed 120 days after the Department receives the complete certification application for the monitoring system, or component thereof, under N.J.A.C.7:27C-8.2(h). [N.J.A.C. 7:27C-8.2(j)]</p> <p>Whenever any monitoring system fails to meet the quality assurance and quality control requirements or data validation requirements of 40 CFR Part 75, data shall be substituted using the applicable procedures in Subpart D or Appendix C, of 40 CFR Part 75. [N.J.A.C. 7:27C- 8.3(a)]</p>	<p>Other: The owner or operator of a CO2 budget unit shall submit a monitoring plan in the manner prescribed in 40 CFR 75.62, either electronically or hardcopy. If electronic, no later than 21 days prior to the initial certification tests; at the time of each certification or recertification application submission; and (prior to or concurrent with) the submittal of the electronic quarterly report for a reporting quarter where an update of the electronic monitoring plan information is required. If hardcopy, no later than 21 days prior to the initial certification test; with any certification or recertification application, if a hardcopy monitoring plan change is associated with the certification or recertification event; and within 30 days of any other event with which a hardcopy monitoring plan change is associated, pursuant to 40 CFR 75.53(b). Electronic submittal of all monitoring plan information, including hardcopy portions, is permissible provided that a paper copy of the hardcopy portions can be furnished upon request.[N.J.A.C. 7:27C- 8.5(b)].</p>	None.	<p>Submit documentation of compliance: As per the approved schedule. The CO2 authorized account representative shall submit a certification or recertification application to the Department for each monitoring system within 45 days after completing all CO2 monitoring system initial certification or recertification tests required under N.J.A.C. 7:27C-8.2 including the information required under 40 CFR 75.53(g) and (h) and 75.63. . [N.J.A.C. 7:27C- 8.2(e)]</p>
12	<p>The CO2 authorized account representative of a CO2 budget unit that co-fires eligible biomass as a compliance mechanism under N.J.A.C. 7:27C shall report the information as provided in N.J.A.C. 7:27C-8.7 to the Department for each calendar quarter. [N.J.A.C. 7:27C- 8.7(a)]</p>	None.	None.	<p>Submit a report: Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1). [N.J.A.C. 7:27C-8.7]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	Net electric output and net thermal output. [N.J.A.C. 7:27C- 8.8(a)]	Other: The output monitoring plan shall include: - a diagram of the electrical and/or steam system, - a description of each output monitoring system, - a detailed description of all quality assurance and quality control activities, and - documentation supporting any output value(s) to be used as a missing data value should there be periods of invalid output data. [N.J.A.C. 7:27C-8.8(g)] Ongoing quality assurance and quality control (QA/QC) activities shall be performed in order to maintain the output system in accordance with N.J.A.C. 7:27C-8.8(i).[N.J.A.C. 7:27C- 8.8].	Other: The owner or operator of a CO2 budget source shall retain data used to monitor, determine, or calculate net electrical output and net thermal output for 10 years.[N.J.A.C. 7:27C-8.8(j)].	Submit a report: Annually. The CO2 authorized account representative shall submit annual output reports electronically to the Department, pursuant to N.J.A.C. 7:27C-8.8(b) through (j), by the March 1 following the immediately preceding calendar year. These reports shall also be submitted, upon Department request, in hardcopy. The annual output report shall include unit level megawatt-hours and all useful steam output; and shall include a certification from the CO2 authorized account representative pursuant to N.J.A.C. 7:27C-8.8(k). [N.J.A.C. 7:27C-8.8(a)] and. [N.J.A.C. 7:27C- 8.8(k)]

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Emission Unit: U1 Combustion Turbine**Operating Scenario:** OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Summary of Applicable Federal Regulations: 40 CFR 60 Subpart A 40 CFR 60 Subpart GG 40 CFR 97 - CSAPR [None]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	<p>RENEWAL STACK TEST FOR GASEOUS EMISSIONS: (NO_x, CO and VOC)</p> <p>The permittee shall conduct a stack test at least 18 months prior to the expiration of the initial or renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NO_x and CO as specified in the compliance plan for OS4 and for NO_x, CO and VOC as specified in the compliance plan for OS Summary and OS1, unless the turbine is eligible for and complying with one of the alternative monitoring requirements listed below. The permittee shall provide EMS with the turbine load performance curve with the protocol.</p> <p>Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition.</p> <p>If complying with the "Periodic Emission Monitoring Alternative for Peaking Units" and the average capacity factor of the unit exceeds 10% over the previous 3 calendar years or the annual capacity factor in any of those calendar years exceeds 20%, the permittee shall:</p> <ol style="list-style-type: none"> 1) Within 60 days of the exceedance, submit a stack test protocol to EMS; and 2) Within 180 days of the exceedance, conduct a stack test pursuant to the above requirements. <p>See Alternative Monitoring Options in OS Summary:</p> <ol style="list-style-type: none"> 1) "Periodic Emission Monitoring Alternative for Peaking Units" 2) "CEMS Alternative to Renewal Stack Test for NO_x and CO" [N.J.A.C. 7:27-22.16(a)] 	<p>Other: Monitoring as required under the applicable operating scenario(s).</p> <p>In accordance with N.J.A.C. 7:27-19.15(a)2, any NO_x testing conducted pursuant to this section shall be conducted concurrently with CO testing. The applicable NO_x emission limits in N.J.A.C. 7:27-19 will not be considered to have been met unless the concurrent CO testing demonstrates compliance with the CO limit in N.J.A.C. 7:27-16.9 or the permit limit for CO, whichever is more stringent, is also met.[N.J.A.C. 7:27-22.16(o)].</p>	<p>Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 09-01, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit (or within 60 days of a capacity factor exceedance, as applicable). The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert.</p> <p>Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-984-3443 to schedule a mutually acceptable test date.</p> <p>A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and . [N.J.A.C. 7:27-22.18(h)]</p>

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3	<p>RENEWAL STACK TEST FOR PARTICULATE EMISSIONS: (TSP and PM-10)</p> <p>The permittee shall conduct a stack test at least 18 months prior to the expiration of the initial or renewed operating permit using an approved protocol to demonstrate compliance with emission limits for PM-10 as specified in the compliance plan for OS4 and for TSP and PM-10 as specified in the compliance plan for OS1. The permittee shall provide EMS with the turbine load performance curve with the protocol.</p> <p>Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. [N.J.A.C. 7:27-22.16(a)]</p>	Other: Monitoring as required under the applicable operating scenario(s).[N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 09-01, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert.</p> <p>Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-984-3443 to schedule a mutually acceptable test date.</p> <p>A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and . [N.J.A.C. 7:27-22.18(h)]</p>

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4	<p>PERIODIC EMISSION MONITORING ALTERNATIVE FOR PEAKING UNITS:</p> <p>If the turbine is operated as a "Peaking Unit" as defined by the Acid Rain program of USEPA, at 40 CFR 72.2 (the average capacity factor of the unit does not exceed 10% over the previous 3 calendar years and annual capacity factor does not exceed 20% in each of those calendar years), periodic emission monitoring of NOx and CO shall be permitted in lieu of "Renewal Stack Test for Gaseous Emissions" above.</p> <p>Periodic emission testing shall be performed annually on the turbine using a periodic emission monitoring device to measure the concentrations of NOx, CO and O2, in accordance with Technical Manual 1005, unless the unit qualifies for the exemption listed below.</p> <p>Exemption: Any turbine that is equipped with a CEMS unit which continuously monitors NOx, CO and O2, during all operation of the turbine, need not perform the annual periodic emission monitoring described above.</p> <p>Dual Fuel Turbines: For turbines permitted to combust either natural gas or fuel oil, emission testing shall be required only on the fuel fired at the time of the test.</p> <p>***NOTE*** Periodic emission monitoring shall only be allowed as an alternative to stack emission testing once initial stack emission testing has been performed and compliance has been demonstrated with all of the permit emission limits. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by periodic emission monitoring annually of NOx, CO and O2; or continuous emission monitoring of NOx, CO and O2.</p> <p>Periodic emission monitoring for NOx, CO and O2 shall be consistent with the requirements specified in NJDEP Technical Manual 1005 posted on AQPP webpage at http://www.state.nj.us/dep/aqpp. The permittee shall use reference method or site specific method testing provided in the Technical Manual 1005 as part of any periodic monitoring procedure. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: Annually.</p> <p>The permittee shall notify Enforcement at least 24 hours prior to performing periodic emission testing. Periodic emission testing for NOx, CO and O2 shall be performed annually in accordance with Technical Manual 1005 or by another method/procedure approved by EMS.</p> <p>Test reports shall be submitted to Chief, REO within 45 days following the end of each calendar year (starting with 2013) in the approved format to identify the facility name, emission unit, test date, and total operating hours for that year. The test results must be certified by a licensed professional engineer or by a certified industrial hygienist</p> <p>If the turbine is equipped with a CEMS unit, which continuously monitors NOx, CO and O2 during turbine operation, annual periodic monitoring is not required and therefore no periodic emission report is required to be submitted to the Department.</p> <p>If permit term stack testing is performed instead of periodic emission monitoring, no periodic emission monitoring report is required to be submitted to the Department. [N.J.A.C. 7:27-22.16(o)]</p>

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5	<p>PERIODIC EMISSION MONITORING FOR NON-OZONE SEASON OPERATION:</p> <p>Periodic emission monitoring of NOx, CO and O2 shall be performed once during each non-ozone season that the turbine is operated.</p> <p>Periodic emission testing shall be performed annually on the turbine, using a periodic emission monitoring device to measure the concentrations of NOx, CO and O2, in accordance with Technical Manual 1005, unless the unit qualifies for the exemption listed below.</p> <p>Exemption: Any turbine that is equipped with a CEMS unit which continuously monitors NOx, CO and O2, during all operation of the turbine, need not perform the annual periodic emission monitoring described above.</p> <p>Dual Fuel Turbines: For turbines permitted to combust either natural gas or fuel oil, emission testing shall be required only on the fuel fired at the time of the test.</p> <p>***NOTE*** Periodic emission monitoring, pursuant to this condition, shall only be allowed if compliance has been demonstrated with "Renewal Stack Test for Gaseous Emissions" in OS Summary (either by stack testing or performing annual periodic emission monitoring of a "peaking unit"), during the ozone season. If the required monitoring has not been performed, during the ozone season, pursuant to the above requirements (for instance, if the turbine did not operate in the ozone season), such emission monitoring shall be performed upon turbine operation in the non-ozone season. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by periodic emission monitoring at the approved frequency. Once during each non-ozone season that the turbine is operated, perform periodic emission monitoring of NOx, CO and O2; or continuous emission monitoring of NOx, CO and O2.</p> <p>Periodic emission monitoring for NOx, CO and O2 shall be consistent with the requirements specified in NJDEP Technical Manual 1005 posted on AQPP webpage at http://www.state.nj.us/dep/aqpp. The permittee shall use reference method or site specific method testing provided in the Technical Manual 1005 as part of any periodic monitoring procedure. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: Annually.</p> <p>The permittee shall notify Enforcement at least 24 hours prior to performing periodic emission testing. Periodic emission testing for NOx, CO and O2 shall be performed once during each non-ozone season that the turbine operates, in accordance with Technical Manual 1005 or by another method/procedure approved by EMS.</p> <p>Test reports shall be submitted to Chief, REO within 45 days following the end of each calendar year (starting with 2013) in the approved format to identify the facility name, emission unit, test date, and total operating hours for that year. The test results must be certified by a licensed professional engineer or by a certified industrial hygienist</p> <p>If the turbine is equipped with a cems unit, which continuously monitors NOx, CO and O2 during turbine operation, annual periodic monitoring is not required and therefore no periodic emission report is required to be submitted to the Department. [N.J.A.C. 7:27-22.16(o)]</p>

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6	<p>CEMS ALTERNATIVE TO RENEWAL STACK TEST FOR NO_x AND CO:</p> <p>The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NO_x and/or CO, with EMS approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described for stack testing (See "Renewal Stack Test for Gaseous Emissions" in OS Summary). [N.J.A.C. 7:27-22.16(a)]</p>	None.	Other: Maintain certification of CEMS and obtain approval to use CEMS data to satisfy the renewal stack testing requirements for NO _x and CO from EMS through stack test protocol approval.[N.J.A.C. 7:27-22.16(o)].	None.
7	<p>CONTINUOUS EMISSION MONITORING: (NO_x, CO)</p> <p>Install and operate Continuous Emission Monitoring System (CEMS) and conduct Performance Specification Test (PST) in accordance with the NJDEP Technical Manual 1005, to demonstrate compliance with emission limits for NO_x and CO as specified in the compliance plan for OSS, OS1, OS2, OS3, OS4, OS5 and OS6.</p> <p>Continuous parametric monitors and continuous parametric data recorders shall be installed and operated to demonstrate compliance with monitoring parameters, for example, flue gas flow rate, temperature, etc. as specified in the compliance plan for OSS, OS1, OS2, OS3, OS4, OS5 and OS6. [N.J.A.C. 7:27-22.16(a)]</p>	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	CEMS/COMS - Submit equipment protocol, submit a PST protocol, conduct PST and submit results: As per the approved schedule [N.J.A.C. 7:27-22.18(k)] and. [N.J.A.C. 7:27-22.18(g)]

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8	The Permittee shall request approval from the Department's Emission Measurement Section (EMS) to allow continued use of the existing CEMS when a change to the units of measurement is made to a permit limit. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Maintain readily accessible records of the Permittee's written request to EMS, and the response from EMS. [N.J.A.C. 7:27-22.16(o)].	Comply with the requirement: Upon occurrence of event submit a written request to the EMS within 30 days from the date of the approved operating permit to determine whether a full CEMS recertification is required, whether the change can follow the procedures for data recording and storage equipment upgrades found in the Department's Technical Manual 1005 Section IV.B.3(f), or if continued use of the existing CEMS is allowed. [N.J.A.C. 7:27-22]
9	The owner or operator shall develop a QA/QC plan for each CEMS/COMS required by this permit prepared in accordance with the NJDEP Technical Manual 1005 posted on the AQPP webpage at http://www.state.nj.us/dep/aqpp . [N.J.A.C. 7:27-22.16(a)]	Other: The QA/QC coordinator shall be responsible for reviewing the QA/QC plan on an annual basis. [N.J.A.C. 7:27-22.16(o)].	Other: Maintain readily accessible records of the QA/QC plan including QA data and quarterly reports. [N.J.A.C. 7:27-22.16(o)].	None.
10	CO <= 250 ppmvd @ 15% O ₂ . VOC RACT emission limit applies during all operation of the combustion turbine. [N.J.A.C. 7:27-16.9(b)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day not including periods of equipment downtime. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-16.23(a)1]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]

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11	VOC (Total) <= 50 ppmvd @ 15% O ₂ . VOC RACT emission limit applies during all operation of the combustion turbine. [N.J.A.C. 7:27-16.9(c)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. Stack testing only required while combusting fuel oil pursuant to OS1. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
12	The owner or operator of a stationary combustion turbine that has a maximum gross heat input rate of 25 million BTU per hour or more and associated duct burner (if a duct burner is installed) shall adjust the combustion process in accordance with the procedure set forth at N.J.A.C. 7:27-19.16(g) and in accordance with the manufacturer's recommended procedures and maintenance schedules for those sources. [N.J.A.C. 7:27-22.16(a)], [N.J.A.C. 7:27-16.9(f)] and [N.J.A.C. 7:27-19.5(e)]	Other: Monitored by continuous emission monitoring (CEMS) or by periodic emission monitoring upon performing combustion adjustment. If not using a certified CEMS, monitoring shall be performed in accordance with the specific procedures for combustion adjustment monitoring specified in NJDEP Technical Manual 1005. [N.J.A.C. 7:27-19.16(g)].	Recordkeeping by data acquisition system (DAS) / electronic data storage upon performing combustion adjustment or by manual logging of parameter or storing data in a computer data system. The permittee shall record the following information for each adjustment in a log book or computer data system: 1. The date and times the adjustment began and ended; 2. The name, title, and affiliation of the person who performed the procedure and adjustment; 3. The type of procedure and maintenance performed; 4. The concentration of NO _x , CO, and O ₂ measured before and after the adjustment was made; and 5. The type and amount of fuel use since the last combustion adjustment was performed. The records shall be kept for a minimum of 5 years and be readily accessible to the Department upon request. [N.J.A.C. 7:27-19.16(h)]	None.

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13	An exceedance of an emission limit that occurs during an adjustment of the combustion process under N.J.A.C. 7:27-19.16(g) is not a violation of this subchapter if it occurs as a result of the adjustment. After the combustion adjustment has been completed, the maximum emission rate of any contaminant shall not exceed the maximum allowable emission rate applicable under this subchapter or under an operating permit issued pursuant to N.J.A.C. 7:27-22 or an applicable certificate issued pursuant to N.J.A.C. 7:27-8. [N.J.A.C. 7:27-19.16(f)]	None.	None.	None.

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14	<p>Hours of Operation \leq 2,500 hours per any 365 consecutive day period while combusting natural gas OR 1,500 hours per any 365 consecutive day period while combusting distillate fuel oil. If both fuels are combusted within a given year, the number of allowable operating hours for each fuel shall be determined using the following equations:</p> <p>if $x \leq 1,000$ hours $y = 2500 - [1.4505 * x]$</p> <p>if $x > 1,000$ hours $y = 3171 - [2.114 * x]$</p> <p>where: x = total hr/yr that liquid distillate fuel is combusted y = total hr/yr that natural gas fuel is combusted</p> <p>Hours limitation from preconstruction permit. The permittee shall limit operating hours on each fuel so that the annual emission limits specified in this permit are not exceeded. Total hours of operation shall not include start-up, shutdown, and fuel transfer periods. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Hours of Operation: Monitored by hour/time monitor continuously, based on a consecutive 365 day period (rolling 1 day basis).</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Hours of Operation: Recordkeeping by data acquisition system (DAS) / electronic data storage daily. Maintain a record of total hours of operation while combusting distillate fuel oil and total hours of operation while combusting natural gas during each operating day.</p> <p>Total hours of operation, while combusting each fuel, shall be calculated daily, by adding the total hours of distillate fuel oil operation during a given day to the total hours of distillate fuel oil operation during the immediately preceding 364 calendar days and adding the total hours of natural gas operation during a given day to the total hours of natural gas operation during the immediately preceding 364 calendar days. These calculated values must comply with the applicable requirement. [N.J.A.C. 7:27-22.16(o)]</p>	None.
15	<p>Fuel Oil Usage \leq 11.55 MMgals per any 365 consecutive day period. Maximum distillate fuel oil usage for CT-1 (U1), based on maximum ozone season heat input of 1032 MMBtu/hr, a distillate fuel heating value of 0.134 MMBtu/gal and combustion of distillate fuel oil for 1500 hrs/yr.</p> <p>NOTE: This limit applies to total annual fuel oil usage by U1 - this includes ozone season operation (OS1) and non-ozone season operation (OS2). [N.J.A.C. 7:27-22.16(a)]</p>	<p>Fuel Oil Usage: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis).</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Fuel Oil Usage: Recordkeeping by data acquisition system (DAS) / electronic data storage daily. Maintain a record of the fuel use in gallons each operating day.</p> <p>Gallons of distillate fuel oil consumed during any consecutive 365 day period shall be calculated by adding the gallons of distillate fuel consumed during a given day to the total gallons of distillate fuel consumed during the immediately preceding 364 calendar days. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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16	<p>Natural Gas Usage \leq 2,522 MMft³ per any 365 consecutive day period. Maximum natural gas usage for CT-1 (U1), based on maximum ozone season heat input of 1032 MMBtu/hr, a natural gas heating value of 1023 MMBtu/MMScf and combustion of natural gas for 2500 hrs/yr.</p> <p>NOTE: This limit applies to total annual natural gas usage by U1 - this includes ozone season operation (OS4) and non-ozone season operation (OS5). [N.J.A.C. 7:27-22.16(a)]</p>	<p>Natural Gas Usage: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis).</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Natural Gas Usage: Recordkeeping by data acquisition system (DAS) / electronic data storage daily. Maintain a record of the fuel use in CUFT each operating day.</p> <p>Cubic Feet of natural gas consumed during any consecutive 365 day period shall be calculated by adding the cubic feet of natural gas consumed during a given day to the total cubic feet of natural gas consumed during the immediately preceding 364 calendar days. [N.J.A.C. 7:27-22.16(o)]</p>	None.
17	<p>Permittee must operate a Load Meter and Recorder to measure turbine loading in kilowatts (KW) of electrical power output. Combustion turbine shall not be operated outside the load range except during start-up, shutdown, maintenance, calibration, or testing. Load range shall be determined by stack tests that exhibited compliance with emission limits contained in this permit. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Other: Monitored by turbine load meter continuously. [N.J.A.C. 7:27-22.16(e)].</p>	<p>Other: Data Acquisition System (DAS)/electronic data storage. During all operation of the turbine. [N.J.A.C. 7:27-22.16(e)].</p>	None.
18	<p>The permittee shall record each period of unit maintenance and calibration during which the water injection system is not operating.</p> <p>Maintenance is defined as those actions that are necessary to keep the combustion turbine operating in an acceptable manner.</p> <p>Calibration is defined as those actions that are necessary to assure all instrumentation is operating within its intended accuracy band. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Monitored by hour/time monitor continuously.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. Records shall be kept of each period of combustion turbine maintenance or calibration during which the water injection system is not operating. Records shall show start time, end time, date, total time, reason, measures to be taken for preventing a recurrence, emissions during the period and name of operator making the entry. The records should be kept in a permanent form suitable for inspections. [N.J.A.C. 7:27-22.16(e)]</p>	None.

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19	The permittee shall operate and maintain the Water Injection System in accordance with the manufacturer's requirements, during all periods of turbine operation, except during periods of start-up, shut down, maintenance and calibration as defined in this permit. [N.J.A.C. 7:27-22.16(a)]	<p>Monitored by hour/time monitor continuously.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The permittee shall continuously record the time and duration of the operation of both the gas turbine and the water injection system.</p> <p>The permittee shall maintain the Water Injection System manufacturer's specifications, and operation and maintenance manual on-site. [N.J.A.C. 7:27-22.16(o)]</p>	None.
20	Water-to-Fuel Ratio: The water-to-fuel ratio shall be within the manufacturer's recommended range, in pounds of water per pound of fuel. This ratio is only required when the continuous emission monitoring system is not operating. The limit shall not apply during the time valid data is collected by the CEM. [N.J.A.C. 7:27-22.16(a)]	<p>Water-to-Fuel Ratio: Monitored by water-to-fuel monitoring device continuously.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current/voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	Water-to-Fuel Ratio: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
21	The combustion turbine is authorized to be equipped with an Inlet Air Fogging system to introduce atomized demineralized water to cool and humidify the gas turbine inlet air. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
22	The Inlet Air Fogging system shall only be used on the combustion turbine during periods when the ambient air temperature is above 50 degrees Fahrenheit. [N.J.A.C. 7:27-22.16(a)]	None.	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. Records shall show the following:</p> <ol style="list-style-type: none"> 1) Inlet air fogging start time and date; 2) Inlet air fogging end time and date; 3) Total duration of inlet air fogging; 4) Ambient air temperature; and 5) Name of operator making the entry. <p>[N.J.A.C. 7:27-22.19(a)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
23	NOx (Total) <= 120 tons/yr. Annual emission limit from BOP160001. Based on ozone season combustion of natural gas (permit limit = 96 lb/hr), for 2500 hours. [N.J.A.C. 7:27-22.16(a)]	<p>NOx (Total): Monitored by continuous emission monitoring system continuously, based on a consecutive 12 month period (rolling 1 month basis). See "Continuous Emission Monitoring" in OS Summary.</p> <p>Or by using the following algorithm: Tons NOx/12 consecutive months = [(liquid distillate combusted (gallons/12 consecutive months)) x (weighted annual average heating value (Btu/lb)) x (weighted annual average liquid distillate density (lb/gal)) x (liquid distillate NOx emission factor (X lb/hr))] + [(natural gas combusted (scf / calendar year)) x (weighted annual average heating value (Btu/SCF)) x (natural gas NOx emission factor (Y lb/hr))] x [conversion factors (1 hr/1,032 MM Btu) x (1 MM Btu/1,000,000 Btu) x (1 ton/2,000 lb)]. Where: X = 154 lb/hr Y = 96 lb/hr</p> <p>Compliance with the annual emission limit for nitrogen oxides may also be verified from the nitrogen oxides monitor output data using a method acceptable to the Chief, Emission Measurement Section.</p> <p>In the event of a discrepancy, the higher number shall take precedence unless accuracy is questionable. The Department reserves the right to select the compliance number but will consider accuracy in it's decision. [N.J.A.C. 7:27-22.16(o)]</p>	<p>NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary.</p> <p>A monthly emission rate shall be determined, based on the CEMS data.</p> <p>Total annual emissions shall be calculated, each month, by adding the monthly emission rate for that month to the sum of the monthly emission rates for the immediately preceding 11 calendar months.</p> <p>Each month, the permittee shall record the monthly emission rate as well as the annual emission rate, calculated above, for that month. These records shall be maintained in a permanently bound logbook or a readily accessible computer data system. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	CO ≤ 146 tons/yr. Annual emission limit from preconstruction permit. Based on ozone season combustion of natural gas (permit limit = 117 lb/hr), for 2500 hours. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a consecutive 12 month period (rolling 1 month basis). See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. A monthly emission rate shall be determined, based on the CEMS data. Total annual emissions shall be calculated, each month, by adding the monthly emission rate for that month to the sum of the monthly emission rates for the immediately preceding 11 calendar months. Each month, the permittee shall record the monthly emission rate as well as the annual emission rate, calculated above, for that month. These records shall be maintained in a permanently bound logbook or a readily accessible computer data system. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]
25	VOC (Total) ≤ 18.8 tons/yr. This limit includes formaldehyde emissions. Annual emission limit from preconstruction permit. Based on ozone season combustion of natural gas (permit limit = 15 lb/hr), for 2500 hours. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	<p>SO₂ ≤ 1.64 tons/yr. Annual emission limit from BOP160001. Based on ozone season combustion of distillate fuel oil with a sulfur content of 0.0021% (permit limit = 2.19 lb/hr), for 1500 hours. (September 16, 2015 sulfur content testing of the fuel in fuel tank IS7 shows the sulfur content to be 0.0021%).</p> <p>This emission limit is based on combustion of 0.0021% sulfur distillate oil and applies only until the calendar year after tank sampling (see "Fuel Tank Sulfur Content Sampling" in IS7) demonstrates that the aggregate sulfur content of the fuel in the fuel tank is no more than 0.0015%.</p> <p>Once fuel tank sampling demonstrates that the aggregate sulfur content of the fuel oil stored in the tank has dropped to 0.0015%, during the following calendar year, the 0.0015% sulfur fuel oil based SO₂ emission limit below replaces this permit requirement as the effective annual SO₂ emission limit for the turbine (U1). [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
27	<p>SO₂ ≤ 1.17 tons/yr. Annual emission limit from BOP120001. Based on ozone season combustion of distillate fuel oil with a sulfur content of 0.0015% (permit limit = 1.56 lb/hr), for 1500 hours.</p> <p>Since the Permittee will continue to combust any 0.0021% sulfur distillate fuel oil that remains in the fuel storage tank and this remaining fuel may mix with the ULSD fuel, creating a fuel mixture with an aggregate sulfur content higher than 0.0015%, this requirement does not apply until the calendar year after fuel tank sampling (see "Fuel Tank Sulfur Content Sampling" in IS7) demonstrates that the aggregate sulfur content of the fuel in the fuel tank is no more than 0.0015%.</p> <p>Once fuel tank sampling demonstrates that the aggregate sulfur content of the fuel oil stored in the tank has dropped to 0.0015%, during the following calendar year, this permit requirement replaces the 0.0021% sulfur fuel oil based SO₂ emission limit, above, as the effective annual SO₂ emission limit for the turbine (U1). [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.
28	<p>TSP ≤ 9 tons/yr. Annual emission limit from preconstruction permit. Based on ozone season combustion of distillate fuel oil (permit limit = 12 lb/hr), for 1500 hours. [N.J.A.C. 7:27-22.16(e)]</p>	None.	None.	None.
29	<p>PM-10 (Total) ≤ 13.8 tons/yr. Annual emission limit from BOP050001. Based on ozone season combustion of natural gas (permit limit = 11 lb/hr), for 2500 hours. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.
30	<p>HAPs (Total) ≤ 1.63 tons/yr. Annual emission limit from BOP120001. Based on the sum of all reportable HAPs emission limits. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
31	Acrolein <= 0.00826 tons/yr. Annual emission limit from BOP120001. Based on ozone season combustion of natural gas for 2500 hours. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
32	Arsenic Emissions <= 0.00851 tons/yr. Annual emission limit from BOP050001. Based on ozone season combustion of distillate fuel oil for 1500 hours. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
33	Benzene <= 0.0426 tons/yr. Annual emission limit from BOP120001. Based on ozone season combustion of distillate fuel oil for 1500 hours. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
34	Butadiene (1,3-) <= 0.0124 tons/yr. Annual emission limit from BOP120001. Based on ozone season combustion of distillate fuel oil for 1500 hours. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
35	Cadmium Emissions <= 0.00372 tons/yr. Annual emission limit from BOP050001. Based on ozone season combustion of distillate fuel oil for 1500 hours. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
36	Formaldehyde <= 0.916 tons/yr. Annual emission limit from BOP120001. Based on ozone season combustion of natural gas for 2500 hours. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
37	Pb <= 0.0108 tons/yr. Annual emission limit from BOP050001. Based on ozone season combustion of distillate fuel oil for 1500 hours. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
38	Manganese Emissions <= 0.612 tons/yr. Annual emission limit from BOP050001. Based on ozone season combustion of distillate fuel oil for 1500 hours. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
39	Selenium Emissions <= 0.0194 tons/yr. Annual emission limit from BOP120001. Based on ozone season combustion of distillate fuel oil for 1500 hours. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
40	Any individual hazardous air pollutant emissions, not specifically listed in this permit, are below the reporting thresholds listed in N.J.A.C. 7:27-22. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
41	All requests, reports, applications, submittals, and other communications to the Administrator pursuant to Part 60 shall be submitted in duplicate to the Regional Office of US Environmental Protection Agency. Submit information to: Director, Division of Enforcement & Compliance Assistance, US EPA, Region 2, 290 Broadway, New York, NY 10007-1866. [40 CFR 60.4(a)]	None.	None.	Submit a report: As per the approved schedule to EPA Region 2 as required by 40 CFR 60. [40 CFR 60.4(a)]
42	Copies of all information submitted to EPA pursuant to 40 CFR Part 60, must also be submitted to the appropriate Regional Enforcement Office of NJDEP. [40 CFR 60.4(b)]	None.	None.	Submit a report: As per the approved schedule to the appropriate Regional Enforcement Office of NJDEP as required by 40 CFR 60. [40 CFR 60.4(b)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
43	The owner or operator subject to the provisions of 40 CFR Part 60 shall furnish the Administrator written notification or, if acceptable to both the Administrator and the owner or operator of a source, electronic notification, of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in section 60.14(e). The notification shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of facility before and after the change and the expected completion date of the change. Notification shall be postmarked within 60 days or as soon as practicable before any change is commenced. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4)]	None.	None.	Submit notification: Upon occurrence of event to EPA Region 2 and the appropriate Regional Enforcement Office of NJDEP as required by 40 CFR 60.7 [40 CFR 60.7(a)(4)]
44	The owner or operator shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility, any malfunction of air pollution control equipment or any periods during which continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. The records should be kept in a permanent form suitable for inspections. [40 CFR 60.7(b)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Semi-annually beginning on the 30th day of the 6th month following initial performance tests. The report shall contain the information required in 40 CFR 60.7(b) and be postmarked by the 30th day following the end of each six-month period. The report shall be submitted to the EPA Region 2 Administrator and the appropriate Regional Enforcement Office of NJDEP and be in the format specified at 40 CFR Part 60.7(c) and 40 CFR Part 60.7(d). [40 CFR 60.7(c)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
45	Each owner or operator required to install a continuous monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see section 60.7(d)) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. [40 CFR 60.7(c)]	None.	Other: Written reports of excess emissions shall include the following information: (1) The magnitude of excess emissions computed in accordance with section 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period and excess emissions. The process operating time during the reporting period. (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted. (3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments. (4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report. [40 CFR 60.7(c)].	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Semi-annually beginning on the 30th day of the 6th month following initial performance tests. The report shall be postmarked by the 30th day following the end of each six-month period. The report shall be submitted to the EPA Region 2 Administrator and the appropriate Regional Enforcement Office of NJDEP and be in the format specified at 40 CFR Part 60.7(c) and 40 CFR Part 60.7(d). [40 CFR 60.7(c)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
46	The owner or operator shall maintain a file, suitable for inspection, of all monitoring measurements as indicated in Recordkeeping Requirement column. [40 CFR 60.7(f)]	None.	Other: The file shall include all measurements (including continuous monitoring system, monitoring device, and performance testing measurements), all continuous monitoring system performance evaluations, all continuous monitoring system or monitoring device calibration checks, all adjustments/maintenance performed on these systems or devices, and all other information required by 40 CFR Part 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the dates of the record, except as prescribed in 40 CFR 60.7(f)(1) through (3). Sources subject to 40 CFR 70, are required to retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application, per 40 CFR 70.6(a)(3)(ii)(B). [40 CFR 60.7(f)].	None.
47	The NSPS opacity standard shall apply at all times except during periods of startup, shutdown, malfunctions and as otherwise specified in the applicable standard. [40 CFR 60.11(c)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
48	At all times, including periods of start-up, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operation and maintenance procedures, and inspection of the source. [40 CFR 60.11(d)]	None.	None.	None.
49	No owner or operator subject to NSPS standards in Part 60, shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. [40 CFR 60.12]	None.	None.	None.
50	The owner or operator shall perform zero and span adjustments daily for continuous emission monitors and continuous opacity monitors following procedures outlined in 40 CFR Part 60.13(d)1 & 2. [40 CFR 60.13(d)]	None.	Other: Maintain records in accordance with 40 CFR 60.7(f). [40 CFR 60.13(d)].	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
51	Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all continuous monitoring systems referenced by 40 CFR 60.13(c) measuring emissions except opacity shall be in continuous operation. They shall complete a minimum of one cycle of operation (sampling, analyzing and data recording) for each successive 15-minute period. [40 CFR 60.13(e)(2)]	Other: See Applicable Requirement. [40 CFR 60.13(e)(2)].	Other: See Applicable Requirement. [40 CFR 60.13(e)(2)].	None.
52	All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of Appendix B of 40 CFR Part 60 shall be used. [40 CFR 60.13(f)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
53	The owner or operator of all continuous monitoring systems (other than opacity) shall reduce all data to 1-hour averages for time periods. One-hour period is defined in 40 CFR 60.2 as any 60-minute period commencing on the hour. For a full operating hour, 1-hour averages shall be computed from at least four valid data points, i.e., one data point in each of the 15-minute quadrants of the hour. For a partial operating hour (any clock hour with less than 60 minutes of unit operation), the owner or operator shall follow all the procedures specified at 40 CFR 60.13(h)(2) to compute 1-hour averages. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. The owners and operators complying with the requirements in 40 CFR 60.7(f)(1) or (2) must include any data recorded during periods of monitor breakdown or malfunction in the data averages. Either arithmetic or integrated averaging of all data may be used to calculate the hourly averages. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O ₂ or ng/J of pollutant). [40 CFR 60.13(h)(2)]	None.	Other: See Applicable Requirement. [40 CFR 60.13(h)].	None.
54	All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the applicable subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subpart to specify the emission limit. [40 CFR 60.13(h)(3)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
55	Changes in time periods for submittal of information and postmark deadlines set forth in this subpart, may be made only upon approval by the Administrator and shall follow procedures outlined in 40 CFR Part 60.19. [40 CFR 60.19]	None.	None.	None.
56	NOx (Total) <= 75 ppmvd @ 15% O2. [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by stack emission testing once initially, based on any 60 minute period. Test methods and procedures shall be consistent with the requirements of 40 CFR Part 60.335. If the turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel. Performance testing is not required for any emergency fuel as defined in 40 CFR 60.331. [40 CFR 60.335]	None.	None.
57	The owner or operator may, as alternative to operating the continuous monitoring system described in 40 CFR 60.334(a), install, certify, maintain operate, and quality-assure a continuous monitoring system (CEMS) consisting of NOx and O2 monitors. As an alternative, a CO2 monitor may be used to adjust the measured NOx concentrations. Each CEMS must be installed and certified according to PS 2 and 3 of 40 CFR Part 60 Appendix B. If the owner or operator has installed a NOx CEMS to meet the requirements 40 CFR Part 75 and is continuing to meet the ongoing requirements of 40 CFR Part 75, the CEMS may be used to meet the requirements of this section. If CEMS in conformance with 40 CFR Part 75 is used, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report. [40 CFR 60.334(b)]	Monitored by continuous emission monitoring system continuously. [40 CFR 60.334]	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
58	The owner or operator shall submit reports of excess emissions and monitor downtime for Nitrogen oxides. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions and monitor downtime that shall be reported are defined in 40 CFR 60.334(j)(1)(i) or (iii) as follows: (i) for turbines using water or steam to fuel ratio monitoring - any unit operating hour for which the average steam or water to fuel ratio, as measured by the continuous monitoring system, falls below the acceptable steam or water to fuel ratio determined by the performance test (40 CFR 60.8) to demonstrate compliance with the NOx concentration limit specified in 60.332; Any unit operating hour in which no water or steam is injected shall also be considered an excess emissions; or (iii) for turbines using NOx and diluent CEMS - any unit operating hour during which the 4-hour rolling average NOx concentration exceeds the applicable NOx emission limit specified in 60.332. [40 CFR 60.334(j)(1)]	None.	None.	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Semi-annually beginning on the 30th day of the 6th month following initial performance tests. Each report shall include the average steam or water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load, as applicable and, (if applicable) the nitrogen content of the fuel during each excess emission. Pursuant to 40 CFR 60.334(j)5, all reports shall be postmarked by the 30th day following the end of each 6-month period. [40 CFR 60.334(j)(1)]
59	CSAPR: The permittee shall comply with all the attached requirements of Cross-State Air Pollution Rule (CSAPR) for the CSAPR NOx Annual Trading Program, CSAPR NOx Ozone Season Trading Program, and CSAPR SO2 Group 1 Trading Program applicable to this affected unit. See CSAPR Attachment (appendix I). [40 CFR 97]	Other: See the monitoring requirements in the CSAPR Attachment (Appendix I).[40 CFR 97].	Other: See the recordkeeping requirements in the CSAPR Attachment (Appendix I).[40 CFR 97].	Other (provide description): Other See the submittal requirements in the CSAPR Attachment (Appendix I). [40 CFR 97]
60	The permittee shall comply with all of the requirements of the Phase II Acid Rain Permit issued for this affected unit. [40 CFR 72]	Other: See attached Phase II Acid Rain Permit. (Appendix II).[40 CFR 72].	Other: See attached Phase II Acid Rain Permit. (Appendix II).[40 CFR 72].	Comply with the requirement: As per the approved schedule. See attached Phase II Acid Rain Permit. (Appendix II). [40 CFR 72]

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Emission Unit: U1 Combustion Turbine**Operating Scenario:** OS1 Oil Fired Turbine Operating During the Ozone Season.

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	This Operating Scenario shall only apply to fuel oil combustion in unit 1, during the ozone season (May 1 through September 30). All other operation of unit 1 shall be subject to U1-OS2, OS4 or OS5, as applicable. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
2	<p>N.J.A.C. 7:27-19.5(i)2 stack testing (TST140003) did not demonstrate the ability of this turbine to comply with the natural gas emission limit of 1.0 lb/MWhr while combusting ULSD. Therefore, this turbine shall not combust ULSD during any High Electric Demand Day (HEDD), as defined below, unless combusting natural gas is not possible due to gas curtailment. If this turbine combusts ULSD on an HEDD due to natural gas curtailment, the NOx emissions shall comply with the ULSD emission limit of 1.6 lb/MWhr.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Other: Identify each HEDD, pursuant to the definition in the applicable requirement. Ensure that ULSD is not combusted during an HEDD, unless combusting natural gas is not possible due to gas curtailment. [N.J.A.C. 7:27-22.16(o)].</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. Maintain a record of all HEDDs, pursuant to the definition in the applicable requirement. If ULSD is combusted during an HEDD due to natural gas curtailment, maintain a record from the gas supplier / transporter that natural gas was curtailed during the period while ULSD was combusted. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>Opacity \leq 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds.</p> <p>NOTE: This requirement applies during all operation of the turbine, including start up and shut down as defined in this permit. [N.J.A.C. 7:27- 3.5]</p>	<p>Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. A certified smoke reader shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>If actual distillate oil operation exceeds 500 hours in any calendar year, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Emission Measurement Section (EMS), within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.</p> <p>If a COMs is installed, Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.19(d)3]</p>

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4	<p>Opacity \leq 10 %. Visible emissions from stationary combustion turbines shall not exceed 10% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds.</p> <p>NOTE: This requirement applies during all operation of the turbine, except during start up and shut down as defined in this permit. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. A certified smoke reader shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>If actual distillate oil operation exceeds 500 hours in any calendar year, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Emission Measurement Section (EMS), within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.</p> <p>If a COMs is installed, Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.19(d)3]</p>
5	<p>Particulate Emissions \leq 103 lb/hr. Particulate emission limit from the combustion of distillate oil based on rated heat input of 1032 MMBtu/hr. [N.J.A.C. 7:27- 4.2(a)]</p>	<p>Particulate Emissions: Monitored by stack emission testing prior to permit expiration date, based on each of three Department validated stack test runs. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Particulate Emissions: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>
6	<p>Sulfur Content in Fuel \leq 15 ppmw (0.0015 % by weight). Maximum allowable sulfur content in No. 2 and lighter fuel oil.</p> <p>NOTE: This requirement is effective on and after July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]</p>	<p>Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]</p>	<p>None.</p>

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7	Fuel stored in New Jersey that met the applicable maximum sulfur content standard of Tables 1A or 1B of N.J.A.C. 7:27-9.2 at the time it was stored in New Jersey may be used in New Jersey after the operative date of the applicable standard in 1B. [N.J.A.C. 7:27- 9.2(b)]	None.	None.	None.
8	Sulfur Content in Fuel \leq 0.0021 % by weight. Maximum allowable sulfur content in fuel oil from BOP160001. [N.J.A.C. 7:27-22.16(a)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
9	NOx (Total) \leq 1.6 lb/MW-hr. NOx RACT emission limit applies during all periods of distillate fuel oil combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]
10	NOx (Total) \leq 1.6 lb/MW-hr. NOx RACT emission limit applies during all periods of distillate fuel oil combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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11	<p>NOx (Total) \leq 1 lb/MW-hr. NOx RACT emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below), during which net useful energy is being produced by the turbine. This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-19.5(g)2]</p>	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]</p>
12	<p>NOx (Total) \leq 1 lb/MW-hr. NOx RACT emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below), during which net useful energy is being produced by the turbine. This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-19.5(g)2]</p>	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	Turbine fuel limited to distillate fuel oil based on the preconstruction permit. Sulfur content of the distillate fuel oil must comply with permit requirements elsewhere in this permit. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing materials delivered. [N.J.A.C. 7:27-22.16(e)]	None.
14	Maximum Gross Heat Input $\leq 1,032$ MMBTU/hr (HHV). Maximum heat input for the turbine (U1), during distillate fuel oil combustion, based on preconstruction permit. NOTE: This limit applies only during ozone season (May 1 through September 30) operation. [N.J.A.C. 7:27-22.16(e)]	Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously. [N.J.A.C. 7:27-22.16(e)]	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	None.
15	NOx (Total) ≤ 50 ppmvd @ 15% O ₂ . Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]
16	NOx (Total) ≤ 50 ppmvd @ 15% O ₂ . Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	NO _x (Total) ≤ 0.2 lb/MMBTU. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]
18	NO _x (Total) ≤ 0.2 lb/MMBTU. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
19	NO _x (Total) ≤ 154 lb/hr. Maximum emission rate while combusting distillate fuel oil from BOP160001. Based on NO _x RACT emission limit (1.6 lb/MW _{hr}) and maximum electrical output (96 MW) from the turbine. [N.J.A.C. 7:27-22.16(a)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
20	NOx (Total) <= 154 lb/hr. Maximum emission rate while combusting distillate fuel oil from BOP160001. Based on NOx RACT emission limit (1.6 lb/MWhr) and maximum electrical output (96 MW) from the turbine. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
21	<p>NOx (Total) <= 96 lb/hr. Maximum emission rate while combusting distillate fuel oil from BOP160001. Based on NOx RACT (High Electric Demand Day) emission limit (1.0 lb/MWhr) and maximum electrical output (96 MW) from the turbine.</p> <p>This emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below). This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-22.16(a)]</p>	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	<p>NO_x (Total) ≤ 96 lb/hr. Maximum emission rate while combusting distillate fuel oil from BOP160001. Based on NO_x RACT (High Electric Demand Day) emission limit (1.0 lb/MWhr) and maximum electrical output (96 MW) from the turbine.</p> <p>This emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below). This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-22.16(a)]</p>	NO _x (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
23	CO ≤ 50 ppmvd @ 15% O ₂ . Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	CO <= 50 ppmvd @ 15% O ₂ . Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
25	CO <= 117 lb/hr. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
26	CO <= 117 lb/hr. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
27	VOC (Total) <= 50 ppmvd @ 15% O ₂ . This limit includes formaldehyde emissions. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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28	VOC (Total) <= 15 lb/hr. This limit includes formaldehyde emissions. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
29	SO2 <= 2.19 lb/hr. Maximum emission rate while combusting distillate fuel oil, from BOP160001. (Note: this limit based on combustion of 0.0021% sulfur distillate fuel oil). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
30	<p>SO2 <= 1.56 lb/hr. Maximum emission rate while combusting distillate fuel oil, from BOP120001. (Note: this limit based on combustion of 0.0015% sulfur distillate fuel oil).</p> <p>Since the Permittee will continue to combust any higher sulfur distillate fuel oil that remains in the fuel storage tank on July 1, 2016 and this remaining fuel may mix with the ULSD fuel, creating a fuel mixture with an aggregate sulfur content higher than 0.0015%, this requirement does not apply until fuel tank sampling (see "Fuel Tank Sulfur Content Sampling" in IS7) demonstrates that the aggregate sulfur content of the fuel in the fuel tank is no more than 0.0015%.</p> <p>Once fuel tank sampling demonstrates that the aggregate sulfur content of the fuel oil stored in the tank has dropped to 0.0015%, this permit requirement replaces the 0.0021% sulfur fuel oil based SO2 emission limit, above, as the effective hourly SO2 emission limit for the turbine (U1). [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.

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31	TSP <= 12 lb/hr. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	TSP: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
32	PM-10 (Total) <= 16 lb/hr. Maximum emission rate while combusting distillate fuel oil from BOP050001. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
33	Arsenic Emissions <= 0.0114 lb/hr. Maximum emission rate from BOP050001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (1.1E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
34	Benzene <= 0.0568 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (5.5E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
35	Butadiene (1,3-) <= 0.0165 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (1.6E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
36	Cadmium Emissions <= 0.00495 lb/hr. Maximum emission rate from BOP050001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (4.8E-6 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
37	Formaldehyde <= 0.289 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (2.8E-4 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
38	Pb <= 0.0145 lb/hr. Maximum emission rate from BOP050001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (1.4E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
39	Manganese Emissions <= 0.815 lb/hr. Maximum emission rate from BOP050001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (7.9E-4 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
40	Selenium Emissions <= 0.0258 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (2.5E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
41	Sulfur Content in Fuel <= 0.8 % by weight. No owner or operator subject to the provisions of this subpart shall burn any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)]	Other: Test methods and procedures shall be consistent with the requirements of 40 CFR Part 60.334(h) and 60.335. A minimum of three fuel samples shall be collected during the performance test. [40 CFR 60.335].	None.	None.
42	The owner or operator shall monitor the total sulfur content of the fuel being fired in the turbine if the fuel fired in the turbine does not meet the definition of natural gas as provided in 40 CFR 60.331(u). The owner or operator shall use the methods specified in 40 CFR 60.335(b)10. The analyses may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.334(h)(1)]	Monitored by grab sampling at the approved frequency. Sulfur content values shall be determined on each occasion that fuel is transferred to the storage tank from any other source. If a custom fuel monitoring schedule has previously been approved, the owner or operator may continue monitoring on this schedule without submitting a special petition to the Administrator. [40 CFR 60.334(i)]	Recordkeeping by certified lab analysis results at the approved frequency. The owner or operator shall record the results of each analysis for fuel sulfur content. [40 CFR 60.334(i)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
43	The owner or operator may elect not to monitor nitrogen content of the fuel being fired in the turbine if the owner or operator does not claim an allowance for fuel bound nitrogen. [40 CFR 60.334(h)(2)]	None.	None.	Demonstrate compliance: Once initially. The owner or operator does not claim an allowance for fuel bound nitrogen. The allowable NOx emission concentration included in this permit was calculated in accordance with 40 CFR 60.332(a). In calculations, NOx emission allowance (F-value) of zero was accepted. [40 CFR 60.334(h)(2)]

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Emission Unit: U1 Combustion Turbine

Operating Scenario: OS2 Oil Fired Turbine Operating During the Non-Ozone Season.

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	This Operating Scenario shall only apply to fuel oil combustion in unit 1, during the non-ozone season (October 1 through April 30). All other operation of unit 1 shall be subject to U1-OS1, OS4 or OS5, as applicable. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
2	<p>N.J.A.C. 7:27-19.5(i)2 stack testing (TST140003) did not demonstrate the ability of this turbine to comply with the natural gas emission limit of 1.0 lb/MWhr while combusting ULSD. Therefore, this turbine shall not combust ULSD during any High Electric Demand Day (HEDD), as defined below, unless combusting natural gas is not possible due to gas curtailment. If this turbine combusts ULSD on an HEDD due to natural gas curtailment, the NOx emissions shall comply with the ULSD emission limit of 1.6 lb/MWhr.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-22.16(a)]</p>	Other: Identify each HEDD, pursuant to the definition in the applicable requirement. Ensure that ULSD is not combusted during an HEDD, unless combusting natural gas is not possible due to gas curtailment.[N.J.A.C. 7:27-22.16(o)].	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. Maintain a record of all HEDDs, pursuant to the definition in the applicable requirement. If ULSD is combusted during an HEDD due to natural gas curtailment, maintain a record from the gas supplier / transporter that natural gas was curtailed during the period while ULSD was combusted. [N.J.A.C. 7:27-22.16(o)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>Opacity \leq 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds.</p> <p>NOTE: This requirement applies during all operation of the turbine, including start up and shut down as defined in this permit. [N.J.A.C. 7:27- 3.5]</p>	<p>Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. A certified smoke reader shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>If actual distillate oil operation exceeds 500 hours in any calendar year, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Emission Measurement Section (EMS), within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.</p> <p>If a COMs is installed, Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.19(d)3]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	<p>Opacity \leq 10 %. Visible emissions from stationary combustion turbines shall not exceed 10% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds.</p> <p>NOTE: This requirement applies during all operation of the turbine, except during start up and shut down as defined in this permit. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. A certified smoke reader shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>If actual distillate oil operation exceeds 500 hours in any calendar year, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Emission Measurement Section (EMS), within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.</p> <p>If a COMs is installed, Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.19(d)3]</p>
5	<p>Particulate Emissions \leq 121 lb/hr. Particulate emission limit from the combustion of distillate oil based on rated heat input of 1214.7 MMBtu/hr. [N.J.A.C. 7:27- 4.2(a)]</p>	None.	None.	None.
6	<p>Sulfur Content in Fuel \leq 15 ppmw (0.0015 % by weight). Maximum allowable sulfur content in No. 2 and lighter fuel oil.</p> <p>NOTE: This requirement is effective on and after July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]</p>	<p>Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	Fuel stored in New Jersey that met the applicable maximum sulfur content standard of Tables 1A or 1B of N.J.A.C. 7:27-9.2 at the time it was stored in New Jersey may be used in New Jersey after the operative date of the applicable standard in 1B. [N.J.A.C. 7:27- 9.2(b)]	None.	None.	None.
8	Sulfur Content in Fuel \leq 0.0021 % by weight. Maximum allowable sulfur content in fuel oil from BOP160001. [N.J.A.C. 7:27-22.16(a)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
9	NOx (Total) \leq 1.6 lb/MW-hr. NOx RACT emission limit applies during all periods of distillate fuel oil combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]
10	NOx (Total) \leq 1.6 lb/MW-hr. NOx RACT emission limit applies during all periods of distillate fuel oil combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	<p>NO_x (Total) ≤ 1 lb/MW-hr. NO_x RACT emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below), during which net useful energy is being produced by the turbine. This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-19.5(g)2]</p>	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]</p>
12	<p>NO_x (Total) ≤ 1 lb/MW-hr. NO_x RACT emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below), during which net useful energy is being produced by the turbine. This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-19.5(g)2]</p>	NO _x (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NO _x (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	Turbine fuel limited to distillate fuel oil based on the preconstruction permit. Sulfur content of the distillate fuel oil must comply with permit requirements elsewhere in this permit. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing materials delivered. [N.J.A.C. 7:27-22.16(e)]	None.
14	<p>Maximum Gross Heat Input \leq 1,214.7 MMBTU/hr (HHV). Maximum heat input for the turbine (U1) from BOP120001 permit application. This value comes from the ambient temperature -vs- heat input curve (Appendix III) and is based on turbine operation with water injection at 0 degrees Fahrenheit.</p> <p>The actual heat input value for any given period of operation shall be determined by the ambient temperature -vs- heat input curve (Appendix III) and shall not exceed the heat input for the actual temperature during that period of operation. However, under no circumstances shall the heat input exceed 1214.7 MMBtu/hr.</p> <p>NOTE: This limit applies only during non-ozone season (October 1 through April 30) operation. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously and ambient temperature reading hourly.</p> <p>The system that controls the unit shall maintain the operational heat input along the heat input curve (Appendix III). [N.J.A.C. 7:27-22.16(o)]</p>	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. And electronic logging of ambient temperature each hour during operation. [N.J.A.C. 7:27-22.16(o)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	NOx (Total) <= 50 ppmvd @ 15% O2. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
16	NOx (Total) <= 50 ppmvd @ 15% O2. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	NOx (Total) <= 0.2 lb/MMBTU. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
18	NOx (Total) <= 0.2 lb/MMBTU. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	NOx (Total) <= 154 lb/hr. Maximum emission rate while combusting distillate fuel oil from BOP160001. Based on NOx RACT emission limit (1.6 lb/MWhr) and maximum electrical output (96 MW) from the turbine. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
20	NOx (Total) <= 154 lb/hr. Maximum emission rate while combusting distillate fuel oil from BOP160001. Based on NOx RACT emission limit (1.6 lb/MWhr) and maximum electrical output (96 MW) from the turbine. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	<p>NOx (Total) <= 96 lb/hr. Maximum emission rate while combusting distillate fuel oil from BOP160001. Based on NOx RACT (High Electric Demand Day) emission limit (1.0 lb/MWhr) and maximum electrical output (96 MW) from the turbine.</p> <p>This emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below). This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-22.16(a)]</p>	<p>NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	<p>NOx (Total) <= 96 lb/hr. Maximum emission rate while combusting distillate fuel oil from BOP160001. Based on NOx RACT (High Electric Demand Day) emission limit (1.0 lb/MWhr) and maximum electrical output (96 MW) from the turbine.</p> <p>This emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below). This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-22.16(a)]</p>	<p>NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>
23	<p>CO <= 50 ppmvd @ 15% O₂. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]</p>	<p>CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]</p>	<p>CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	CO <= 50 ppmvd @ 15% O ₂ . Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
25	CO <= 138 lb/hr. Maximum emission rate while combusting distillate fuel oil, from BOP120001. Based on emission rate of 0.1134 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input of the turbine (1214.7 IMMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
26	CO <= 138 lb/hr. Maximum emission rate while combusting distillate fuel oil, from BOP120001. Based on emission rate of 0.1134 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input of the turbine (1214.7 IMMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
27	VOC (Total) <= 50 ppmvd @ 15% O ₂ . This limit includes formaldehyde emissions. Maximum emission rate while combusting distillate fuel oil from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
28	VOC (Total) <= 17.6 lb/hr. This limit includes formaldehyde emissions. Maximum emission rate while combusting distillate fuel oil, from BOP120001. Based on emission rate of 0.0145 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input of the turbine (1214.7 lMMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
29	SO2 <= 2.58 lb/hr. Maximum emission rate while combusting distillate fuel oil, from BOP160001. This emission rate is based on combustion of 0.0021% sulfur distillate fuel oil (emission factor of 0.002121 lb/MMBtu) and maximum permitted heat input of the turbine (1214.7 MMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
30	<p>SO₂ ≤ 1.84 lb/hr. Maximum emission rate while combusting distillate fuel oil, from BOP120001. This emission rate is based on combustion of 0.0015% sulfur distillate fuel oil (ULSD) (AP42 emission factor of 1.5E-3 lb/MMBtu) and maximum permitted heat input of the turbine (1214.7 MMBtu/hr).</p> <p>Since the Permittee will continue to combust any higher sulfur distillate fuel oil that remains in the fuel storage tank on July 1, 2016 and this remaining fuel may mix with the ULSD fuel, creating a fuel mixture with an aggregate sulfur content higher than 0.0015%, this requirement does not apply until fuel tank sampling (see "Fuel Tank Sulfur Content Sampling" in IS7) demonstrates that the aggregate sulfur content of the fuel in the fuel tank is no more than 0.0015%.</p> <p>Once fuel tank sampling demonstrates that the aggregate sulfur content of the fuel oil stored in the tank has dropped to 0.0015%, this permit requirement replaces the 0.0021% sulfur fuel oil based SO₂ emission limit, above, as the effective hourly SO₂ emission limit for the turbine (U1). [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.
31	<p>TSP ≤ 14.1 lb/hr. Maximum emission rate while combusting distillate fuel oil, from BOP120001. Based on emission rate of 0.0116 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input (1214.7 MMBtu/hr). [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
32	PM-10 (Total) <= 18.8 lb/hr. Maximum emission rate while combusting distillate fuel oil, from BOP120001. Based on emission rate of 0.0155 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input (1214.7 MMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
33	Arsenic Emissions <= 0.0134 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (1.1E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
34	Benzene <= 0.0668 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (5.5E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
35	Butadiene (1,3-) <= 0.0194 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (1.6E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
36	Cadmium Emissions <= 0.00583 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (4.8E-6 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
37	Formaldehyde <= 0.34 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (2.8E-4 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
38	Pb <= 0.017 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (1.4E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
39	Manganese Emissions <= 0.96 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (7.9E-4 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
40	Selenium Emissions <= 0.0304 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (2.5E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
41	Sulfur Content in Fuel <= 0.8 % by weight. No owner or operator subject to the provisions of this subpart shall burn any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)]	Other: Test methods and procedures shall be consistent with the requirements of 40 CFR Part 60.334(h) and 60.335. A minimum of three fuel samples shall be collected during the performance test. [40 CFR 60.335].	None.	None.
42	The owner or operator shall monitor the total sulfur content of the fuel being fired in the turbine if the fuel fired in the turbine does not meet the definition of natural gas as provided in 40 CFR 60.331(u). The owner or operator shall use the methods specified in 40 CFR 60.335(b)10. The analyses may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.334(h)(1)]	Monitored by grab sampling at the approved frequency. Sulfur content values shall be determined on each occasion that fuel is transferred to the storage tank from any other source. If a custom fuel monitoring schedule has previously been approved, the owner or operator may continue monitoring on this schedule without submitting a special petition to the Administrator. [40 CFR 60.334(i)]	Recordkeeping by certified lab analysis results at the approved frequency. The owner or operator shall record the results of each analysis for fuel sulfur content. [40 CFR 60.334(i)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
43	The owner or operator may elect not to monitor nitrogen content of the fuel being fired in the turbine if the owner or operator does not claim an allowance for fuel bound nitrogen. [40 CFR 60.334(h)(2)]	None.	None.	Demonstrate compliance: Once initially. The owner or operator does not claim an allowance for fuel bound nitrogen. The allowable NOx emission concentration included in this permit was calculated in accordance with 40 CFR 60.332(a). In calculations, NOx emission allowance (F-value) of zero was accepted. [40 CFR 60.334(h)(2)]

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Emission Unit: U1 Combustion Turbine

Operating Scenario: OS3 Oil Fired - Turbine Start-up or Shut down

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Start-up Period <= 30 minutes.</p> <p>Startup commences with initiation of the combustion of fuel in the combustion turbine and concludes when the turbine reaches steady state operation at 80% - 100% of design capacity, or when combustion is ceased prior to attaining steady state operation (for instance, if start-up is abandoned due to equipment malfunction).</p> <p>The duration of start-up shall not exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Start-up Period: Monitored by hour/time monitor upon occurrence of event and by load meter upon occurrence of event.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Start-up Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. Records shall show start-up start time, start-up end time, date, total start-up duration and name of operator making the entry. [N.J.A.C. 7:27-22.16(o)]</p>	None.
2	<p>Shutdown Period <= 30 minutes.</p> <p>Shutdown commences with initiation of lowering turbine power output below 80% of base load, with the intent to cease generation of electrical power output, and concludes with the cessation of the combustion turbine operation.</p> <p>The duration of shut down, shall not exceed 30 minutes.</p> <p>Nothing in this condition shall preclude the continuous operation of the turbine at a load range below 80% of the base load provided, during stack tests, the turbine exhibits compliance with all applicable emission limits at that load range. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Shutdown Period: Monitored by hour/time monitor upon occurrence of event and by load meter upon occurrence of event.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Shutdown Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. Records shall show shut down start time, shut down end time, date, total shut down duration and name of operator making the entry. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>Opacity \leq 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds.</p> <p>NOTE: This requirement applies during all operation of the turbine, including start up and shut down as defined in this permit. [N.J.A.C. 7:27- 3.5]</p>	<p>Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. A certified smoke reader shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>If actual distillate oil operation exceeds 500 hours in any calendar year, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Emission Measurement Section (EMS), within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.</p> <p>If a COMs is installed, Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.19(d)3]</p>
4	<p>Particulate Emissions \leq 103 lb/hr. Particulate emission limit from the combustion of distillate oil based on rated heat input of 1032 MMBtu/hr. [N.J.A.C. 7:27- 4.2(a)]</p>	None.	None.	None.
5	<p>Sulfur Content in Fuel \leq 15 ppmw (0.0015 % by weight). Maximum allowable sulfur content in No. 2 and lighter fuel oil.</p> <p>NOTE: This requirement is effective on and after July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]</p>	<p>Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	Fuel stored in New Jersey that met the applicable maximum sulfur content standard of Tables 1A or 1B of N.J.A.C. 7:27-9.2 at the time it was stored in New Jersey may be used in New Jersey after the operative date of the applicable standard in 1B. [N.J.A.C. 7:27- 9.2(b)]	None.	None.	None.
7	Sulfur Content in Fuel <= 0.0021 % by weight. Maximum allowable sulfur content in fuel oil from BOP160001. [N.J.A.C. 7:27-22.16(a)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
8	NOx (Total) <= 1.6 lb/MW-hr. NOx RACT emission limit applies during all periods of distillate fuel oil combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	<p>NO_x (Total) ≤ 1 lb/MW-hr. NO_x RACT emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below), during which net useful energy is being produced by the turbine. This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-19.5(g)2]</p>	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]</p>
10	Turbine fuel limited to distillate fuel oil based on the preconstruction permit. Sulfur content of the distillate fuel oil must comply with permit requirements elsewhere in this permit. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing materials delivered. [N.J.A.C. 7:27-22.16(e)]	None.
11	Sulfur Content in Fuel ≤ 0.8 % by weight. No owner or operator subject to the provisions of this subpart shall burn any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)]	Other: Test methods and procedures shall be consistent with the requirements of 40 CFR Part 60.334(h) and 60.335. A minimum of three fuel samples shall be collected during the performance test. [40 CFR 60.335].	None.	None.
12	The owner or operator shall monitor the total sulfur content of the fuel being fired in the turbine if the fuel fired in the turbine does not meet the definition of natural gas as provided in 40 CFR 60.331(u). The owner or operator shall use the methods specified in 40 CFR 60.335(b)10. The analyses may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.334(h)(1)]	Monitored by grab sampling at the approved frequency. Sulfur content values shall be determined on each occasion that fuel is transferred to the storage tank from any other source. If a custom fuel monitoring schedule has previously been approved, the owner or operator may continue monitoring on this schedule without submitting a special petition to the Administrator. [40 CFR 60.334(i)]	Recordkeeping by certified lab analysis results at the approved frequency. The owner or operator shall record the results of each analysis for fuel sulfur content. [40 CFR 60.334(i)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	The owner or operator may elect not to monitor nitrogen content of the fuel being fired in the turbine if the owner or operator does not claim an allowance for fuel bound nitrogen. [40 CFR 60.334(h)(2)]	None.	None.	Demonstrate compliance: Once initially. The owner or operator does not claim an allowance for fuel bound nitrogen. The allowable NOx emission concentration included in this permit was calculated in accordance with 40 CFR 60.332(a). In calculations, NOx emission allowance (F-value) of zero was accepted. [40 CFR 60.334(h)(2)]

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Emission Unit: U1 Combustion Turbine**Operating Scenario:** OS4 Gas Fired Turbine Operating During the Ozone Season.

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	This Operating Scenario shall only apply to natural gas combustion in unit 1, during the ozone season (May 1 through September 30). All other operation of unit 1 shall be subject to U1-OS1, OS2 or OS5, as applicable. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
2	Opacity <= 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. NOTE: This requirement applies during all operation of the turbine, including start up and shut down as defined in this permit. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
3	Opacity <= 10 %. Visible emissions from stationary combustion turbines shall not exceed 10% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. NOTE: This requirement applies during all operation of the turbine, except during start up and shut down as defined in this permit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	Particulate Emissions <= 103 lb/hr. Particulate emission limit from the combustion of natural gas based on rated heat input of 1032 MMBtu/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	NO _x (Total) ≤ 1 lb/MW-hr. NO _x RACT emission limit applies during all periods of natural gas combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	NO _x (Total) ≤ 1 lb/MW-hr. NO _x RACT emission limit applies during all periods of natural gas combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NO _x (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NO _x (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
7	Turbine fuel limited to natural gas based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing materials delivered. [N.J.A.C. 7:27-22.16(e)]	None.
8	Maximum Gross Heat Input ≤ 1,032 MMBTU/hr (HHV). Maximum heat input for the turbine (U1), during natural gas combustion, based on preconstruction permit. NOTE: This limit applies only during ozone season (May 1 through September 30) operation. [N.J.A.C. 7:27-22.16(e)]	Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously. [N.J.A.C. 7:27-22.16(e)]	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	NOx (Total) <= 25 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
10	NOx (Total) <= 25 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
11	NOx (Total) <= 0.1 lb/MMBTU. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	NOx (Total) <= 0.1 lb/MMBTU. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
13	NOx (Total) <= 96 lb/hr. Maximum emission rate while combusting natural gas from BOP160001. Based on NOx RACT emission limit (1.0 lb/MW hr) and maximum electrical output (96 MW) from the turbine. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
14	NOx (Total) <= 96 lb/hr. Maximum emission rate while combusting natural gas from BOP160001. Based on NOx RACT emission limit (1.0 lb/MW hr) and maximum electrical output (96 MW) from the turbine. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	CO <= 50 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
16	CO <= 50 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
17	CO <= 117 lb/hr. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
18	CO ≤ 117 lb/hr. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
19	VOC (Total) ≤ 50 ppmvd @ 15% O ₂ . This limit includes formaldehyde emissions. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
20	VOC (Total) ≤ 15 lb/hr. This limit includes formaldehyde emissions. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
21	SO ₂ ≤ 0.6 lb/hr. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
22	TSP ≤ 5 lb/hr. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
23	PM-10 (Total) ≤ 11 lb/hr. Maximum emission rate while combusting natural gas from BOP050001. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
24	Acrolein ≤ 0.0066 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (6.4E-6 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
25	Benzene ≤ 0.0124 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (1.2E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	Formaldehyde <= 0.733 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1032 MMBtu/hr) and AP-42 emission factor (7.10E-4 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
27	Sulfur Content in Fuel <= 0.8 % by weight. No owner or operator subject to the provisions of this subpart shall burn any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)]	<p>Other: Test methods and procedures shall be consistent with the requirements of 40 CFR Part 60.334(h) and 60.335. A minimum of three fuel samples shall be collected during the performance test.</p> <p>Custom schedule: Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved lternative method. Effective September 6, 2001, sulfur monitoring shall be conducted as follows:</p> <p>a: The sulfur content of the natural gas shall be analyzed and recorded bi - monthly, for the first 6 months.</p> <p>b: Should this monitoring show little variability in the fuel sulfur content and indicates consistant compliance with 40 CFR 60.333, then quarterly monitoring will be allowed for the next 2 quarters.</p> <p>c: Should this monitoring show little variability in the fuel sulfur content and indicates consistant compliance with 40 CFR 60.333, then semi-annual monitoring will be allowed. This semi-annual monitoring shall be conducted during the first and third quarters of each calendar year.</p> <p>Should any fuel sulfur monitoring indicate noncompliance with 40 CFR 60.333, the fuel sulfur content monitoring shall be conducted weekly during the interim period while the custom schedule is being reexamined by the EPA..[40 CFR 60.335].</p>	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
28	The owner or operator may elect not to monitor nitrogen content of the fuel being fired in the turbine if the owner or operator does not claim an allowance for fuel bound nitrogen. [40 CFR 60.334(h)(2)]	None.	None.	Demonstrate compliance: Once initially. The owner or operator does not claim an allowance for fuel bound nitrogen. The allowable NOx emission concentration included in this permit was calculated in accordance with 40 CFR 60.332(a). In calculations, NOx emission allowance (F-value) of zero was accepted. [40 CFR 60.334(h)(2)]
29	The owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u) regardless of whether an existing custom schedule approved by the Administrator. [40 CFR 60.334(h)(3)]	None.	None.	Demonstrate compliance: Once initially. The owner or operator shall submit the required determination to the Administrator using the sources of information described in 40 CFR 60.334(h)(3)(i) or (ii) showing the maximum total sulfur content. [40 CFR 60.334(h)(3)]

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Emission Unit: U1 Combustion Turbine**Operating Scenario:** OS5 Gas Fired Turbine Operating During the Non-Ozone Season.

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	This Operating Scenario shall only apply to natural gas combustion in unit 1, during the non-ozone season (October 1 through April 30). All other operation of unit 1 shall be subject to U1-OS1, OS2 or OS4, as applicable. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
2	Opacity <= 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. NOTE: This requirement applies during all operation of the turbine, including start up and shut down as defined in this permit. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
3	Opacity <= 10 %. Visible emissions from stationary combustion turbines shall not exceed 10% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. NOTE: This requirement applies during all operation of the turbine, except during start up and shut down as defined in this permit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	Particulate Emissions <= 121 lb/hr. Particulate emission limit from the combustion of natural gas based on rated heat input of 1214.7 MMBtu/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	NOx (Total) <= 1 lb/MW-hr. NOx RACT emission limit applies during all periods of natural gas combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	NOx (Total) <= 1 lb/MW-hr. NOx RACT emission limit applies during all periods of natural gas combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
7	Turbine fuel limited to natural gas based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing materials delivered. [N.J.A.C. 7:27-22.16(e)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	<p>Maximum Gross Heat Input \leq 1,214.7 MMBTU/hr (HHV). Maximum heat input for the turbine (U1) from BOP120001 permit application. This value comes from the ambient temperature -vs- heat input curve (Appendix III) and is based on turbine operation with water injection at 0 degrees Fahrenheit.</p> <p>The actual heat input value for any given period of operation shall be determined by the ambient temperature -vs- heat input curve (Appendix III) and shall not exceed the heat input for the actual temperature during that period of operation. However, under no circumstances shall the heat input exceed 1214.7 MMBtu/hr.</p> <p>NOTE: This limit applies only during non-ozone season (October 1 through April 30) operation. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously and ambient temperature reading hourly.</p> <p>The system that controls the unit shall maintain the operational heat input along the heat input curve (Appendix III). [N.J.A.C. 7:27-22.16(o)]</p>	<p>Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. And electronic logging of ambient temperature each hour during operation. [N.J.A.C. 7:27-22.16(o)]</p>	None.
9	<p>NOx (Total) \leq 25 ppmvd @ 15% O₂. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]</p>	<p>NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]</p>	<p>NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	NOx (Total) <= 25 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
11	NOx (Total) <= 0.1 lb/MMBTU. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
12	NOx (Total) <= 0.1 lb/MMBTU. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	NOx (Total) <= 96 lb/hr. Maximum emission rate while combusting natural gas from BOP160001. Based on NOx RACT emission limit (1.0 lb/MWhr) and maximum electrical output (96 MW) from the turbine. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
14	NOx (Total) <= 96 lb/hr. Maximum emission rate while combusting natural gas from BOP160001. Based on NOx RACT emission limit (1.0 lb/MWhr) and maximum electrical output (96 MW) from the turbine. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	CO <= 50 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
16	CO <= 50 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	CO ≤ 138 lb/hr. Maximum emission rate while combusting natural gas, from BOP120001. Based on emission rate of 0.1134 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input of the turbine (1214.7 lMMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]
18	CO ≤ 138 lb/hr. Maximum emission rate while combusting natural gas, from BOP120001. Based on emission rate of 0.1134 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input of the turbine (1214.7 lMMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring for Non-Ozone Season Operation" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
19	VOC (Total) ≤ 50 ppmvd @ 15% O ₂ . This limit includes formaldehyde emissions. Maximum emission rate while combusting natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
20	VOC (Total) ≤ 17.6 lb/hr. This limit includes formaldehyde emissions. Maximum emission rate while combusting natural gas, from BOP120001. Based on emission rate of 0.0145 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input of the turbine (1214.7 lMMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	SO ₂ ≤ 0.73 lb/hr. Maximum emission rate while combusting natural gas, from BOP120001. Based on emission rate of 0.0006 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input of the turbine (1214.7 MMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
22	TSP ≤ 5.83 lb/hr. Maximum emission rate while combusting natural gas, from BOP120001. Based on emission rate of 0.0048 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input (1214.7 MMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
23	PM-10 (Total) ≤ 13 lb/hr. Maximum emission rate while combusting natural gas, from BOP120001. Based on emission rate of 0.0107 lb/MMBtu (derived from ozone season lb/hr emission limit) and maximum permitted non-ozone season heat input (1214.7 MMBtu/hr). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
24	Acrolein ≤ 0.00777 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (6.4E-6 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
25	Benzene ≤ 0.0146 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (1.2E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
26	Formaldehyde ≤ 0.862 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (1214.7 MMBtu/hr) and AP-42 emission factor (7.1E-4 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
27	Sulfur Content in Fuel <= 0.8 % by weight. No owner or operator subject to the provisions of this subpart shall burn any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)]	<p>Other: Test methods and procedures shall be consistent with the requirements of 40 CFR Part 60.334(h) and 60.335. A minimum of three fuel samples shall be collected during the performance test.</p> <p>Custom schedule: Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved lternative method. Effective September 6, 2001, sulfur monitoring shall be conducted as follows:</p> <p>a: The sulfur content of the natural gas shall be analyzed and recorded bi - monthly, for the first 6 months.</p> <p>b: Should this monitoring show little variability in the fuel sulfur content and indicates consistant compliance with 40 CFR 60.333, then quarterly monitoring will be allowed for the next 2 quarters.</p> <p>c: Should this monitoring show little variability in the fuel sulfur content and indicates consistant compliance with 40 CFR 60.333, then semi-annual monitoring will be allowed. This semi-annual monitoring shall be conducted during the first and third quarters of each calendar year.</p> <p>Should any fuel sulfur monitoring indicate noncompliance with 40 CFR 60.333, the fuel sulfur content monitoring shall be conducted weekly during the interim period while the custom schedule is being reexamined by the EPA..[40 CFR 60.335].</p>	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
28	The owner or operator may elect not to monitor nitrogen content of the fuel being fired in the turbine if the owner or operator does not claim an allowance for fuel bound nitrogen. [40 CFR 60.334(h)(2)]	None.	None.	Demonstrate compliance: Once initially. The owner or operator does not claim an allowance for fuel bound nitrogen. The allowable NOx emission concentration included in this permit was calculated in accordance with 40 CFR 60.332(a). In calculations, NOx emission allowance (F-value) of zero was accepted. [40 CFR 60.334(h)(2)]
29	The owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u) regardless of whether an existing custom schedule approved by the Administrator. [40 CFR 60.334(h)(3)]	None.	None.	Demonstrate compliance: Once initially. The owner or operator shall submit the required determination to the Administrator using the sources of information described in 40 CFR 60.334(h)(3)(i) or (ii) showing the maximum total sulfur content. [40 CFR 60.334(h)(3)]

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Emission Unit: U1 Combustion Turbine

Operating Scenario: OS6 Gas Fired - Turbine Start-up or Shutdown

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Start-up Period <= 30 minutes.</p> <p>Startup commences with initiation of the combustion of fuel in the combustion turbine and concludes when the turbine reaches steady state operation at 80% - 100% of design capacity, or when combustion is ceased prior to attaining steady state operation (for instance, if start-up is abandoned due to equipment malfunction).</p> <p>The duration of start-up shall not exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Start-up Period: Monitored by hour/time monitor upon occurrence of event and by load meter upon occurrence of event.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Start-up Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. Records shall show start-up start time, start-up end time, date, total start-up duration and name of operator making the entry. [N.J.A.C. 7:27-22.16(o)]</p>	None.
2	<p>Shutdown Period <= 30 minutes.</p> <p>Shutdown commences with initiation of lowering turbine power output below 80% of base load, with the intent to cease generation of electrical power output, and concludes with the cessation of the combustion turbine operation.</p> <p>The duration of shut down, shall not exceed 30 minutes.</p> <p>Nothing in this condition shall preclude the continuous operation of the turbine at a load range below 80% of the base load provided, during stack tests, the turbine exhibits compliance with all applicable emission limits at that load range. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Shutdown Period: Monitored by hour/time monitor upon occurrence of event and by load meter upon occurrence of event.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Shutdown Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. Records shall show shut down start time, shut down end time, date, total shut down duration and name of operator making the entry. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	Opacity <= 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. NOTE: This requirement applies during all operation of the turbine, including start up and shut down as defined in this permit. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
4	Particulate Emissions <= 103 lb/hr. Particulate emission limit from the combustion of natural gas based on rated heat input of 1032 MMBtu/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
5	NOx (Total) <= 1 lb/MW-hr. NOx RACT emission limit applies during all periods of natural gas combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	Turbine fuel limited to natural gas based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing materials delivered. [N.J.A.C. 7:27-22.16(e)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	Sulfur Content in Fuel <= 0.8 % by weight. No owner or operator subject to the provisions of this subpart shall burn any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)]	<p>Other: Test methods and procedures shall be consistent with the requirements of 40 CFR Part 60.334(h) and 60.335. A minimum of three fuel samples shall be collected during the performance test.</p> <p>Custom schedule: Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved lternative method. Effective September 6, 2001, sulfur monitoring shall be conducted as follows:</p> <p>a: The sulfur content of the natural gas shall be analyzed and recorded bi - monthly, for the first 6 months.</p> <p>b: Should this monitoring show little variability in the fuel sulfur content and indicates consistant compliance with 40 CFR 60.333, then quarterly monitoring will be allowed for the next 2 quarters.</p> <p>c: Should this monitoring show little variability in the fuel sulfur content and indicates consistant compliance with 40 CFR 60.333, then semi-annual monitoring will be allowed. This semi-annual monitoring shall be conducted during the first and third quarters of each calendar year.</p> <p>Should any fuel sulfur monitoring indicate noncompliance with 40 CFR 60.333, the fuel sulfur content monitoring shall be conducted weekly during the interim period while the custom schedule is being reexamined by the EPA..[40 CFR 60.335].</p>	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	The owner or operator may elect not to monitor nitrogen content of the fuel being fired in the turbine if the owner or operator does not claim an allowance for fuel bound nitrogen. [40 CFR 60.334(h)(2)]	None.	None.	Demonstrate compliance: Once initially. The owner or operator does not claim an allowance for fuel bound nitrogen. The allowable NOx emission concentration included in this permit was calculated in accordance with 40 CFR 60.332(a). In calculations, NOx emission allowance (F-value) of zero was accepted. [40 CFR 60.334(h)(2)]
9	The owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u) regardless of whether an existing custom schedule approved by the Administrator. [40 CFR 60.334(h)(3)]	None.	None.	Demonstrate compliance: Once initially. The owner or operator shall submit the required determination to the Administrator using the sources of information described in 40 CFR 60.334(h)(3)(i) or (ii) showing the maximum total sulfur content. [40 CFR 60.334(h)(3)]

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Facility Specific Requirements**

Emission Unit: U2 Natural Gas-fired Gas Compressor Engine

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Summary of Applicable Federal Regulations: 40 CFR 63 Subpart ZZZZ [None]	None.	None.	None.
2	<p>RENEWAL STACK TEST: (NO_x and CO)</p> <p>The permittee shall conduct a stack test at least 18 months prior to the expiration of the initial or renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NO_x and CO as specified in the compliance plan for OS Summary and OS1.</p> <p>Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition.</p> <p>***NOTE***</p> <p>If the engine is not operated during the permit term, stack testing need not be performed. However, if a stack test protocol has not been submitted at least 30 months prior to the expiration of the operating permit due to lack of engine operation and the engine is then operated during the last 30 months of the permit term, the permittee shall:</p> <ol style="list-style-type: none"> 1) Within 60 days of the first operation, submit a stack test protocol to EMS. 2) Within 180 days of the first operation, conduct stack test, using an approved protocol, to demonstrate compliance with NO_x and CO emission limits as specified in the compliance plan for OS Summary and OS1. [N.J.A.C. 7:27-22.16(a)] 	<p>Other: Monitoring as required under the applicable operating scenario(s).</p> <p>In accordance with N.J.A.C. 7:27-19.15(a)2, any NO_x testing conducted pursuant to this section shall be conducted concurrently with CO testing. The applicable NO_x emission limits in N.J.A.C. 7:27-19 will not be considered to have been met unless the concurrent CO testing demonstrates compliance with the CO limit in N.J.A.C. 7:27-16.9 or the permit limit for CO, whichever is more stringent, is also met.[N.J.A.C. 7:27-22.16(o)].</p>	<p>Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 09-01, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit (or within 60 days of the first period of engine operation, if the engine is not operated during the first 30 months of the permit term). The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-984-3443 to schedule a mutually acceptable test date.</p> <p>A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and . [N.J.A.C. 7:27-22.18(h)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>PERIODIC EMISSION MONITORING:</p> <p>Periodic emission testing of NOx and CO shall be performed once during each calendar year that the engine is operated, using a periodic emission monitoring device to measure the concentrations of NOx, CO and O2, in accordance with Technical Manual 1005. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by periodic emission monitoring at the approved frequency. Once during each calendar year that the engine is operated, perform periodic emission monitoring of NOx, CO and O2. The minimum duration between periodic emission monitoring tests shall be 180 calendar days.</p> <p>Periodic emission monitoring for NOx, CO and O2 shall be consistent with the requirements specified in NJDEP Technical Manual 1005 posted on AQPP webpage at http://www.state.nj.us/dep/aqpp. The permittee shall use reference method or site specific method testing provided in the Technical Manual 1005 as part of any periodic monitoring procedure. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: Annually.</p> <p>The permittee shall notify Enforcement at least 24 hours prior to performing periodic emission testing. Periodic emission testing for NOx, CO and O2 shall be performed once during each calendar year that the engine operates, in accordance with Technical Manual 1005 or by another method/procedure approved by EMS.</p> <p>Test reports shall be submitted to Chief, REO within 45 days following the end of each calendar year (starting with 2014) in the approved format to identify the facility name, emission unit, test date, and total operating hours for that year. The test results must be certified by a licensed professional engineer or by a certified industrial hygienist. [N.J.A.C. 7:27-22.16(o)]</p>
4	<p>Particulate Emissions ≤ 6.72 lb/hr. Particulate emission limit from the combustion of natural gas based on rated heat input of 13.6 MMBtu/hr (HHV). [N.J.A.C. 7:27- 4.2(a)]</p>	None.	None.	None.
5	<p>CO ≤ 500 ppmvd @ 15% O2. VOC RACT emission limit applies during all operation of the engine. [N.J.A.C. 7:27-16.10(b)]</p>	<p>CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>CO: Recordkeeping by stack test results upon occurrence of event. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>
6	<p>CO ≤ 500 ppmvd @ 15% O2. VOC RACT emission limit applies during all operation of the engine. [N.J.A.C. 7:27-16.10(b)]</p>	<p>CO: Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>CO: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: Annually. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	The owner or operator of a stationary reciprocating engine that has a maximum rated power output of at least 500 brake horsepower, or greater, shall adjust the combustion process in accordance with the procedure set forth at N.J.A.C. 7:27-19.16 and in accordance with the manufacturer's recommended procedures and maintenance schedules. [N.J.A.C. 7:27-16.10(e)] and [N.J.A.C. 7:27-19.8(f)]	Monitored by periodic emission monitoring upon performing combustion adjustment. Monitoring shall be performed in accordance with the specific procedures for combustion adjustment monitoring specified in NJDEP Technical Manual 1005. [N.J.A.C. 7:27-19.16(g)]	Recordkeeping by manual logging of parameter or storing data in a computer data system upon performing combustion adjustment. The permittee shall record the following information for each adjustment in a log book or computer data system: 1. The date and times the adjustment began and ended; 2. The name, title, and affiliation of the person who performed the procedure and adjustment; 3. The type of procedure and maintenance performed; 4. The concentration of NO _x , CO, and O ₂ measured before and after the adjustment was made; and 5. The type and amount of fuel use since the last combustion adjustment was performed. The records shall be kept for a minimum of 5 years and be readily accessible to the Department upon request. . [N.J.A.C. 7:27-19.16(h)]	None.
8	An exceedance of an emission limit that occurs during an adjustment of the combustion process under N.J.A.C. 7:27-19.16(g) is not a violation of this subchapter if it occurs as a result of the adjustment. After the combustion adjustment has been completed, the maximum emission rate of any contaminant shall not exceed the maximum allowable emission rate applicable under this subchapter or under an operating permit issued pursuant to N.J.A.C. 7:27-22 or an applicable certificate issued pursuant to N.J.A.C. 7:27-8. [N.J.A.C. 7:27-19.16(f)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	Hours of Operation While Firing Natural Gas <= 2,500 hours per 12 consecutive calendar month period. Annual limit on operating hours from preconstruction permit. [N.J.A.C. 7:27-21.16(e)]	<p>Hours of Operation While Firing Natural Gas: Monitored by hour/time monitor continuously, based on a consecutive 12 month period (rolling 1 month basis).</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Hours of Operation While Firing Natural Gas: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously.</p> <p>Total hours of engine operation shall be calculated once each month, by adding the total hours of engine operation during that month to the total hours of engine operation during the immediately preceding 11 calendar months.</p> <p>All records shall be kept for a minimum of 5 years and be readily accessible to the Department upon request. [N.J.A.C. 7:27-22.16(o)]</p>	None.
10	Natural Gas Usage <= 33.2 MMft ³ per 12 consecutive calendar month period. Annual natural gas consumption limit for the gas compressor engine (U2), based on maximum heat input (13.6 MMBtu/hr), a natural gas heating value of 1023 MMBtu/MMScf and 2500 hr/yr of natural gas operation. [N.J.A.C. 7:27-22.16(a)]	<p>Natural Gas Usage: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 12 month period (rolling 1 month basis).</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Natural Gas Usage: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously.</p> <p>Cubic feet of natural gas consumed during any consecutive 12 calendar month period shall be calculated by adding the cubic feet of natural gas consumed during any one calendar month to the total cubic feet of natural gas consumed during the immediately preceding 11 calendar months. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	<p>The Non-Selective Catalytic Reduction system (NSCR) shall be used to reduce Nitrogen Oxides (NOx), Carbon Monoxide (CO) and Volatile Organic Compounds (VOC) resulting from combustion in the engine, at the recommended manufacturer's operating flue gas flowrate range such that NOx (Total), CO and VOC (Total) emissions, as established in this permit, are met.</p> <p>The minimum NOx control efficiency shall be 95% (design value); the minimum CO control efficiency shall be 75% (design value) and the minimum VOC control efficiency shall be 85% (design value). [N.J.A.C. 7:27-22.16(a)]</p>	Monitored by documentation of construction upon request of the Department. [N.J.A.C. 7:27-22.16(o)]	Other: The permittee shall maintain NSCR system manufacturer's documentation, specifications, operation and maintenance manual on-site.[N.J.A.C. 7:27-22.16(o)].	None.
12	The NSCR (CD1) shall be in place at all times that the engine is operating. [N.J.A.C. 7:27-22.16(a)]	Other: Ensure that the NSCR (catalyst) is in place at all times.[N.J.A.C. 7:27-22.16(o)].	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	<p>Temperature at Catalyst Bed \geq 750 and Temperature at Catalyst Bed \leq 1,250 degrees F.</p> <p>The engine shall automatically shut down if the catalyst inlet temperature exceeds 1250 degrees F. [N.J.A.C. 7:27-22.16(a)]</p>	Temperature at Catalyst Bed: Monitored by temperature instrument continuously. The permittee shall install, calibrate and maintain an inline thermocouple in accordance with the manufacturer's specifications, to monitor the catalyst inlet temperature. [N.J.A.C. 7:27-22.16(o)]	<p>Temperature at Catalyst Bed: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. The permittee shall record the following information, in a log book or computer data system, for each instance that the catalyst inlet temperature exceeds 1250 degrees F and the engine shuts down:</p> <ol style="list-style-type: none"> 1. The name, title, and affiliation of the person who recorded the entry; 2. The date and time that the temperature exceeded 1250 degrees F; 3. The date and time that the engine ceased operation; 4. The reason for catalyst inlet temperature exceedance; 5. What steps have been taken to correct the problem or prevent another catalyst inlet temperature exceedance <p>The records shall be kept for a minimum of 5 years and be readily accessible to the Department upon request. [N.J.A.C. 7:27-22.16(o)]</p>	None.
14	The NSCR (CD1) catalyst array(s) shall be maintained and replaced in accordance with the recommendations and schedules of the manufacturer, and as necessary based on emission levels indicated through portable emission monitoring / Stack Testing. [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by documentation of maintenance and catalyst replacement upon occurrence of event.[N.J.A.C. 7:27-22.16(o)].	Other: Record keeping by manual logging of parameter or storing data in computer system. The permittee shall maintain the catalyst maintenance and replacement records on-site.[N.J.A.C. 7:27-22.16(o)].	None.
15	NO _x (Total) \leq 1.75 tons/yr. Annual emission limit from BOP130001. Based on 2500 hours of natural gas fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
16	CO \leq 2.63 tons/yr. Annual emission limit from preconstruction permit. Based on 2500 hours of natural gas fired operation. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	VOC (Total) <= 0.631 tons/yr. This limit includes formaldehyde emissions. Annual emission limit from BOP130001. Based on 2500 hours of natural gas fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
18	TSP <= 1.63 tons/yr. Annual emission limit from preconstruction permit. Based on 2500 hours of natural gas fired operation. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
19	PM-10 (Total) <= 1.63 tons/yr. Annual emission limit from preconstruction permit. Based on 2500 hours of natural gas fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
20	HAPs (Total) <= 0.405 tons/yr. Annual emission limit from BOP130001. Based on the sum of all reportable HAPs emission limits. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
21	Acrolein <= 0.0447 tons/yr. Annual emission limit from BOP130001. Based on 2500 hours of natural gas fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
22	Butadiene (1,3-) <= 0.0113 tons/yr. Annual emission limit from BOP130001. Based on 2500 hours of natural gas fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
23	Formaldehyde <= 0.349 tons/yr. Annual emission limit from BOP130001. Based on 2500 hours of natural gas fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
24	Any individual hazardous air pollutant emissions, not specifically listed in this permit, are below the reporting thresholds listed in N.J.A.C. 7:27-22. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
25	The owner or operator shall install a Non-selectiv Catalytic Reduction (NSCR) system to reduce HAP emissions from the stationary RICE by October 19, 2013 and shall conduct an initial compliance demonstration by April 19, 2014 according to 40 CFR 63.7(a)(2). [40 CFR 63.6603(a)]	Monitored by periodic emission monitoring once initially. The compliance demonstration must consist of at least three test runs and each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to 40 CFR 63 Subpart ZZZZ must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement. The CO and O2 measurements must be performed using one of the CO and O2 measurement methods specified in Table 4 of 40 CFR 63 Subpart ZZZZ, or using appendix A to 40 CFR 63 Subpart ZZZZ. THC measurements must be performed using method 25A, reported as propane, of 40 CFR part 60, appendix A. Measurements to determine O2 concentration must be made at the same time as the measurements for CO or THC concentration. If demonstrating compliance with the CO or THC percent reduction requirement, CO or THC and O2 emissions must be measured simultaneously at the inlet and outlet of the control device. [40 CFR 63.6630(e)]	Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. The permittee must keep records in a form suitable and readily available (in hard copy or electronic form) for expeditious review. According to 40 CFR 63.10(b)(1), each record must be kept for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record, except that the most recent 2 years of data do not have to be retained on site, per Table 8 of 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6660]	Submit documentation of compliance: Once initially. You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to 40 CFR 63.9(h)(2)(ii) before the close of business on the 30th day following the completion of the initial compliance demonstration, to the EPA Administrator Region 2 and NJDEP Regional Enforcement Office. [40 CFR 63.6645(h)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	The owner or operator must install equipment to immediately shut down the engine if the catalyst inlet temperature exceeds 1250 degrees Fahrenheit OR must install, operate, and maintain continuous parameter monitoring system (CPMS) to continuously monitor catalyst inlet temperature according to a site-specific monitoring plan per the requirements in 40 CFR 63.6625(b)(1) through (6), as specified in Tables 5 and 6 to 40 CFR 63 Subpart ZZZZ. CPMS shall reduce the catalyst inlet temperature to 4-hour rolling average and maintain the 4-hour rolling averages within the limitation of greater than or equal to 750 degrees F and less than or equal to 1250 degrees F. [40 CFR 63.6612]	Monitored by temperature instrument continuously. The CPMS must collect data at least once every 15 minutes. For a CPMS measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger. . [40 CFR 63.6612]	Recordkeeping by strip chart or data acquisition (DAS) system continuously if CPMS is chosen to monitor the temperature. [40 CFR 63.6660]	None.
27	During startup and shutdown, the owner or operator shall minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR 63.6603(a)] or [40 CFR 63.6625(h)]	None.	None.	None.
28	The engine must be in compliance with all applicable emission limitations, operating limitations, and other requirements in Subpart ZZZZ of 40 CFR 63 at all times. [40 CFR 63.6605(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
29	At all times the owner or operator must operate and maintain a RICE including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR 63.6605(b)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system annually. The permittee must keep records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.6660]	None.
30	The permittee shall conduct an initial demonstration and subsequent annual demonstrations to show that the average CO reduction is $\geq 75\%$, or the average CO concentration ≤ 270 ppmvd @15% O ₂ , or the average THC reduction is $\geq 30\%$ as specified in Table 5 and Table 6 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6630(e)] and [40 CFR 63.6640(c)]	Monitored by periodic emission monitoring annually. The permittee must measure CO emissions using one of the measurement methods specified in Table 4 of 40 CFR 63 Subpart ZZZZ, or using appendix A to 40 CFR 63 Subpart ZZZZ, and must measure O ₂ emissions using one of the measurement methods specified in Table 4 of 40 CFR 63 Subpart ZZZZ. Measurements to determine O ₂ concentration must be made at the same time as the measurements for CO concentration. [40 CFR 63.6630(e)] and [40 CFR 63.6640(c)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually. The permittee must keep records in a form suitable and readily available (in hard copy or electronic form) for expeditious review. According to 40 CFR 63.10(b)(1), each record must be kept for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record, except that the most recent 2 years of data do not have to be retained on site, per Table 8 of 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6660]	Repair equipment: Upon occurrence of event. If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of 40 CFR 63 Subpart ZZZZ, the RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of 40 CFR 63 Subpart ZZZZ. If the retest shows that the emissions continue to exceed the specified levels, the RICE must again be shut down as soon as safely possible, and the RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6640(c)(7)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
31	The owner or operator must submit compliance reports semiannually according to the requirements in 40 CFR 63.6650(b)(1) through (5). [40 CFR 63.6650(b)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system semiannually: once every six months; six month cycle shall begin on January 1 and July 1 of each year. The permittee must keep: (1) A copy of each notification and report submitted to comply with 40 CFR 63 Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status, according to the requirement in 40 CFR 63.10(b)(2)(xiv); (2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment; (3) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii); (4) Records of all required maintenance performed on the air pollution control and monitoring equipment. [40 CFR 63.6655]	Submit a report: Semi-annually on January 31 and July 31 of each year to the EPA Administrator Region 2 and NJDEP Regional Enforcement Office. The first Compliance report must cover the period beginning on October 19, 2013 and ending June 30, 2014. Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. The report must contain the results of the annual compliance demonstration if conducted during the reporting period. For sources subject to permitting regulations pursuant to 40 CFR part 70, the permittee may submit the first and subsequent Compliance reports according to the dates the permitting authority has established. [40 CFR 63.6650(b)]
32	The owner or operator shall comply with the General Provisions as shown in Table 8 to Subpart ZZZZ of 40 CFR 63 that apply to an existing non-emergency non-black start SI RICE > 500 HP constructed or reconstructed before June 12, 2006 and located at an area source of HAP emissions. [40 CFR 63.6665]	None.	None.	None.

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Emission Unit: U2 Natural Gas-fired Gas Compressor Engine

Operating Scenario: OS1 Gas Fired Natural Gas Compressor Engine

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. Visible emissions from stationary internal combustion engines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. NOTE: This requirement applies during all operation of the engine, including start up and shut down. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Opacity <= 10 %. Visible emissions from stationary internal combustion engines shall not exceed 10% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. From pre-construction permit. NOTE: This requirement applies during all operation of the engine, except during start up and shut. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
3	NOx (Total) <= 1.5 grams/brake horsepower-hour. NOx RACT emission limit applies during all periods of natural gas combustion. [N.J.A.C. 7:27-19.8(a)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results upon occurrence of event. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
4	NOx (Total) <= 1.5 grams/brake horsepower-hour. NOx RACT emission limit applies during all periods of natural gas combustion. [N.J.A.C. 7:27-19.8(a)]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
5	I.C. Engine fuel limited to natural gas based on preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery. [N.J.A.C. 7:27-22.16(o)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	Maximum Gross Heat Input <= 13.6 MMBTU/hr (HHV). Maximum heat input for the gas compressor engine (U2), during natural gas combustion. From BOP130001. [N.J.A.C. 7:27-22.16(a)]	Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously. [N.J.A.C. 7:27-22.16(o)]	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage each month during operation. Maintain a record of the amount of fuel combusted during each month of gas compressor operation. [N.J.A.C. 7:27-22.16(o)]	None.
7	NOx (Total) <= 28 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas, from BOP130001. Based on vendor guarantee. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results upon occurrence of event. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	NOx (Total) <= 28 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas, from BOP130001. Based on vendor guarantee. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
9	NOx (Total) <= 1.4 lb/hr. Maximum emission rate while combusting natural gas, from BOP130001. Based on vendor guaranteed concentration. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results upon occurrence of event. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
10	NOx (Total) <= 1.4 lb/hr. Maximum emission rate while combusting natural gas, from BOP130001. Based on vendor guaranteed concentration. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
11	CO <= 270 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas, from BOP130001. Based on vendor guarantee. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results upon occurrence of event. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	CO <= 270 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas, from BOP130001. Based on vendor guarantee. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
13	CO <= 2.1 lb/hr. Maximum emission rate while combusting natural gas, from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results upon occurrence of event. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
14	CO <= 2.1 lb/hr. Maximum emission rate while combusting natural gas, from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by periodic emission monitoring at the approved frequency, based on the averaging period as per Department approved test method (Technical Manual 1005). See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually. See "Periodic Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
15	VOC (Total) <= 29 ppmvd @ 7% O ₂ . This limit includes formaldehyde emissions. Maximum emission rate while combusting natural gas, from BOP130001. Based on vendor guarantee. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
16	VOC (Total) <= 0.505 lb/hr. This limit includes formaldehyde emissions. Maximum emission rate while combusting natural gas, from BOP130001. Based on vendor guaranteed concentration. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
17	TSP <= 1.3 lb/hr. Maximum emission rate while combusting natural gas, from preconstruction permit. Based on AP-42 emission factor. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
18	PM-10 (Total) <= 1.3 lb/hr. Maximum emission rate while combusting natural gas, from preconstruction permit. Based on AP-42 emission factor. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	Acrolein <= 0.0358 lb/hr. Maximum emission rate from BOP130001. Based on maximum heat input (13.6 MMBtu/hr) and AP-42 emission factor (2.63E-3 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
20	Butadiene (1,3-) <= 0.00902 lb/hr. Maximum emission rate from BOP130001. Based on maximum heat input (13.6 MMBtu/hr) and AP-42 emission factor (6.63E-4 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
21	Formaldehyde <= 0.279 lb/hr. Maximum emission rate from BOP130001. Based on maximum heat input (13.6 MMBtu/hr) and AP-42 emission factor (2.1E-2 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Emission Unit: U3 Abrasive Blast Equipment

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP <= 0.5 lb/hr. Maximum particulate emissions from the operation of the abrasive blast equipment. [N.J.A.C. 7:27- 6.2(a)]	None.	None.	None.
2	Opacity <= 20 % , exclusive of visible condensed water vapor, except for a period of not longer than 3 minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-6.2(d)] and. [N.J.A.C. 7:27- 6.2(e)]	None.	None.	None.
3	No Visible Emissions, exclusive of condensed water vapor, except for no more than 3 minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	Pressure Drop Across the Baghouse >= 3 and Pressure Drop Across the Baghouse <= 4 inches w.c.. [N.J.A.C. 7:27-22.16(e)]	Other: Pressure drop instrument. Continuously.[N.J.A.C. 7:27-22.16(e)].	Pressure Drop Across the Baghouse: Recordkeeping by manual logging of parameter once per shift during operation. [N.J.A.C. 7:27-22.16(e)]	None.
5	TSP <= 1.8 tons/yr. Annual emission limit from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	PM-10 (Total) <= 1.8 tons/yr. Annual emission limit from preconstruction permit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Emission Unit: U3 Abrasive Blast Equipment

Operating Scenario: OS1 Abrasive Blast Equipment

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP <= 0.4 lb/hr. Hourly emission limit from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	PM-10 (Total) <= 0.5 lb/hr. Hourly emission limit from preconstruction permit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Emission Unit: U4 GE LMS100 Combustion Turbine**Operating Scenario:** OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Summary of Applicable Federal Regulations: 40 CFR 60 Subpart A 40 CFR 60 Subpart KKKK 40 CFR 97 - CSAPR [None]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	<p>RENEWAL STACK TEST FOR GASEOUS EMISSIONS: (NO_x, CO, VOC and Ammonia (NH₃))</p> <p>The permittee shall conduct a stack test at least 18 months prior to the expiration of the initial or renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NO_x, CO and NH₃ as specified in the compliance plan for OS3 and for NO_x, CO, VOC and NH₃ as specified in the compliance plan for OS Summary and OS1, unless the turbine is eligible for and complying with one of the alternative monitoring requirements listed below. The permittee shall provide EMS with the turbine load performance curve with the protocol.</p> <p>Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition.</p> <p>If complying with the "Periodic Emission Monitoring Alternative for Peaking Units" and the average capacity factor of the unit exceeds 10% over the previous 3 calendar years or the annual capacity factor in any of those calendar years exceeds 20%, the permittee shall:</p> <ol style="list-style-type: none"> 1) Within 60 days of the exceedance, submit a stack test protocol to EMS; and 2) Within 180 days of the exceedance, conduct a stack test pursuant to the above requirements. <p>See Alternative Monitoring Options in OS Summary:</p> <ol style="list-style-type: none"> 1) "Periodic Emission Monitoring Alternative for Peaking Units" 2) "CEMS Alternative to Renewal Stack Test for NO_x and CO" [N.J.A.C. 7:27-22.16(a)] 	<p>Other: Monitoring as required under the applicable operating scenario(s).</p> <p>In accordance with N.J.A.C. 7:27-19.15(a)2, any NO_x testing conducted pursuant to this section shall be conducted concurrently with CO testing. The applicable NO_x emission limits in N.J.A.C. 7:27-19 will not be considered to have been met unless the concurrent CO testing demonstrates compliance with the CO limit in N.J.A.C. 7:27-16.9 or the permit limit for CO, whichever is more stringent, is also met.[N.J.A.C. 7:27-22.16(o)].</p>	<p>Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 09-01, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit (or within 60 days of a capacity factor exceedance, as applicable). The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert.</p> <p>Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-984-3443 to schedule a mutually acceptable test date.</p> <p>A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and . [N.J.A.C. 7:27-22.18(h)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>RENEWAL STACK TEST FOR PARTICULATE EMISSIONS: (TSP and PM-10)</p> <p>The permittee shall conduct a stack test at least 18 months prior to the expiration of the initial or renewed operating permit using an approved protocol to demonstrate compliance with emission limits for PM-10 as specified in the compliance plan for OS3 and for TSP and PM-10 as specified in the compliance plan for OS1. The permittee shall provide EMS with the turbine load performance curve with the protocol.</p> <p>Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. [N.J.A.C. 7:27-22.16(a)]</p>	Other: Monitoring as required under the applicable operating scenario(s).[N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 09-01, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-984-3443 to schedule a mutually acceptable test date.</p> <p>A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and . [N.J.A.C. 7:27-22.18(h)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	<p>PERIODIC EMISSION MONITORING ALTERNATIVE FOR PEAKING UNITS:</p> <p>If the turbine is operated as a "Peaking Unit" as defined by the Acid Rain program of USEPA, at 40 CFR 72.2 (the average capacity factor of the unit does not exceed 10% over the previous 3 calendar years and annual capacity factor does not exceed 20% in each of those calendar years), periodic emission monitoring of NOx and CO shall be permitted in lieu of "Renewal Stack Test for Gaseous Emissions" above.</p> <p>Periodic emission testing shall be performed annually on the turbine using a periodic emission monitoring device to measure the concentrations of NOx, CO and O2, in accordance with Technical Manual 1005, unless the unit qualifies for the exemption listed below.</p> <p>Exemption: Any turbine that is equipped with a CEMS unit which continuously monitors NOx, CO and O2, during all operation of the turbine, need not perform the annual periodic emission monitoring described above.</p> <p>Dual Fuel Turbines: For turbines permitted to combust either natural gas or fuel oil, emission testing shall be required only on the fuel fired at the time of the test.</p> <p>***NOTE*** Periodic emission monitoring shall only be allowed as an alternative to stack emission testing once initial stack emission testing has been performed and compliance has been demonstrated with all of the permit emission limits. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by periodic emission monitoring annually of NOx, CO and O2; or continuous emission monitoring of NOx, CO and O2.</p> <p>Periodic emission monitoring for NOx, CO and O2 shall be consistent with the requirements specified in NJDEP Technical Manual 1005 posted on AQPP webpage at http://www.state.nj.us/dep/aqpp. The permittee shall use reference method or site specific method testing provided in the Technical Manual 1005 as part of any periodic monitoring procedure. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: Annually.</p> <p>The permittee shall notify Enforcement at least 24 hours prior to performing periodic emission testing. Periodic emission testing for NOx, CO and O2 shall be performed annually in accordance with Technical Manual 1005 or by another method/procedure approved by EMS.</p> <p>Test reports shall be submitted to Chief, REO within 45 days following the end of each calendar year (starting with 2013) in the approved format to identify the facility name, emission unit, test date, and total operating hours for that year. The test results must be certified by a licensed professional engineer or by a certified industrial hygienist</p> <p>If the turbine is equipped with a CEMS unit, which continuously monitors NOx, CO and O2 during turbine operation, annual periodic monitoring is not required and therefore no periodic emission report is required to be submitted to the Department.</p> <p>If permit term stack testing is performed instead of periodic emission monitoring, no periodic emission monitoring report is required to be submitted to the Department. [N.J.A.C. 7:27-22.16(o)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	<p>CEMS ALTERNATIVE TO RENEWAL STACK TEST FOR NO_x AND CO:</p> <p>The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NO_x and/or CO, with EMS approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described for stack testing (See "Renewal Stack Test for Gaseous Emissions" in OS Summary). [N.J.A.C. 7:27-22.16(a)]</p>	None.	Other: Maintain certification of CEMS and obtain approval to use CEMS data to satisfy the renewal stack testing requirements for NO _x and CO from EMS through stack test protocol approval.[N.J.A.C. 7:27-22.16(o)].	None.
6	<p>CONTINUOUS EMISSION MONITORING: (NO_x, CO)</p> <p>Install and operate Continuous Emission Monitoring System (CEMS) and conduct Performance Specification Test (PST) in accordance with the NJDEP Technical Manual 1005, to demonstrate compliance with emission limits for NO_x and CO as specified in the compliance plan for OSS, OS1, OS2, OS3, OS4 and OS5.</p> <p>Continuous parametric monitors and continuous parametric data recorders shall be installed and operated to demonstrate compliance with monitoring parameters, for example, flue gas flow rate, temperature, etc. as specified in the compliance plan for OSS, OS1, OS2, OS3, OS4 and OS5. [N.J.A.C. 7:27-22.16(a)]</p>	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	CEMS/COMS - Submit equipment protocol, submit a PST protocol, conduct PST and submit results: As per the approved schedule . [N.J.A.C. 7:27-22.18(g)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	The Permittee shall request approval from the Department's Emission Measurement Section (EMS) to allow continued use of the existing CEMS when a change to the units of measurement is made to a permit limit. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Maintain readily accessible records of the Permittee's written request to EMS, and the response from EMS . [N.J.A.C. 7:27-22.16(o)].	Comply with the requirement: Upon occurrence of event submit a written request to the EMS within 30 days from the date of the approved operating permit to determine whether a full CEMS recertification is required, whether the change can follow the procedures for data recording and storage equipment upgrades found in the Department's Technical Manual 1005 Section IV.B.3(f), or if continued use of the existing CEMS is allowed. [N.J.A.C. 7:27-22]
8	The owner or operator shall develop a QA/QC plan for each CEMS/COMS required by this permit prepared in accordance with the NJDEP Technical Manual 1005 posted on the AQPP webpage at http://www.state.nj.us/dep/aqpp . [N.J.A.C. 7:27-22.16(a)]	Other: The QA/QC coordinator shall be responsible for reviewing the QA/QC plan on an annual basis. [N.J.A.C. 7:27-22.16(o)].	Other: Maintain readily accessible records of the QA/QC plan including QA data and quarterly reports. [N.J.A.C. 7:27-22.16(o)].	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	<p>Ammonia Flow Rate to SCR ≥ 80 and Ammonia Flow Rate to SCR ≤ 120 % of the calculated ammonia flow rate; where Ammonia flow rate to SCR = the actual flow rate of ammonia to the SCR, at any given time; and</p> <p>Calculated ammonia flow rate = the ammonia flow rate that is required to maintain compliance with all NOx and ammonia slip emission limits in this permit, at any given time. This value is calculated by the ammonia injection control system based on continuously monitored operating conditions, including NOx emissions, fuel flow and rate of change in fuel flow.</p> <p>The values calculated by the ammonia injection control system were verified during the initial SCR testing, and will be subsequently verified, during each permit term, by stack testing. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Other: Monitored by Ammonia flow metering device continuously. The permittee shall monitor the ammonia flow rate to the SCR and the calculated ammonia flow rate, as calculated by the ammonia injection control system, based on the following continuously monitored variables:</p> <p>Calculated Ammonia Flow Rate = CT Fuel Flow + Predictive Load Compensation + (NOx Trim Controller Output - 50)</p> <p>Where: CT Fuel Flow is the rate of fuel flow to the combustion turbine (which is continuously monitored by the ammonia injection control system); Predictive Load Compensation is a factor used to adjust the Calculated Ammonia Flow Rate based on the rate of change in fuel flow (which is continuously monitored by the ammonia injection control system); NOx Trim Controller Output is a factor used to adjust the Calculated Ammonia Flow Rate based on NOx emissions from the CT stack (which is continuously monitored by the NOx CEM system).</p> <p>The ammonia flow rate to the SCR shall remain within 20% of the calculated ammonia flow rate at all times during which the turbine is combusting fuel.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output.[N.J.A.C. 7:27-22.16(o)].</p>	<p>Ammonia Flow Rate to SCR: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Permittee shall maintain the following continuous records during all operation of the turbine: Date; Time; Ambient temperature; Turbine Load; Ammonia flow rate to SCR; Calculated ammonia flow rate as calculated by the ammonia injection control system; and The percentage deviation of ammonia flow rate to SCR with respect to calculated ammonia flow rate. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: As per the approved schedule.</p> <p>Submit with the Semi-annual Monitoring and Deviation Report electronically, the details of any hour, during the reporting period, when the ammonia flow rate to SCR deviates from the calculated ammonia flow rate, determined by the ammonia injection control system, by more than 20%. This record shall include all information recorded under "recordkeeping requirement" in this permit condition. . [N.J.A.C. 7:27-22.16(o)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	CO <= 250 ppmvd @ 15% O ₂ . VOC RACT emission limit applies during all operation of the combustion turbine. [N.J.A.C. 7:27-16.9(b)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day not including periods of equipment downtime. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-16.23(a)1]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]
11	VOC (Total) <= 50 ppmvd @ 15% O ₂ . VOC RACT emission limit applies during all operation of the combustion turbine. [N.J.A.C. 7:27-16.9(c)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. Stack testing only required while combusting fuel oil pursuant to OS1. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	<p>The owner or operator of a stationary combustion turbine that has a maximum gross heat input rate of 25 million BTU per hour or more and associated duct burner (if a duct burner is installed) shall adjust the combustion process in accordance with the procedure set forth at N.J.A.C. 7:27-19.16(g) and in accordance with the manufacturer's recommended procedures and maintenance schedules for those sources.</p> <p>[N.J.A.C. 7:27-22.16(a)], [N.J.A.C. 7:27-16.9(f)] and [N.J.A.C. 7:27-19.5(e)]</p>	<p>Other: Monitored by continuous emission monitoring (CEMS) or by periodic emission monitoring upon performing combustion adjustment. If not using a certified CEMS, monitoring shall be performed in accordance with the specific procedures for combustion adjustment monitoring specified in NJDEP Technical Manual 1005.</p> <p>[N.J.A.C. 7:27-19.16(g)].</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage upon performing combustion adjustment or by manual logging of parameter or storing data in a computer data system. The permittee shall record the following information for each adjustment in a log book or computer data system:</p> <ol style="list-style-type: none"> 1. The date and times the adjustment began and ended; 2. The name, title, and affiliation of the person who performed the procedure and adjustment; 3. The type of procedure and maintenance performed; 4. The concentration of NO_x, CO, and O₂ measured before and after the adjustment was made; and 5. The type and amount of fuel use since the last combustion adjustment was performed. <p>The records shall be kept for a minimum of 5 years and be readily accessible to the Department upon request.</p> <p>. [N.J.A.C. 7:27-19.16(h)]</p>	None.
13	<p>An exceedance of an emission limit that occurs during an adjustment of the combustion process under N.J.A.C. 7:27-19.16(g) is not a violation of this subchapter if it occurs as a result of the adjustment. After the combustion adjustment has been completed, the maximum emission rate of any contaminant shall not exceed the maximum allowable emission rate applicable under this subchapter or under an operating permit issued pursuant to N.J.A.C. 7:27-22 or an applicable certificate issued pursuant to N.J.A.C. 7:27-8. [N.J.A.C. 7:27-19.16(f)]</p>	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Hours of Operation <= 5,250 hours per any 365 consecutive day period, while combusting either natural gas or LSLPP (Low Sulfur Light Petroleum Product). [N.J.A.C. 7:27-22.16(a)]	<p>Hours of Operation: Monitored by hour/time monitor continuously, based on a consecutive 365 day period (rolling 1 day basis).</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	Hours of Operation: Recordkeeping by data acquisition system (DAS) / electronic data storage daily. Maintain a record of total hours of operation while combusting natural gas and total hours of operation while combustion LSLPP. [N.J.A.C. 7:27-22.16(o)]	None.
15	The permittee shall operate and maintain the Water Injection System, in accordance with the manufacturer's requirements, during all periods of turbine operation, except during periods of start-up, shut down and fuel transfer as defined in this permit. [N.J.A.C. 7:27-22.16(a)]	<p>Monitored by hour/time monitor continuously.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The permittee shall continuously record the time and duration of the operation of both the gas turbine and the water injection system.</p> <p>The permittee shall maintain the Water Injection System manufacturer's specifications, and operation and maintenance manual on-site. [N.J.A.C. 7:27-22.16(o)]</p>	None.
16	Water-to-Fuel Ratio: The water-to-fuel ratio shall be within the manufacturer's recommended range, in pounds of water per pound of fuel. This ratio is only required when the continuous emission monitoring system is not operating. The limit shall not apply during the time valid data is collected by the CEM. [N.J.A.C. 7:27-22.16(a)]	<p>Water-to-Fuel Ratio: Monitored by water-to-fuel monitoring device continuously.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current/voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	Water-to-Fuel Ratio: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	<p>The Selective Catalytic Reduction system (CD-3) shall be used to reduce Nitrogen Oxides (NOx) resulting from combustion in the turbine, at the recommended manufacturer's operating flue gas flowrate range such that NOx (Total) emissions, as established in this permit, are met.</p> <p>The minimum NOx control efficiency shall be 90% (design value). [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by documentation of construction continuously. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Other: The permittee shall maintain SCR system manufacturer's documentation, specifications, operation and maintenance manual on-site.[N.J.A.C. 7:27-22.16(o)].</p>	None.
18	<p>The SCR (CD3) shall be operated and reagent shall be injected during all periods of turbine operation, except during periods of start-up, shut down and fuel transfer as defined in this permit. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by hour/time monitor continuously.</p> <p>The permittee shall continuously monitor the time and duration of any operation of the combustion turbine and the SCR system. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The permittee shall continuously record the time and duration of any operation of the combustion turbine and the SCR system. [N.J.A.C. 7:27-22.16(o)]</p>	None.
19	<p>Temperature upstream of SCR (CD3) \geq 550 degrees Fahrenheit, except during periods of start-up, shut down and fuel transfer, as defined in this permit.</p> <p>The permittee shall not be considered in violation for any deviation from this requirement if corresponding Nox emissions from the gas turbine is in compliance with applicable emission limits as established in this permit. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by temperature instrument continuously, based on a 1 hour block average.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current/voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]</p>	None.
20	<p>The Catalytic Oxidizer (CD4) shall be used to destroy carbon monoxide (CO) and volatile organic compounds (VOC) resulting from the combustion of fuel in the turbine at the recommended manufacturer's operating flue gas flowrate range such that CO and VOC (Total) emission limits, as established in this permit, are met.</p> <p>The minimum CO destruction efficiency shall be 90% (design value). [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by documentation of construction continuously. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Other: The permittee shall maintain Catalytic Oxidizer system manufacturer's documentation, specifications, and operation & maintenance manual (O&M) on-site.[N.J.A.C. 7:27-22.16(o)].</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	The Catalytic Oxidizer (CD4) shall be in place during all periods of turbine operation, including periods of start-up, shut down and fuel transfer as defined in this permit. [N.J.A.C. 7:27-22.16(a)]	Other: Ensure that the Catalytic Oxidizer (Catalyst) is in place at all times.[N.J.A.C. 7:27-22.16(o)].	None.	None.
22	Temperature at Exit of Catalyst ≥ 550 and Temperature at Exit of Catalyst ≤ 870 degrees F , except during periods of start-up, shut down and fuel transfer, as defined in this permit. This Applicable Requirement applies to the Catalytic Oxidizer (CD4). [N.J.A.C. 7:27-22.16(a)]	Temperature at Exit of Catalyst: Monitored by temperature instrument continuously, based on a 1 hour block average. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current/voltage output. [N.J.A.C. 7:27-22.16(o)]	Temperature at Exit of Catalyst: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
23	The SCR (CD3) catalyst shall be maintained and replaced in accordance with the recommendations and schedules of the manufacturer, based on NOx emission levels indicated through CEMS / Stack Testing. The Catalytic Oxidizer (CD4) array(s) shall be maintained and replaced in accordance with the recommendations and schedules of the manufacturer, based on usage rates and emission levels indicated through CEMS / Stack Testing. [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by documentation of maintenance and catalyst replacement upon occurrence of event.[N.J.A.C. 7:27-22.16(o)].	Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency. The permittee shall maintain the catalyst maintenance and replacement records on-site. [N.J.A.C. 7:27-22.16(o)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	NO _x (Total) ≤ 49.5 tons/yr. Annual emission limit from BOP070001. [N.J.A.C. 7:27-22.16(a)]	<p>NO_x (Total): Monitored by continuous emission monitoring system continuously, based on a consecutive 12 month period (rolling 1 month basis). See "Continuous Emission Monitoring" in OS Summary.</p> <p>A monthly emission rate shall be determined, based on the CEMS data.</p> <p>Total annual emissions shall be calculated, each month, by adding the monthly emission rate for that month to the sum of the monthly emission rates for the immediately preceding 11 calendar months. [N.J.A.C. 7:27-22.16(o)]</p>	<p>NO_x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary.</p> <p>Each month, the permittee shall record the monthly emission rate as well as the annual emission rate, calculated under "monitoring requirement", for that month. These records shall be maintained in a permanently bound logbook or a readily accessible computer data system. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>
25	CO ≤ 49.2 tons/yr. Annual emission limit from BOP070001. [N.J.A.C. 7:27-22.16(a)]	<p>CO: Monitored by continuous emission monitoring system continuously, based on a consecutive 12 month period (rolling 1 month basis). See "Continuous Emission Monitoring" in OS Summary.</p> <p>A monthly emission rate shall be determined, based on the CEMS data.</p> <p>Total annual emissions shall be calculated, each month, by adding the monthly emission rate for that month to the sum of the monthly emission rates for the immediately preceding 11 calendar months. [N.J.A.C. 7:27-22.16(o)]</p>	<p>CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary.</p> <p>Each month, the permittee shall record the monthly emission rate as well as the annual emission rate, calculated under "monitoring requirement", for that month. These records shall be maintained in a permanently bound logbook or a readily accessible computer data system. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	VOC (Total) <= 15.1 tons/yr. This limit includes formaldehyde emissions. Annual emission limit from BOP070001. [N.J.A.C. 7:27-22.16(a)]	<p>VOC (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). The annual emissions of total VOC shall be calculated as follows:</p> <p>Total Monthly VOC Emissions =</p> $\{[(\text{MMBTU of natural gas burned for the turbine per month} \times 0.0035 \text{ lb/MMBTU}) + (\text{MMBTU of LSLPP burned for the turbine per month} \times 0.0056 \text{ lb/MMBTU}) + (1.96 \text{ lb/startup} \times \text{number of startups on natural gas per month}) + (4.65 \text{ lb/startup} \times \text{number of startups on LSLPP per month}) + (0.08 \text{ lb/shutdown} \times \text{number of shutdowns on natural gas per month}) + (1.67 \text{ lb/shutdown} \times \text{number of shutdowns on LSLPP per month}) + (0.18 \text{ lb/startup} \times \text{number of synchronous condenser startups on natural gas per month}) + (0.46 \text{ lb/startup} \times \text{number of synchronous condenser startups on LSLPP per month}) + (4 \text{ lb/hr} \times \text{hours of operation for fuel transfers per month})] \times 1 \text{ ton}/2000 \text{ lbs}\}$ <p>Total annual emissions shall be calculated, each month, by adding the monthly emission rate for that month to the sum of the monthly emission rates for the immediately preceding 11 calendar months. [N.J.A.C. 7:27-22.16(o)]</p>	<p>VOC (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation.</p> <p>Each month, the permittee shall record the monthly emission rate as well as the annual emission rate, calculated under "monitoring requirement", for that month. These records shall be maintained in a permanently bound logbook or a readily accessible computer data system. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
27	SO ₂ ≤ 7.3 tons/yr. Annual emission limit from BOP070001. [N.J.A.C. 7:27-22.16(a)]	<p>SO₂: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). The annual emissions of total SO₂ shall be calculated as follows:</p> <p>Total Monthly SO₂ Emissions =</p> $\{[(\text{MMBTU of natural gas burned for the turbine per month} \times 0.0028 \text{ lb/MMBTU}) + (\text{MMBTU of LSLPP burned for the turbine per month} \times 0.0016 \text{ lb/MMBTU}) \times 1 \text{ ton/2000 lbs}]\}$ <p>Total annual emissions shall be calculated, each month, by adding the monthly emission rate for that month to the sum of the monthly emission rates for the immediately preceding 11 calendar months. [N.J.A.C. 7:27-22.16(o)]</p>	<p>SO₂: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation.</p> <p>Each month, the permittee shall record the monthly emission rate as well as the annual emission rate, calculated under "monitoring requirement", for that month. These records shall be maintained in a permanently bound logbook or a readily accessible computer data system. [N.J.A.C. 7:27-22.16(o)]</p>	None.
28	TSP ≤ 82.1 tons/yr. Annual emission limit from BOP070001. [N.J.A.C. 7:27-22.16(a)]	<p>TSP: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis) The annual emissions of total TSP shall be calculated as follows:</p> <p>Total Monthly TSP Emissions =</p> $\{[(\text{MMBTU of natural gas burned for the turbine per month} \times 0.012 \text{ lb/MMBTU}) + (\text{MMBTU of LSLPP burned for the turbine per month} \times 0.043 \text{ lb/MMBTU}) \times 1 \text{ ton/2000 lbs}]\}$ <p>Total annual emissions shall be calculated, each month, by adding the monthly emission rate for that month to the sum of the monthly emission rates for the immediately preceding 11 calendar months. [N.J.A.C. 7:27-22.16(o)]</p>	<p>TSP: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation.</p> <p>Each month, the permittee shall record the monthly emission rate as well as the annual emission rate, calculated under "monitoring requirement", for that month. These records shall be maintained in a permanently bound logbook or a readily accessible computer data system. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
29	PM-10 (Total) <= 82.1 tons/yr. Annual emission limit from BOP070001. [N.J.A.C. 7:27-22.16(a)]	<p>PM-10 (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis) The annual emissions of PM-10 shall be calculated as follows:</p> <p>Total Monthly PM-10 Emissions =</p> <p>{[(MMBTU of natural gas burned for the turbine per month x 0.012 lb/MMBTU) + (MMBTU of LSLPP burned for the turbine per month x 0.043 lb/MMBTU) x 1 ton/2000 lbs}</p> <p>Total annual emissions shall be calculated, each month, by adding the monthly emission rate for that month to the sum of the monthly emission rates for the immediately preceding 11 calendar months. [N.J.A.C. 7:27-22.16(o)]</p>	<p>PM-10 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation.</p> <p>Each month, the permittee shall record the monthly emission rate as well as the annual emission rate, calculated under "monitoring requirement", for that month. These records shall be maintained in a permanently bound logbook or a readily accessible computer data system. [N.J.A.C. 7:27-22.16(o)]</p>	None.
30	Ammonia Slip <= 32.3 tons/yr. Annual emission limit from BOP070001. [N.J.A.C. 7:27-22.16(a)]	<p>Other: Monitored by ammonia flow metering device. See "Ammonia Flow Rate to SCR" in OS Summary.</p> <p>Total annual emissions shall be calculated, each month, by adding the monthly emission rate for that month to the sum of the monthly emission rates for the immediately preceding 11 calendar months.[N.J.A.C. 7:27-22.16(o)].</p>	<p>Ammonia Slip: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously See "Ammonia Flow Rate to SCR" in OS Summary.</p> <p>Each month, the permittee shall record the monthly emission rate as well as the annual emission rate, calculated under "monitoring requirement", for that month. These records shall be maintained in a permanently bound logbook or a readily accessible computer data system. [N.J.A.C. 7:27-22.16(o)]</p>	None.
31	SO3 and H2SO4, as converted and expressed as H2SO4 <= 6.8 tons/yr. Annual emission limit from BOP070001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
32	HAPs (Total) <= 4.05 tons/yr. Annual emission limit from BOP070001. Based on the sum of all reported HAPS emission limits. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
33	Acrolein <= 0.0159 tons/yr. Annual emission limit from BOP120001. Based on 5250 hours of natural gas fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
34	Arsenic Emissions <= 0.0273 tons/yr. Annual emission limit from BOP120001. Based on 5250 hours of LSLPP fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
35	Benzene <= 0.136 tons/yr. Annual emission limit from BOP120001. Based on 5250 hours of LSLPP fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
36	Butadiene (1,3-) <= 0.0396 tons/yr. Annual emission limit from BOP120001. Based on 5250 hours of LSLPP fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
37	Cadmium Emissions <= 0.0119 tons/yr. Annual emission limit from BOP120001. Based on 5250 hours of LSLPP fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
38	Formaldehyde <= 1.76 tons/yr. Annual emission limit from BOP120001. Based on 5250 hours of natural gas fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
39	Lead Emissions <= 0.0347 tons/yr. Annual emission limit from BOP120001. Based on 5250 hours of LSLPP fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
40	Manganese Emissions <= 1.96 tons/yr. Annual emission limit from BOP120001. Based on 5250 hours of LSLPP fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
41	Mercury Emissions <= 0.003 tons/yr. Annual emission limit from BOP120001. Based on 5250 hours of LSLPP fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
42	Selenium compounds <= 0.062 tons/yr. Annual emission limit from BOP120001. Based on 5250 hours of LSLPP fired operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
43	Any individual hazardous air pollutant emissions, not specifically listed in this permit, are below the reporting thresholds listed in N.J.A.C. 7:27-22. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
44	All requests, reports, applications, submittals, and other communications to the Administrator pursuant to Part 60 shall be submitted in duplicate to the Regional Office of US Environmental Protection Agency. Submit information to: Director, Division of Enforcement & Compliance Assistance, US EPA, Region 2, 290 Broadway, New York, NY 10007-1866. [40 CFR 60.4(a)]	None.	None.	Submit a report: As per the approved schedule to EPA Region 2 as required by 40 CFR 60. [40 CFR 60.4(a)]
45	Copies of all information submitted to EPA pursuant to 40 CFR Part 60, must also be submitted to the appropriate Regional Enforcement Office of NJDEP. [40 CFR 60.4(b)]	None.	None.	Submit a report: As per the approved schedule to the appropriate Regional Enforcement Office of NJDEP as required by 40 CFR 60. [40 CFR 60.4(b)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
46	The owner or operator subject to the provisions of 40 CFR Part 60 shall furnish the Administrator written notification or, if acceptable to both the Administrator and the owner or operator of a source, electronic notification, of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in section 60.14(e). The notification shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of facility before and after the change and the expected completion date of the change. Notification shall be postmarked within 60 days or as soon as practicable before any change is commenced. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4)]	None.	None.	Submit notification: Upon occurrence of event to EPA Region 2 and the appropriate Regional Enforcement Office of NJDEP as required by 40 CFR 60.7 [40 CFR 60.7(a)(4)]
47	The owner or operator shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility, any malfunction of air pollution control equipment or any periods during which continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. The records should be kept in a permanent form suitable for inspections. [40 CFR 60.7(b)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Semi-annually beginning on the 30th day of the 6th month following initial performance tests. The report shall contain the information required in 40 CFR 60.7(b) and be postmarked by the 30th day following the end of each six-month period. The report shall be submitted to the EPA Region 2 Administrator and the appropriate Regional Enforcement Office of NJDEP and be in the format specified at 40 CFR Part 60.7(c) and 40 CFR Part 60.7(d). [40 CFR 60.7(c)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
48	Each owner or operator required to install a continuous monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see section 60.7(d)) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. [40 CFR 60.7(c)]	None.	Other: Written reports of excess emissions shall include the following information: (1) The magnitude of excess emissions computed in accordance with section 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period and excess emissions. The process operating time during the reporting period. (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted. (3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments. (4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report. [40 CFR 60.7(c)].	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Semi-annually beginning on the 30th day of the 6th month following initial performance tests. The report shall be postmarked by the 30th day following the end of each six-month period. The report shall be submitted to the EPA Region 2 Administrator and the appropriate Regional Enforcement Office of NJDEP and be in the format specified at 40 CFR Part 60.7(c) and 40 CFR Part 60.7(d). [40 CFR 60.7(c)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
49	The owner or operator shall maintain a file, suitable for inspection, of all monitoring measurements as indicated in Recordkeeping Requirement column. [40 CFR 60.7(f)]	None.	Other: The file shall include all measurements (including continuous monitoring system, monitoring device, and performance testing measurements), all continuous monitoring system performance evaluations, all continuous monitoring system or monitoring device calibration checks, all adjustments/maintenance performed on these systems or devices, and all other information required by 40 CFR Part 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the dates of the record, except as prescribed in 40 CFR 60.7(f)(1) through (3). Sources subject to 40 CFR 70, are required to retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application, per 40 CFR 70.6(a)(3)(ii)(B). [40 CFR 60.7(f)].	None.
50	The NSPS opacity standard shall apply at all times except during periods of startup, shutdown, malfunctions and as otherwise specified in the applicable standard. [40 CFR 60.11(c)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
51	At all times, including periods of start-up, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operation and maintenance procedures, and inspection of the source. [40 CFR 60.11(d)]	None.	None.	None.
52	No owner or operator subject to NSPS standards in Part 60, shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. [40 CFR 60.12]	None.	None.	None.
53	All continuous emission monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests specified under 40 CFR Part 60.8. The owner or operator shall follow manufacturer's written recommendations for installation, operation and calibration of the device. [40 CFR 60.13(b)]	During any performance test required under 40 CFR Part 60.8 or within 30 days thereafter, the owner or operator shall conduct a performance evaluation of the continuous emission monitoring system in accordance with applicable performance specification in Appendix B of 40 CFR Part 60. Monitored by other method (provide description) upon occurrence of event. [40 CFR 60.13(c)]	None.	Within 60 days of completion of the performance test, furnish the Administrator two or, upon request, more copies of the results of the performance evaluation. Submit a report: As per the approved schedule. [40 CFR 60.13(c)(2)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
54	The owner or operator shall perform zero and span adjustments daily for continuous emission monitors and continuous opacity monitors following procedures outlined in 40 CFR Part 60.13(d)1 & 2. [40 CFR 60.13(d)]	None.	Other: Maintain records in accordance with 40 CFR 60.7(f). [40 CFR 60.13(d)].	None.
55	Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all continuous monitoring systems referenced by 40 CFR 60.13(c) measuring emissions except opacity shall be in continuous operation. They shall complete a minimum of one cycle of operation (sampling, analyzing and data recording) for each successive 15-minute period. [40 CFR 60.13(e)(2)]	Other: See Applicable Requirement. [40 CFR 60.13(e)(2)].	Other: See Applicable Requirement. [40 CFR 60.13(e)(2)].	None.
56	All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of Appendix B of 40 CFR Part 60 shall be used. [40 CFR 60.13(f)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
57	The owner or operator of all continuous monitoring systems (other than opacity) shall reduce all data to 1-hour averages for time periods. One-hour period is defined in 40 CFR 60.2 as any 60-minute period commencing on the hour. For a full operating hour, 1-hour averages shall be computed from at least four valid data points, i.e., one data point in each of the 15-minute quadrants of the hour. For a partial operating hour (any clock hour with less than 60 minutes of unit operation), the owner or operator shall follow all the procedures specified at 40 CFR 60.13(h)(2) to compute 1-hour averages. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. The owners and operators complying with the requirements in 40 CFR 60.7(f)(1) or (2) must include any data recorded during periods of monitor breakdown or malfunction in the data averages. Either arithmetic or integrated averaging of all data may be used to calculate the hourly averages. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O ₂ or ng/J of pollutant). [40 CFR 60.13(h)(2)]	None.	Other: See Applicable Requirement. [40 CFR 60.13(h)].	None.
58	All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the applicable subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subpart to specify the emission limit. [40 CFR 60.13(h)(3)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
59	Changes in time periods for submittal of information and postmark deadlines set forth in this subpart, may be made only upon approval by the Administrator and shall follow procedures outlined in 40 CFR Part 60.19. [40 CFR 60.19]	None.	None.	None.
60	The owner or operator shall operate and maintain the subject stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown and malfunction. [40 CFR 60.4333(a)]	None.	None.	None.
61	To demonstrate continuous compliance with NOx limit, the owner or operator of a turbine that uses steam or water injection may, as alternative to operating the continuous monitoring system described in 40 CFR 60.4335(a), install, certify, maintain, and operate a continuous emission monitoring system (CEMS) consisting of a NOx monitor and a diluent gas O2 or CO2 monitors to determine the hourly NOx emission rate in ppm or lb/MMBtu. [40 CFR 60.4335(b)(1)]	Monitored by continuous emission monitoring system continuously. [40 CFR 60.4335(b)(1)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [40 CFR 60.4345]	None.
62	The owner or operator of a turbine that uses steam or water injection and complying with the output-based standard shall install, calibrate, maintain and operate a fuel flow meter to continuously measure the heat input to the affected unit. [40 CFR 60.4335(b)(2)]	Monitored by fuel flow/firing rate instrument continuously. Each fuel flowmeter shall be installed, calibrated, maintained and operated according to the manufacturer's instructions. Alternatively, with the NJDEP approval, fuel flowmeters that meet the installation, certification, and quality assurance requirements of appendix D to 40 CFR 75 are acceptable. [40 CFR 60.4345(c)]	Other: The permittee shall record time in which the data for fuel flow rate are either missing or invalid. [40 CFR 60.4380(b)(2)].	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
63	<p>40 CFR 60.4345(a) Compliance Option 1:</p> <p>The permittee shall install and certify each NOx diluent CEMS in accordance with Performance Specifications 2 (PS2) as described in appendix B to 40 CFR 60. The 7 day calibration drift should be based on unit operating days, not calendar days. Upon the Bureau of Technical Services of NJDEP approval, Procedure 1 in appendix F to 40 CFR 60 is not required. The relative accuracy test audit (RATA) shall be performed on a lb/MMBtu basis.</p> <p>*** Pursuant to 40 CFR 60.4345(a), the permittee may choose to comply with "40 CFR 60.4345(a) Compliance Option 1" or with "40 CFR 60.4345(a) Compliance Option 2" below *** [40 CFR 60.4345(a)]</p>	<p>Monitored by continuous emission monitoring system continuously. During each full unit operating hour, both the NOx monitor and the diluent monitor must complete a minimum of one cycle of operation (Sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour, as specified in 40 CFR 60.13(e)(2). The permittee shall follow procedure described in 40 CFR 60.4345(b) for partial unit operating hours. [40 CFR 60.4345(b)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. The permittee shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment. For NOx CEMS and fuel flow meters, the QA program and plan described in section 1 of appendix B to 40 CFR 75 may, with state approval, satisfy this requirement. [40 CFR 60.4345(e)]</p>	None.
64	<p>40 CFR 60.4345(a) Compliance Option 2:</p> <p>The permittee shall install and certify a NOx diluent CEMS in accordance with appendix A to 40 CFR 75. The relative accuracy test audit (RATA) shall be performed on a lb/MMBtu basis.</p> <p>*** Pursuant to 40 CFR 60.4345(a), the permittee may choose to comply with "40 CFR 60.4345(a) Compliance Option 2" or with "40 CFR 60.4345(a) Compliance Option 1" above *** [40 CFR 60.4345(a)]</p>	<p>Monitored by continuous emission monitoring system continuously. During each full unit operating hour, both the NOx monitor and the diluent monitor must complete a minimum of one cycle of operation (Sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour, as specified in 40 CFR 60.13(e)(2). The permittee shall follow procedure described in 40 CFR 60.4345(b) for partial unit operating hours. [40 CFR 60.4345(b)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. The permittee shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment. For NOx CEMS and fuel flow meters, the QA program and plan described in section 1 of appendix B to 40 CFR 75 may, with state approval, satisfy this requirement. [40 CFR 60.4345(e)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
65	The permittee shall install, calibrate, maintain, and operate each fuel flowmeter in accordance with the manufacturer's instructions or, with NJDEP approval, in accordance with the requirements of appendix D to 40 CFR 75. [40 CFR 60.4345(c)]	Monitored by fuel flow/firing rate instrument continuously. Each fuel flowmeter shall be installed, calibrated, maintained and operated according to the manufacturer's instructions. Alternatively, with the NJDEP approval, fuel flowmeters that meet the installation, certification, and quality assurance requirements of appendix D to 40 CFR 75 are acceptable. [40 CFR 60.4345(c)]	Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. The permittee shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment. For NO _x CEMS and fuel flow meters, the QA program and plan described in section 1 of appendix B to 40 CFR 75 may, with state approval, satisfy this requirement. [40 CFR 60.4345(e)]	None.
66	The permittee shall install, calibrate, maintain, and operate each watt meter, steam flow meter, and each pressure or temperature measurement device in accordance with the manufacturer's instructions. [40 CFR 60.4345(d)]	Monitored by other method (provide description) continuously. The gross electrical output of the unit in megawatt-hours shall be monitored by watt meter (or (meters) and shall be installed, calibrated, maintained and operated according to the manufacturer's instructions. [40 CFR 60.4345(d)]	Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. The permittee shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment. [40 CFR 60.4345(e)]	None.
67	The owner or operator may elect not to monitor the total sulfur content of the fuel combusted in the turbine if the fuel is demonstrated not to exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu heat input for units located in continental areas. [40 CFR 60.4365]	Other: The required demonstration that the total sulfur content of the fuel does not exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu shall be made using a current valid purchase contract, tariff sheet or transportation contract specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365(a)].	Recordkeeping by fuel certification receipts at the approved frequency. The owner or operator shall keep copies of valid purchase contracts, tariff sheets or transportation contracts specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365]	Demonstrate compliance: Once initially. The owner or operator shall submit the required determination to the Administrator using the sources of information described in 40 CFR 60.4365(a) showing the maximum total sulfur content for continental areas for oil use at 0.05 weight percent or less and for natural gas at 20 grains of sulfur or less per 100 standard cubic feet or to demonstrate that fuel has potential sulfur emissions of less than 0.060 lb SO ₂ /MMBtu heat input. [40 CFR 60.4365(a)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
68	The owner or operator shall submit reports of excess emissions and monitor downtime in accordance with 40 CFR 60.7(c) for Nitrogen oxides. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. An excess emissions as defined in 40 CFR 60.4380(a)1 is any unit operating hour in which the 4-hour rolling average steam or water to fuel ratio, as measured by the continuous monitoring system, falls below the acceptable steam or water to fuel ratio needed to demonstrate compliance with 40 CFR 60.4320, as established during the performance test required in 40 CFR 60.8. In addition, any unit operating hour in which no water or steam is injected, shall also be considered an excess emission. A period of monitor downtime is any unit operating hour in which water or steam is injected into the turbine but the essential parametric data needed to determine the steam or water to fuel ratio are unavailable or invalid. [40 CFR 60.4380(a)]	Other: For the purposes of identifying excess emissions based on data from the continuous parametric monitoring equipment the permittee shall follow procedures described in the parameter monitoring plan developed in accordance with 40 CFR 60.4355(a). [40 CFR 60.4355(a)].	None.	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Semi-annually beginning on the 30th day of the 6th month following initial performance tests. All reports required under 40 CFR 60.7(c) must be postmarked by the 30th day following the end of each 6-moth period. [40 CFR 60.4395]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
69	The owner or operator shall submit reports of excess emissions and monitor downtime in accordance with 40 CFR 60.7(c) for Nitrogen oxides. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. An excess emissions as defined in 40 CFR 60.4380(b)1 is any unit operating period in which the 4-hour (for simple cycle turbines) or 30-day rolling average NOx emission rate exceeds the applicable emission limit in 40 CFR 60.4320. A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NOx concentration, CO2 or O2 concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if used for compliance demonstration. [40 CFR 60.4380(b)]	Other: For the purposes of identifying excess emissions based on data from the continuous emission monitoring equipment the permittee shall follow procedures described in 40 CFR 60.4350(a), (b), (c), (e), (f), (g), and (h). If a NOx diluent CEMS meets the requirements of 40 CFR 75, the only quality assured data from the CEMS shall be used to identify excess emissions. Periods where the missing data substitution procedures in subpart D of 40 CFR 75 are applied are to be reported as monitor downtime. [40 CFR 60.4350].	Other: The owner or operator shall maintain copies of all reports on site. [40 CFR 60.7(f)].	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Semi-annually beginning on the 30th day of the 6th month following initial performance tests. All reports required under 40 CFR 60.7(c) must be postmarked by the 30th day following the end of each 6-moth period. [40 CFR 60.4395]
70	The owner or operator shall submit reports of excess emissions and monitor downtime in accordance with 40 CFR 60.7(c) for Nitrogen oxides. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. An excess emissions as defined in 40 CFR 60.4380(c)1 is a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan for the unit. A period of monitor downtime is any unit operating hour in which any of required parametric data are either not recorded or are invalid. [40 CFR 60.4380(c)]	Other: For the purposes of identifying excess emissions based on data from the continuous parametric monitoring equipment the permittee shall follow procedures described in the parameter monitoring plan developed in accordance with 40 CFR 60.4355(a). [40 CFR 60.4355(a)].	None.	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Semi-annually beginning on the 30th day of the 6th month following initial performance tests. All reports required under 40 CFR 60.7(c) must be postmarked by the 30th day following the end of each 6-moth period. [40 CFR 60.4395]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
71	CSAPR: The permittee shall comply with all the attached requirements of Cross-State Air Pollution Rule (CSAPR) for the CSAPR NOx Annual Trading Program, CSAPR NOx Ozone Season Trading Program, and CSAPR SO2 Group 1 Trading Program applicable to this affected unit. See CSAPR Attachment (appendix I). [40 CFR 97]	Other: See the monitoring requirements in the CSAPR Attachment (Appendix I).[40 CFR 97].	Other: See the recordkeeping requirements in the CSAPR Attachment (Appendix I).[40 CFR 97].	Other (provide description): Other See the submittal requirements in the CSAPR Attachment (Appendix I). [40 CFR 97]
72	The permittee shall comply with all of the requirements of the Phase II Acid Rain Permit issued for this affected unit. [40 CFR 72]	Other: See attached Phase II Acid Rain Permit. (Appendix II).[40 CFR 72].	Other: See attached Phase II Acid Rain Permit. (Appendix II).[40 CFR 72].	Comply with the requirement: As per the approved schedule. See attached Phase II Acid Rain Permit. (Appendix II). [40 CFR 72]

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Emission Unit: U4 GE LMS100 Combustion Turbine

Operating Scenario: OS1 Combustion Turbine - Low Sulfur Light Petroleum Product Fuel Oil Operation

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Opacity <= 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds.</p> <p>NOTE: This requirement applies during all operation of the turbine, including start up and shut down as defined in this permit. [N.J.A.C. 7:27- 3.5]</p>	<p>Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. A certified smoke reader shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>If actual distillate oil operation exceeds 500 hours in any calendar year, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Emission Measurement Section (EMS), within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.</p> <p>If a COMs is installed, Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.19(d)3]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	<p>Opacity \leq 10 %. Visible emissions from stationary combustion turbines shall not exceed 10% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds.</p> <p>NOTE: This requirement applies during all operation of the turbine, except during start up and shut down as defined in this permit. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. A certified smoke reader shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>If actual distillate oil operation exceeds 500 hours in any calendar year, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Emission Measurement Section (EMS), within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.</p> <p>If a COMs is installed, Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.19(d)3]</p>
3	<p>Particulate Emissions \leq 94.4 lb/hr. Particulate emission limit from the combustion of distillate oil based on rated heat input of 944 MMBtu/hr. [N.J.A.C. 7:27- 4.2(a)]</p>	<p>Particulate Emissions: Monitored by stack emission testing prior to permit expiration date, based on each of three Department validated stack test runs. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Particulate Emissions: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]</p>
4	<p>Sulfur Content in Fuel \leq 15 ppmw (0.0015 % by weight). Maximum allowable sulfur content in No. 2 and lighter fuel oil.</p> <p>NOTE: This requirement is effective on and after July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]</p>	<p>Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]</p>	<p>None.</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	Fuel stored in New Jersey that met the applicable maximum sulfur content standard of Tables 1A or 1B of N.J.A.C. 7:27-9.2 at the time it was stored in New Jersey may be used in New Jersey after the operative date of the applicable standard in 1B. [N.J.A.C. 7:27- 9.2(b)]	None.	None.	None.
6	Sulfur Content in Fuel <= 15 ppmw (0.0015% by weight). Maximum allowable sulfur content in Low Sulfur Light Petroleum Product (LSLPP), from permit application BOP070001. [N.J.A.C. 7:27-22.16(a)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
7	NOx (Total) <= 1.6 lb/MW-hr. NOx RACT emission limit applies during all periods of distillate fuel oil combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]
8	NOx (Total) <= 1.6 lb/MW-hr. NOx RACT emission limit applies during all periods of distillate fuel oil combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	<p>NOx (Total) \leq 1 lb/MW-hr. NOx RACT emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below), during which net useful energy is being produced by the turbine. This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-19.5(g)2]</p>	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]</p>
10	<p>NOx (Total) \leq 1 lb/MW-hr. NOx RACT emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below), during which net useful energy is being produced by the turbine. This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-19.5(g)2]</p>	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by stack test results upon occurrence of event. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	Turbine fuel limited to Low Sulfur Light Petroleum Product (LSLPP). Sulfur content of the LSLPP must comply with permit requirements elsewhere in this permit. [N.J.A.C. 7:27-22.16(a)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing materials delivered. [N.J.A.C. 7:27-22.16(o)]	None.
12	Maximum Gross Heat Input \leq 944 MMBTU/hr (HHV) while firing Low Sulfur Light Petroleum Product (LSLPP). Based on manufacturer's data at 50 degrees Fahrenheit. [N.J.A.C. 7:27-22.16(a)]	Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously. [N.J.A.C. 7:27-22.16(o)]	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	None.
13	NOx (Total) \leq 3.5 ppmvd @ 15% O ₂ . Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
14	NOx (Total) \leq 3.5 ppmvd @ 15% O ₂ . Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	NOx (Total) <= 11.7 lb/hr. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
16	NOx (Total) <= 11.7 lb/hr. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
17	CO <= 6 ppmvd @ 15% O2. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
18	CO ≤ 6 ppmvd @ 15% O ₂ . Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
19	CO ≤ 12.2 lb/hr. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
20	CO ≤ 12.2 lb/hr. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
21	VOC (Total) ≤ 5 ppmvd @ 15% O ₂ . This limit includes formaldehyde emissions. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	VOC (Total) <= 4.8 lb/hr. This limit includes formaldehyde emissions. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
23	SO2 <= 1.6 lb/hr. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
24	TSP <= 30 lb/hr. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
25	PM-10 (Total) <= 30 lb/hr. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
26	Ammonia <= 10 ppmvd @ 15% O2. Maximum emission rate while combusting LSLPP, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by ammonia flow metering device continuously. See "Ammonia Flow Rate to SCR" in OS Summary. [N.J.A.C. 7:27-22.16(o)].	Ammonia: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously See "Ammonia Flow Rate to SCR" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
27	Arsenic Emissions <= 0.0104 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (944 MMBtu/hr) and AP-42 emission factor (1.1E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
28	Benzene <= 0.0519 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (944 MMBtu/hr) and AP-42 emission factor (5.5E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
29	Butadiene (1,3-) <= 0.0151 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (944 MMBtu/hr) and AP-42 emission factor (1.6E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
30	Cadmium Emissions <= 0.00453 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (944 MMBtu/hr) and AP-42 emission factor (4.8E-6 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
31	Formaldehyde <= 0.264 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (944 MMBtu/hr) and AP-42 emission factor (2.8E-4 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
32	Pb <= 0.0132 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (944 MMBtu/hr) and AP-42 emission factor (1.4E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
33	Manganese Emissions <= 0.746 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (944 MMBtu/hr) and AP-42 emission factor (7.9E-4 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
34	Mercury Emissions <= 0.00113 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (944 MMBtu/hr) and AP-42 emission factor (1.2E-6 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
35	Selenium Emissions <= 0.0236 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (944 MMBtu/hr) and AP-42 emission factor (2.5E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
36	NOx (Total) <= 42 ppmvd @ 15% O2. This limit applies to a turbine that has heat input at peak load greater than 850 MMBtu/hr (HHV) firing fuels other than natural gas and commenced construction, modification or reconstruction after February 18, 2005. [40 CFR 60.4320(a)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NOx diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NOx measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NOx (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
37	NO _x (Total) <= 96 ppmvd @ 15% O ₂ . This limit applies to a turbine that has output greater than 30 MW which is operating at less than 75 percent of peak load or at temperatures less than 0 degrees F. [40 CFR 60.4320(a)]	NO _x (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NO _x diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NO _x measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO _x (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]
38	If a turbine burns both natural gas and distillate oil (or some other combination of fuels) and total heat input is greater than or equal to 50 percent distillate oil and fuels other than natural gas this turbine is subject to the corresponding limit for a distillate oil and fuels other than natural gas for the duration of the time the turbine burns that particular fuel. [40 CFR 60.4325]	None.	None.	None.
39	SO ₂ <= 0.06 lb/MMBTU. No owner or operator shall burn any fuel which contains total potential sulfur emissions in excess of specified limit. If the turbine simultaneously fires multiple fuels, each fuel must meet this requirement. [40 CFR 60.4330(a)(2)]	SO ₂ : Monitored by grab sampling annually. Test methods and procedures shall be consistent with 40 CFR 60.4415(a)(1). The fuel analyses may be performed by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.4360]	None.	Submit a report: As per the approved schedule. The permittee shall furnish the Administrator and NJDEP a written report of the results of fuel analyses. The permittee shall demonstrate that the potential sulfur emissions from each type of fuel do not exceed potential sulfur emissions of 0.060 lb SO ₂ per MMBtu heat input. [40 CFR 60.8(a)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
40	The owner or operator may elect not to monitor the total sulfur content of the fuel combusted in the turbine if the fuel is demonstrated not to exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu heat input for units located in continental areas. [40 CFR 60.4365]	Other: The required demonstration that the total sulfur content of the fuel does not exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu shall be made using a current valid purchase contract, tariff sheet or transportation contract specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365(a)].	Recordkeeping by fuel certification receipts at the approved frequency. The owner or operator shall keep copies of valid purchase contracts, tariff sheets or transportation contracts specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365]	Demonstrate compliance: Once initially. The owner or operator shall submit the required determination to the Administrator using the sources of information described in 40 CFR 60.4365(a) showing the maximum total sulfur content for continental areas for oil use at 0.05 weight percent or less and for natural gas at 20 grains of sulfur or less per 100 standard cubic feet or to demonstrate that fuel has potential sulfur emissions of less than 0.060 lb SO ₂ /MMBtu heat input. [40 CFR 60.4365(a)]

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Emission Unit: U4 GE LMS100 Combustion Turbine

Operating Scenario: OS2 Combustion Turbine - Oil Fired Start-Up or Shut Down

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Start-up Period <= 30 minutes.</p> <p>Startup commences with initiation of the combustion of fuel in the combustion turbine and concludes when the turbine reaches steady state operation at 100% (or greater) of design capacity, or when combustion is ceased prior to attaining steady state operation (for instance, if start-up is abandoned due to equipment malfunction).</p> <p>The duration of start-up shall not exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Start-up Period: Monitored by hour/time monitor upon occurrence of event and by load meter upon occurrence of event.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Start-up Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. Records shall show start-up start time, start-up end time, date, total start-up duration and name of operator making the entry. [N.J.A.C. 7:27-22.16(o)]</p>	None.
2	<p>Shutdown Period <= 30 minutes.</p> <p>Shutdown commences with initiation of lowering turbine power output, with the intent to cease generation of electrical power output, and concludes with the cessation of the combustion turbine operation.</p> <p>The duration of shut down, shall not exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Shutdown Period: Monitored by hour/time monitor upon occurrence of event.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Shutdown Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. Records shall show shut down start time, shut down end time, date, total shut down duration and name of operator making the entry. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>Opacity \leq 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds.</p> <p>NOTE: This requirement applies during all operation of the turbine, including start up and shut down as defined in this permit. [N.J.A.C. 7:27- 3.5]</p>	<p>Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. A certified smoke reader shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>If actual distillate oil operation exceeds 500 hours in any calendar year, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Emission Measurement Section (EMS), within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.</p> <p>If a COMs is installed, Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.19(d)3]</p>
4	<p>Particulate Emissions \leq 94.4 lb/hr. Particulate emission limit from the combustion of LSLPP based on rated heat input of 944 MMBtu/hr. [N.J.A.C. 7:27-4.2(a)]</p>	None.	None.	None.
5	<p>Sulfur Content in Fuel \leq 15 ppmw (0.0015 % by weight). Maximum allowable sulfur content in No. 2 and lighter fuel oil.</p> <p>NOTE: This requirement is effective on and after July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]</p>	<p>Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	Fuel stored in New Jersey that met the applicable maximum sulfur content standard of Tables 1A or 1B of N.J.A.C. 7:27-9.2 at the time it was stored in New Jersey may be used in New Jersey after the operative date of the applicable standard in 1B. [N.J.A.C. 7:27- 9.2(b)]	None.	None.	None.
7	Sulfur Content in Fuel <= 0.0015 % by weight. Maximum allowable sulfur content in Low Sulfur Light Petroleum Product (LSLPP) from BOP070001. [N.J.A.C. 7:27-22.16(a)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
8	NOx (Total) <= 1.6 lb/MW-hr. NOx RACT emission limit applies during all periods of distillate fuel oil combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	<p>NOx (Total) \leq 1 lb/MW-hr. NOx RACT emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below), during which net useful energy is being produced by the turbine. This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-19.5(g)2]</p>	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]</p>
10	Turbine fuel limited to Low Sulfur Light Petroleum Product (LSLPP) from BOP070001. Sulfur content must comply with permit requirements elsewhere in this permit. [N.J.A.C. 7:27-22.16(a)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing materials delivered. [N.J.A.C. 7:27-22.16(e)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	NOx (Total) <= 42 ppmvd @ 15% O2. This limit applies to a turbine that has heat input at peak load greater than 850 MMBtu/hr (HHV) firing fuels other than natural gas and commenced construction, modification or reconstruction after February 18, 2005. [40 CFR 60.4320(a)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NOx diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NOx measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NOx (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	NO _x (Total) <= 96 ppmvd @ 15% O ₂ . This limit applies to a turbine that has output greater than 30 MW which is operating at less than 75 percent of peak load or at temperatures less than 0 degrees F. [40 CFR 60.4320(a)]	NO _x (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NO _x diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NO _x measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO _x (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]
13	If a turbine burns both natural gas and distillate oil (or some other combination of fuels) and total heat input is greater than or equal to 50 percent distillate oil and fuels other than natural gas this turbine is subject to the corresponding limit for a distillate oil and fuels other than natural gas for the duration of the time the turbine burns that particular fuel. [40 CFR 60.4325]	None.	None.	None.
14	SO ₂ <= 0.06 lb/MMBTU. No owner or operator shall burn any fuel which contains total potential sulfur emissions in excess of specified limit. If the turbine simultaneously fires multiple fuels, each fuel must meet this requirement. [40 CFR 60.4330(a)(2)]	SO ₂ : Monitored by grab sampling annually. Test methods and procedures shall be consistent with 40 CFR 60.4415(a)(1). The fuel analyses may be performed by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.4360]	None.	Submit a report: As per the approved schedule. The permittee shall furnish the Administrator and NJDEP a written report of the results of fuel analyses. The permittee shall demonstrate that the potential sulfur emissions from each type of fuel do not exceed potential sulfur emissions of 0.060 lb SO ₂ per MMBtu heat input. [40 CFR 60.8(a)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	The owner or operator may elect not to monitor the total sulfur content of the fuel combusted in the turbine if the fuel is demonstrated not to exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu heat input for units located in continental areas. [40 CFR 60.4365]	Other: The required demonstration that the total sulfur content of the fuel does not exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu shall be made using a current valid purchase contract, tariff sheet or transportation contract specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365(a)].	Recordkeeping by fuel certification receipts at the approved frequency. The owner or operator shall keep copies of valid purchase contracts, tariff sheets or transportation contracts specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365]	Demonstrate compliance: Once initially. The owner or operator shall submit the required determination to the Administrator using the sources of information described in 40 CFR 60.4365(a) showing the maximum total sulfur content for continental areas for oil use at 0.05 weight percent or less and for natural gas at 20 grains of sulfur or less per 100 standard cubic feet or to demonstrate that fuel has potential sulfur emissions of less than 0.060 lb SO ₂ /MMBtu heat input. [40 CFR 60.4365(a)]

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Emission Unit: U4 GE LMS100 Combustion Turbine

Operating Scenario: OS3 Combustion Turbine - Natural Gas Operation

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. NOTE: This requirement applies during all operation of the turbine, including start up and shut down. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Opacity <= 10 %. Visible emissions from stationary combustion turbines shall not exceed 10% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. NOTE: This requirement applies during all operation of the turbine, except during start up and shut down. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	Particulate Emissions <= 94.6 lb/hr. Particulate emission limit from the combustion of natural gas based on rated heat input of 946 MMBtu/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	NOx (Total) <= 1 lb/MW-hr. NOx RACT emission limit applies during all periods of natural gas combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
5	NOx (Total) <= 1 lb/MW-hr. NOx RACT emission limit applies during all periods of natural gas combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	Turbine fuel limited to natural gas. [N.J.A.C. 7:27-22.16(a)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery. [N.J.A.C. 7:27-22.16(o)]	None.
7	Maximum Gross Heat Input <= 946 MMBTU/hr (HHV) while firing natural gas. Based on manufacturers data at 70 degrees Fahrenheit. [N.J.A.C. 7:27-22.16(a)]	Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously. [N.J.A.C. 7:27-22.16(o)]	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(a)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	NOx (Total) <= 2.5 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
9	NOx (Total) <= 2.5 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
10	NOx (Total) <= 8.2 lb/hr. Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	NO _x (Total) ≤ 8.2 lb/hr. Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	NO _x (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
12	CO ≤ 6 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
13	CO ≤ 6 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	CO <= 11.9 lb/hr. Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
15	CO <= 11.9 lb/hr. Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Gaseous Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
16	VOC (Total) <= 3.2 ppmvd @ 15% O ₂ . This limit includes formaldehyde emissions. Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
17	VOC (Total) <= 3 lb/hr. This limit includes formaldehyde emissions. Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
18	SO ₂ <= 2.7 lb/hr. Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
19	TSP <= 9.3 lb/hr. Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
20	PM-10 (Total) <= 9.3 lb/hr. Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results prior to permit expiration date. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See "Renewal Stack Test for Particulate Emissions" in OS Summary. [N.J.A.C. 7:27-22.16(o)]
21	Ammonia <= 5 ppmvd @ 15% O ₂ . Maximum emission rate while combusting natural gas, from BOP070001. [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by ammonia flow metering device continuously. See "Ammonia Flow Rate to SCR" in OS Summary. [N.J.A.C. 7:27-22.16(o)].	Ammonia: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously See "Ammonia Flow Rate to SCR" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
22	Acrolein <= 0.00605 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (946 MMBtu/hr) and AP-42 emission factor (6.4E-6 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
23	Benzene <= 0.0114 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (946 MMBtu/hr) and AP-42 emission factor (1.2E-5 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
24	Formaldehyde <= 0.672 lb/hr. Maximum emission rate from BOP120001. Based on maximum heat input (946 MMBtu/hr) and AP-42 emission factor (7.10E-4 lb/MMBtu). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
25	NO _x (Total) ≤ 15 ppmvd @ 15% O ₂ . This limit applies to a turbine that has heat input at peak load greater than 850 MMBtu/hr (HHV) firing natural gas and commenced construction, modification or reconstruction after February 18, 2005. [40 CFR 60.4320(a)]	NO _x (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NO _x diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NO _x measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO _x (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	NO _x (Total) ≤ 96 ppmvd @ 15% O ₂ . This limit applies to a turbine that has output greater than 30 MW which is operating at less than 75 percent of peak load or at temperatures less than 0 degrees F. [40 CFR 60.4320(a)]	NO _x (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NO _x diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NO _x measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO _x (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]
27	If a turbine burns both natural gas and distillate oil (or some other combination of fuels) and total heat input is greater than or equal to 50 percent natural gas this turbine is subject to the corresponding limit for a natural gas-fired turbine for the duration of the time the turbine burns that particular fuel. [40 CFR 60.4325]	None.	None.	None.
28	SO ₂ ≤ 0.06 lb/MMBTU. No owner or operator shall burn any fuel which contains total potential sulfur emissions in excess of specified limit. If the turbine simultaneously fires multiple fuels, each fuel must meet this requirement. [40 CFR 60.4330(a)(2)]	SO ₂ : Monitored by grab sampling annually. Test methods and procedures shall be consistent with 40 CFR 60.4415(a)(1). The fuel analyses may be performed by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.4360]	None.	Submit a report: As per the approved schedule. The permittee shall furnish the Administrator and NJDEP a written report of the results of fuel analyses. The permittee shall demonstrate that the potential sulfur emissions from each type of fuel do not exceed potential sulfur emissions of 0.060 lb SO ₂ per MMBtu heat input. [40 CFR 60.8(a)]

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
29	The owner or operator may elect not to monitor the total sulfur content of the fuel combusted in the turbine if the fuel is demonstrated not to exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu heat input for units located in continental areas. [40 CFR 60.4365]	Other: The required demonstration that the total sulfur content of the fuel does not exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu shall be made using a current valid purchase contract, tariff sheet or transportation contract specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365(a)].	Recordkeeping by fuel certification receipts at the approved frequency. The owner or operator shall keep copies of valid purchase contracts, tariff sheets or transportation contracts specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365]	Demonstrate compliance: Once initially. The owner or operator shall submit the required determination to the Administrator using the sources of information described in 40 CFR 60.4365(a) showing the maximum total sulfur content for continental areas for oil use at 0.05 weight percent or less and for natural gas at 20 grains of sulfur or less per 100 standard cubic feet or to demonstrate that fuel has potential sulfur emissions of less than 0.060 lb SO ₂ /MMBtu heat input. [40 CFR 60.4365(a)]

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Emission Unit: U4 GE LMS100 Combustion Turbine

Operating Scenario: OS4 Combustion Turbine - Natural Gas Fired Start-Up or Shut Down

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Start-up Period <= 30 minutes.</p> <p>Startup commences with initiation of the combustion of fuel in the combustion turbine and concludes when the turbine reaches steady state operation at 100% (or greater) of design capacity, or when combustion is ceased prior to attaining steady state operation (for instance, if start-up is abandoned due to equipment malfunction).</p> <p>The duration of start-up shall not exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Start-up Period: Monitored by hour/time monitor upon occurrence of event.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Start-up Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. Records shall show start-up start time, start-up end time, date, total start-up duration and name of operator making the entry. [N.J.A.C. 7:27-22.16(o)]</p>	None.
2	<p>Shutdown Period <= 30 minutes.</p> <p>Shutdown commences with initiation of lowering turbine power output, with the intent to cease generation of electrical power output, and concludes with the cessation of the combustion turbine operation.</p> <p>The duration of shut down, shall not exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Shutdown Period: Monitored by hour/time monitor upon occurrence of event.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Shutdown Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. Records shall show shut down start time, shut down end time, date, total shut down duration and name of operator making the entry. [N.J.A.C. 7:27-22.16(o)]</p>	None.
3	<p>Opacity <= 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds.</p> <p>NOTE: This requirement applies during all operation of the turbine, including start up and shut down as defined in this permit. [N.J.A.C. 7:27- 3.5]</p>	None.	None.	None.

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	Particulate Emissions \leq 94.6 lb/hr. Particulate emission limit from the combustion of natural gas based on rated heat input of 946 MMBtu/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
5	NOx (Total) \leq 1 lb/MW-hr. NOx RACT emission limit applies during all periods of natural gas combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	Turbine fuel limited to natural gas based BOP070001. [N.J.A.C. 7:27-22.16(a)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing materials delivered. [N.J.A.C. 7:27-22.16(e)]	None.

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	NO _x (Total) ≤ 15 ppmvd @ 15% O ₂ . This limit applies to a turbine that has heat input at peak load greater than 850 MMBtu/hr (HHV) firing natural gas and commenced construction, modification or reconstruction after February 18, 2005. [40 CFR 60.4320(a)]	NO _x (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NO _x diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NO _x measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO _x (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	NO _x (Total) ≤ 96 ppmvd @ 15% O ₂ . This limit applies to a turbine that has output greater than 30 MW which is operating at less than 75 percent of peak load or at temperatures less than 0 degrees F. [40 CFR 60.4320(a)]	NO _x (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NO _x diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NO _x measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO _x (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]
9	If a turbine burns both natural gas and distillate oil (or some other combination of fuels) and total heat input is greater than or equal to 50 percent natural gas this turbine is subject to the corresponding limit for a natural gas-fired turbine for the duration of the time the turbine burns that particular fuel. [40 CFR 60.4325]	None.	None.	None.
10	SO ₂ ≤ 0.06 lb/MMBTU. No owner or operator shall burn any fuel which contains total potential sulfur emissions in excess of specified limit. If the turbine simultaneously fires multiple fuels, each fuel must meet this requirement. [40 CFR 60.4330(a)(2)]	SO ₂ : Monitored by grab sampling annually. Test methods and procedures shall be consistent with 40 CFR 60.4415(a)(1). The fuel analyses may be performed by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.4360]	None.	Submit a report: As per the approved schedule. The permittee shall furnish the Administrator and NJDEP a written report of the results of fuel analyses. The permittee shall demonstrate that the potential sulfur emissions from each type of fuel do not exceed potential sulfur emissions of 0.060 lb SO ₂ per MMBtu heat input. [40 CFR 60.8(a)]

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	The owner or operator may elect not to monitor the total sulfur content of the fuel combusted in the turbine if the fuel is demonstrated not to exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu heat input for units located in continental areas. [40 CFR 60.4365]	Other: The required demonstration that the total sulfur content of the fuel does not exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu shall be made using a current valid purchase contract, tariff sheet or transportation contract specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365(a)].	Recordkeeping by fuel certification receipts at the approved frequency. The owner or operator shall keep copies of valid purchase contracts, tariff sheets or transportation contracts specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365]	Demonstrate compliance: Once initially. The owner or operator shall submit the required determination to the Administrator using the sources of information described in 40 CFR 60.4365(a) showing the maximum total sulfur content for continental areas for oil use at 0.05 weight percent or less and for natural gas at 20 grains of sulfur or less per 100 standard cubic feet or to demonstrate that fuel has potential sulfur emissions of less than 0.060 lb SO ₂ /MMBtu heat input. [40 CFR 60.4365(a)]

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New Jersey Department of Environmental Protection Facility Specific Requirements

Emission Unit: U4 GE LMS100 Combustion Turbine

Operating Scenario: OS5 Combustion Turbine - Fuel Transfer

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Fuel Transfer Period <= 30 minutes.</p> <p>The fuel transfer period commences when the fuel combusted is switched from natural gas to LSLPP fuel or from LSLPP fuel to natural gas and concludes when the turbine combusts the new fuel entirely.</p> <p>The duration of fuel transfer, shall not exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Fuel Transfer Period: Monitored by hour/time monitor upon occurrence of event.</p> <p>The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications.</p> <p>The monitor shall be ranged such that the allowable value is approximately mid-scale of the full range current / voltage output. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Fuel Transfer Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. Records shall show fuel transfer start time, fuel transfer end time, date, total fuel transfer duration and name of operator making the entry. [N.J.A.C. 7:27-22.16(o)]</p>	None.
2	<p>Opacity <= 20 %. Visible emissions from stationary combustion turbines shall not exceed 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds.</p> <p>NOTE: This requirement applies during all operation of the turbine, including start up and shut down as defined in this permit. [N.J.A.C. 7:27- 3.5]</p>	<p>Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. A certified smoke reader shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]</p>	<p>If actual distillate oil operation exceeds 500 hours in any calendar year, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Emission Measurement Section (EMS), within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.</p> <p>If a COMs is installed, Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.19(d)3]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	Particulate Emissions \leq 94.6 lb/hr. Particulate emission limit from the combustion of natural gas based on rated heat input of 946 MMBtu/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
4	Sulfur Content in Fuel \leq 15 ppmw (0.0015 % by weight). Maximum allowable sulfur content in No. 2 and lighter fuel oil. NOTE: This requirement is effective on and after July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
5	Fuel stored in New Jersey that met the applicable maximum sulfur content standard of Tables 1A or 1B of N.J.A.C. 7:27-9.2 at the time it was stored in New Jersey may be used in New Jersey after the operative date of the applicable standard in 1B. [N.J.A.C. 7:27- 9.2(b)]	None.	None.	None.
6	Sulfur Content in Fuel \leq 0.0015 % by weight. Maximum allowable sulfur content in Low Sulfur Light Petroleum Product (LSLPP) from BOP070001. [N.J.A.C. 7:27-22.16(a)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
7	NOx (Total) \leq 1.6 lb/MW-hr. NOx RACT emission limit applies during all periods of distillate fuel oil combustion during which net useful energy is being produced by the turbine. [N.J.A.C. 7:27-19.5(g)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred. See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	<p>NOx (Total) \leq 1 lb/MW-hr. NOx RACT emission limit applies during all periods of turbine operation on High Electric Demand Days (as defined below), during which net useful energy is being produced by the turbine. This emission limit applies regardless of the fuel combusted, unless combusting natural gas is not possible due to gas curtailment.</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-19.5(g)2]</p>	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-19.15(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See "Continuous Emission Monitoring" in OS Summary. [N.J.A.C. 7:27-22.16(o)]	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal starting with the quarter in which the Performance Specification Test was conducted, for review and approval. Quarterly EEMPR reports shall include all quarterly and annual QA data. This report shall be submitted whether or not an emission exceedance has occurred.</p> <p>See CEMS and QA/QC requirements in OS Summary. [N.J.A.C. 7:27-22.19(d)]</p>
9	Turbine fuel limited to a mixture of natural gas and Low Sulfur Light Petroleum Product (LSLPP). LSLPP sulfur content must comply with permit requirements elsewhere in this permit. [N.J.A.C. 7:27-22.16(a)]	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing materials delivered. [N.J.A.C. 7:27-22.16(e)]	None.

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	NOx (Total) <= 42 ppmvd @ 15% O2. This limit applies to a turbine that has heat input at peak load greater than 850 MMBtu/hr (HHV) firing fuels other than natural gas and commenced construction, modification or reconstruction after February 18, 2005. [40 CFR 60.4320(a)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NOx diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NOx measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NOx (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]

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**New Jersey Department of Environmental Protection
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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	NOx (Total) <= 15 ppmvd @ 15% O2. This limit applies to a turbine that has heat input at peak load greater than 850 MMBtu/hr (HHV) firing natural gas and commenced construction, modification or reconstruction after February 18, 2005. [40 CFR 60.4320(a)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NOx diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NOx measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NOx (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	NOx (Total) <= 96 ppmvd @ 15% O ₂ . This limit applies to a turbine that has output greater than 30 MW which is operating at less than 75 percent of peak load or at temperatures less than 0 degrees F. [40 CFR 60.4320(a)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The owner or operator shall conduct an initial performance test as required in 40 CFR 60.8. The subsequent testing shall only be conducted if choosing to comply with 40 CFR 60.4340(a). Test methods and procedures shall be consistent with the requirements of 40 CFR 60.4400 or, if a NOx diluent CEMS is installed, consistent with 40 CFR 60.4405. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Alternatively, the testing might be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. For turbines with supplemental duct burner NOx measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NOx (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400]	Submit a report: As per the approved schedule. The owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. [40 CFR 60.4375(b)]
13	If a turbine burns both natural gas and distillate oil (or some other combination of fuels) and total heat input is greater than or equal to 50 percent distillate oil and fuels other than natural gas this turbine is subject to the corresponding limit for a distillate oil and fuels other than natural gas for the duration of the time the turbine burns that particular fuel. [40 CFR 60.4325]	None.	None.	None.
14	If a turbine burns both natural gas and distillate oil (or some other combination of fuels) and total heat input is greater than or equal to 50 percent natural gas this turbine is subject to the corresponding limit for a natural gas-fired turbine for the duration of the time the turbine burns that particular fuel. [40 CFR 60.4325]	None.	None.	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	SO ₂ ≤ 0.06 lb/MMBTU. No owner or operator shall burn any fuel which contains total potential sulfur emissions in excess of specified limit. If the turbine simultaneously fires multiple fuels, each fuel must meet this requirement. [40 CFR 60.4330(a)(2)]	SO ₂ : Monitored by grab sampling annually. Test methods and procedures shall be consistent with 40 CFR 60.4415(a)(1). The fuel analyses may be performed by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.4360]	None.	Submit a report: As per the approved schedule. The permittee shall furnish the Administrator and NJDEP a written report of the results of fuel analyses. The permittee shall demonstrate that the potential sulfur emissions from each type of fuel do not exceed potential sulfur emissions of 0.060 lb SO ₂ per MMBtu heat input. [40 CFR 60.8(a)]
16	The owner or operator may elect not to monitor the total sulfur content of the fuel combusted in the turbine if the fuel is demonstrated not to exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu heat input for units located in continental areas. [40 CFR 60.4365]	Other: The required demonstration that the total sulfur content of the fuel does not exceed potential sulfur emissions of 0.060 lb SO ₂ /MMBtu shall be made using a current valid purchase contract, tariff sheet or transportation contract specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365(a)].	Recordkeeping by fuel certification receipts at the approved frequency. The owner or operator shall keep copies of valid purchase contracts, tariff sheets or transportation contracts specifying that in continental areas the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw) and for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet. [40 CFR 60.4365]	Demonstrate compliance: Once initially. The owner or operator shall submit the required determination to the Administrator using the sources of information described in 40 CFR 60.4365(a) showing the maximum total sulfur content for continental areas for oil use at 0.05 weight percent or less and for natural gas at 20 grains of sulfur or less per 100 standard cubic feet or to demonstrate that fuel has potential sulfur emissions of less than 0.060 lb SO ₂ /MMBtu heat input. [40 CFR 60.4365(a)]

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Emission Unit: U6 (EG-003-4) Emergency Generator, 2500 kW

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Summary of Applicable Federal Regulations: 40 CFR 60 Subpart A 40 CFR 60 Subpart III [None]	None.	None.	None.
2	The owner or operator shall comply with all conditions contained in the document "General Procedures for General Operating Permits", posted at http://www.nj.gov/dep/aqpp . [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	Opacity <= 20 % , exclusive of visible condensed water vapor, except for a period of not longer than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
4	Particulate emission limit from the combustion of fuel based on the rated heat input of source. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
5	Maximum allowable sulfur content in fuel oil by fuel type/viscosity and geographical zone. [N.J.A.C. 7:27- 9.2(b)]	Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
6	Sulfur Content in Fuel <= 0.0015 % by weight. Maximum allowable sulfur content in No. 2 fuel oil, diesel fuel or kerosene shall be no more than 15 ppm (0.0015% by wt.). [N.J.A.C. 7:27-22.16(a)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery showing sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
7	The owner or operator shall keep records of engine manufacturer data for the life of the equipment showing the rated Maximum Gross Heat Input, Maximum Rated Power Output, Model Year and Displacement. [N.J.A.C. 7:27-22.16(a)]	None.	Other: The owner or operator shall keep records of engine manufacturer data for the life of the equipment showing the rated Maximum Gross Heat Input, Maximum Rated Power Output, Model Year and Displacement. [N.J.A.C. 7:27-22.16(o)].	None.
8	Generator fuel limited to No. 2 fuel oil, diesel fuel or kerosene. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	<p>The emergency generator shall be located at the facility and produce mechanical or thermal energy, or electrical power exclusively for use at the facility. This emergency generator shall be operated only:</p> <ol style="list-style-type: none"> 1. During the performance of normal testing and maintenance procedures, as recommended in writing by the manufacturer and/or as required in writing by a Federal or State law or regulation, 2. When there is power outage or the primary source of mechanical or thermal energy fails because of an emergency, or 3. When there is a voltage reduction issued by PJM and posted on the PJM internet website (www.pjm.com) under the "emergency procedures" menu. [N.J.A.C. 7:27-19.1] 	<p>Monitored by hour/time monitor continuously.</p> <p>In addition, the owner or operator shall monitor, once per month, the total operating time from the generator's hour meter; hours of operation for emergency use; hours of operation for testing and maintenance; and the total fuel usage calculated by the following:</p> <p>Fuel Usage (Gallons per month) = (Hours of operation per month) x (Maximum emergency generator fuel usage rate in gallons per hour).</p> <p>Hours of operation for emergency use (per month) = (The monthly total operating time from the generator's hour meter) - (The monthly total operating time for testing or maintenance) [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency. The owner or operator shall maintain on site and record the following information:</p> <ol style="list-style-type: none"> 1. Once per month, the total operating time from the generator's hour meter, the fuel usage (gallons per month) and the hours of operation for emergency use (per month). Document if the emergency use was due to internal or external loss of primary source of energy. If internal loss at the facility, document the emergency that occurred, the damages to the primary source of energy and the amount of time needed for repairs. 2. For each time the emergency generator is specifically operated for testing or maintenance: <ol style="list-style-type: none"> i. The reason for its operation; ii. The date(s) of operation and the start up and shut down time; iii. The total operating time for testing or maintenance based on the generator's hour meter; and iv. The name of the operator; and 3. If a voltage reduction is the reason for the use of the emergency generator, a copy of the voltage reduction notification from PJM or other documentation of the voltage reduction. <p>The owner or operator of an emergency generator shall maintain the above records for a period no less than 5 years after the record was made and shall make the records readily available to the Department or the EPA upon request. [N.J.A.C. 7:27-22.16(o)] and [N.J.A.C. 7:27-19.11]</p>	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	<p>This emergency generator shall not be used:</p> <p>1. For normal testing and maintenance on days when the Department forecasts air quality anywhere in New Jersey to be "unhealthy for sensitive groups," "unhealthy," or "very unhealthy" as defined in the EPA's Air Quality Index at http://airnow.gov/, as supplemented or amended and incorporated herein by reference, unless required in writing by a Federal or State law or regulation. Procedures for determining the air quality forecasts for New Jersey are available at the Department's air quality permitting web site at http://www.state.nj.us/dep/aqpp/aqforecast; and</p> <p>2. As a source of energy or power after the primary energy or power source has become operable again. If the primary energy or power source is under the control of the owner or operator of the emergency generator, the owner or operator shall make a reasonable, timely effort to repair the primary energy or power source. [N.J.A.C. 7:27-19.2(d)]</p>	None.	None.	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	Hours of Operation <= 100 hr/yr for normal testing and maintenance and black start operation. [N.J.A.C. 7:27-22.16(a)]	Hours of Operation: Monitored by hour/time monitor upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]	Hours of Operation: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. The owner or operator shall maintain on site and record the following information: For each time the emergency generator is specifically operated for testing, maintenance or black start operation: i. The reason for its operation; ii. The date(s) of operation and the start up and shut down time; iii. The total operating time for testing, maintenance or black start operation based on the generator's hour meter; and iv. The name of the operator. [N.J.A.C. 7:27-19.11]	None.
12	NOx (Total) <= 2.56 tons/yr from General Operating Permit application, based on 100 hr/yr of operation for testing and maintenance. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
13	CO <= 0.304 tons/yr from General Operating Permit application, based on 100 hr/yr of operation for testing and maintenance. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
14	VOC (Total) <= 0.0561 tons/yr. This limit includes formaldehyde emissions. From General Operating Permit application, based on 100 hr/yr of operation for testing and maintenance. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
15	TSP <= 0.02 tons/yr from General Operating Permit application, based on 100 hr/yr of operation for testing and maintenance. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
16	PM-10 (Total) <= 0.02 tons/yr from General Operating Permit application, based on 100 hr/yr of operation for testing and maintenance. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	The owner or operator shall submit an annual statement certified in accordance with N.J.A.C. 7:27-1.39 and signed by the responsible official, as defined at N.J.A.C. 7:27-1.4. The Responsible Official shall certify annually that the emergency generator is operated as defined in this permit. [N.J.A.C. 7:27-22.1]	None.	None.	None.
18	All requests, reports, applications, submittals, and other communications to the Administrator pursuant to Part 60 shall be submitted in duplicate to the Regional Office of US Environmental Protection Agency. Submit information to: Director, Division of Enforcement & Compliance Assistance, US EPA, Region 2, 290 Broadway, New York, NY 10007-1866 (NSPS Subpart A). [40 CFR 60.4(a)]	None.	None.	Submit a report: As per the approved schedule to EPA Region 2 as required by 40 CFR 60. [40 CFR 60.4(a)]
19	Copies of all information submitted to EPA pursuant to 40 CFR Part 60, must also be submitted to the appropriate Regional Enforcement Office of NJDEP (NSPS Subpart A). [40 CFR 60.4(b)]	None.	None.	Submit a report: As per the approved schedule to the appropriate Regional Enforcement Office of NJDEP as required by 40 CFR 60. [40 CFR 60.4(b)]
20	No owner or operator subject to NSPS standards in Part 60, shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere (NSPS Subpart A). [40 CFR 60.12]	None.	None.	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	The owner or operator shall notify the Administrator of the proposed replacement of components (NSPS Subpart A). [40 CFR 60.15]	None.	None.	Submit notification: At a common schedule agreed upon by the operator and the Administrator. The notification shall include information listed under 40 CFR Part 60.15(d). The notification shall be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced. [40 CFR 60.15(d)]
22	Changes in time periods for submittal of information and postmark deadlines set forth in this subpart, may be made only upon approval by the Administrator and shall follow procedures outlined in 40 CFR Part 60.19 (NSPS Subpart A). [40 CFR 60.19]	None.	None.	None.
23	Owners and operators of stationary CI internal combustion engines must operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4204 and 60.4205 over the entire life of the engine. [40 CFR 60.4206]	None.	Other: The owner or operator shall keep the manufacturer's emission-related written instructions over the entire life of the engine. [40 CFR 60.4206].	None.
24	Beginning October 1, 2010, the CI internal combustion engines with a displacement of less than 30 liters per cylinder subject to NSPS IIII (manufactured after April 1, 2006 or modified or reconstructed after July 11, 2005) that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) that contains the following per gallon standards: 15 ppm (0.0015 percent) maximum sulfur content and either a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR 60.4207(b)]	Monitored by review of fuel delivery records once per bulk fuel shipment. For each diesel delivery received, the owner or operator shall review written documentation of the delivery to ensure the maximum allowable fuel oil sulfur content and either a minimum cetane index or a maximum aromatic content is not being exceeded. Such written documentation can include, but is not limited to: bill of lading, delivery invoice, certificate of analysis. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by invoices / bills of lading / certificate of analysis once per bulk fuel shipment. The owner or operator shall keep records of fuel showing oil sulfur content and either a minimum cetane index or a maximum aromatic content for each delivery received. All records must be maintained for a minimum of 2 years following the date of such records per 40 CFR 60.7(f). [N.J.A.C. 7:27-22.16(o)]	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
25	The owner or operator that must comply with the emission standards specified in NSPS IIII must operate and maintain the stationary CI internal combustion engine and control device, except as permitted under 40 CFR 60.4211(g), according to the manufacturer's emission-related written instructions. In addition, owners and operators may only change emission-related settings that are permitted by the manufacturer. The owner or operator must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable (NSPS Subpart IIII). [40 CFR 60.4211(a)]	None.	Other: The owner or operator shall keep the manufacturer's emission-related written instructions. [40 CFR 60.4211].	None.
26	Emergency generators may be operated for the purpose of maintenance checks and readiness testing limited to 100 hours per year, provided that those tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year (NSPS Subpart IIII). [40 CFR 60.4211(f)]	Monitored by hour/time monitor continuously. The owner or operator of an emergency stationary internal combustion engine that does not meet the standards applicable to non-emergency engines must install a non-resettable hour meter prior to startup of the engine. [40 CFR 60.4209(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. The owner or operator must record the time of operation of the emergency engine and the reason the engine was in operation during that time. Starting with the model year 2011, 2012, or 2013, depending on the maximum engine power as provided in Table 5 in NSPS IIII, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter if the emergency engine does not meet the standards in 40 CFR 60.4204, applicable to non-emergency engines, in the applicable model year. The emergency engine must comply with the labeling requirements in 40 CFR 60.4210(f). [40 CFR 60.4214(b)]	None.
27	A new or reconstructed stationary RICE located at an area HAP source must meet the requirements of 40 CFR 63 by meeting the requirements of 40 CFR 60 subpart IIII, for compression ignition engines or 40 CFR 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under 40 CFR 63. (MACT ZZZZ) [40 CFR 63.6590(c)]	Other: Comply with all applicable provisions at NSPS IIII. [40 CFR 63].	Other: Comply with all applicable provisions at NSPS IIII. [40 CFR 63].	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
28	The owner or operator of a 2011 model year and later emergency generator with the maximum engine power > 3,000 HP (> 2,237 kW) and a displacement of < 10 liters per cylinder must comply with the certification emissions standards in 40 CFR 89.112 and smoke standards in 40 CFR 89.113 for the same model year and same maximum engine power as follows: NMHC + NOx ≤ 6.4 g/kW-hr, CO ≤ 3.5 g/kW-hr, PM ≤ 0.2 g/kW-hr, weighted average emissions as defined in 40 CFR 89.404. (NSPS Subpart IIII). [40 CFR 60.4205(b)]	None.	Other: The owner or operator of a 2007 model year or later engine must keep manufacturer certification showing compliance with the applicable emission standards, for the same model year and maximum engine power. [40 CFR 60.4211].	None.
29	The owner or operator of a 2007 model year and later stationary CI internal combustion engine complying with the emission standards specified in 40 CFR 60.4205(b), must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205(b), for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications (NSPS Subpart IIII). [40 CFR 60.4211(c)]	None.	Other: The owner or operator must keep documentation from the manufacturer, for the life of the equipment, that the engine is certified to meet the emission standards as applicable, for the same model year and maximum engine power. If the engine and control device is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or emission-related settings are changed in a way that is not permitted by the manufacturer, the owner or operator must demonstrate compliance as prescribed at 40 CFR 60.4211(g)(1), (2) or (3) depending on the maximum engine power. [40 CFR 60.4211(c)].	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Emission Unit: U6 (EG-003-4) Emergency Generator, 2500 kW

Operating Scenario: OS1 23.77 MMBtu/hr (HHV) Emerg. Gen. (2500 kW) Diesel fuel, 100 hr/yr

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	NO _x (Total) <= 51.1 lb/hr from General Operating Permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
2	CO <= 6.09 lb/hr from General Operating Permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	VOC (Total) <= 1.12 lb/hr. This limit includes formaldehyde emissions. From General Operating Permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	TSP <= 0.401 lb/hr from General Operating Permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	PM-10 (Total) <= 0.401 lb/hr from General Operating Permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): Cumberland Energy Center

Facility ID (AIMS): 75508

Street 4001 EAST MAIN ST
Address: CUMBERLAND ENERGY CTR
4001 East Main Street
MILVILLE, NJ 08332

Mailing CALPINE CORPORATION
Address: 6 HILLMAN DR
STE 201
CHADDS FORD, PA 19317

County: Cumberland
Location RT 49 West of Union Rd.
Description:

State Plane Coordinates:	
X-Coordinate:	1,915,616
Y-Coordinate:	198,459
Units:	Feet
Datum:	NAD27
Source Org.:	Other/Unknown
Source Type:	Hard Copy Map

Industry:	
Primary SIC:	4911
Secondary SIC:	
NAICS:	221112

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Air Permit Information Contact

Organization: Calpine Corporation

Org. Type: LLC

Name: Jan Stavinocha

NJ EIN: 00060103035

Title: Manager, EHS

Phone: (713) 570-4814 x

Mailing Address: 6 Hillman Dr.

Fax: () - x

Suite 201

Other: (281) 660-7828 x

Chadds Ford, PA 19317

Type: Mobile

Email: Jan.Stavinocha@Calpine.com

Contact Type: BOP - Operating Permits

Organization: NJ DEP

Org. Type: State

Name: Michael Hogan

NJ EIN:

Title: Senior Environmental Engineer

Phone: (609) 633-1124 x

Mailing Address: Mail Code 401-02

Fax: (609) 633-1112 x

DEP Air Quality Program, PO Box 420

Other: () - x

401 East State Street, 2nd floor

Type:

Trenton, NJ 08625-0420

Email: Michael.Hogan@dep.state.nj.us

Contact Type: Emission Statements

Organization: Calpine NJ Generation, LLC

Org. Type: LLC

Name: Sarah Deater

NJ EIN: 00060103039

Title: EHS Specialist

Phone: (302) 761-7008 x

Mailing Address: 4001 E. Main St.

Fax: () - x

Milville, NJ 08332

Other: () - x

Type: Mobile

Email: Sarah.Deater@Calpine.com

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Fees/Billing Contact

Organization: Calpine NJ Generation, LLC

Org. Type: LLC

Name: Sarah Deater

NJ EIN: 00060103039

Title: EHS Specialist

Phone: (302) 761-7008 x

Mailing Address: 4001 E. Main St.

Fax: () - x

Milville, NJ 08332

Other: () - x

Type: Mobile

Email: Sarah.Deater@Calpine.com

Contact Type: General Contact

Organization: Calpine Corporation

Org. Type: LLC

Name: Jan Stavinocha

NJ EIN: 00060103035

Title: Manager, EHS

Phone: (713) 570-4814 x

Mailing Address: 6 Hillman Dr.

Fax: () - x

Suite 201

Other: (281) 660-7828 x

Chadds Ford, PA 19317

Type: Mobile

Email: Jan.Stavinoha@Calpine.com

Contact Type: Operator

Organization: Calpine NJ Generation, LLC

Org. Type: LLC

Name: Paul Ostberg

NJ EIN:

Title: General Manager

Phone: (856) 293-8725 x

Mailing Address: 4001 E. Main St.

Fax: (856) 678-1753 x

Milville, NJ 08332

Other: (361) 537-2101 x

Type: Mobile

Email: Paul.Ostberg@Calpine.com

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Owner (Current Primary)

Organization: Calpine New Jersey Generation, LLC

Org. Type: LLC

Name: Patrick Blanchard

NJ EIN: 00060103035

Title: Director, Regional EHS

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Mailing 6 Hillman Dr

Fax: () - x

Address: Suite 201

Other: (713) 320-8860 x

Chadds Ford, PA 19317

Type: Mobile

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Contact Type: Responsible Official

Organization: Calpine NJ Generation, LLC

Org. Type: LLC

Name: Paul Ostberg

NJ EIN:

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Fax: (856) 678-1753 x

Address: Milville, NJ 08332

Other: (361) 537-2101 x

Type: Mobile

Email: Paul.Ostberg@Calpine.com

CUMBERLAND ENERGY CENTER (75508)
BOP210001

Date: 05/11/2022

New Jersey Department of Environmental Protection
Non-Source Fugitive Emissions

FG NJID	Description of Activity Causing Emission	Location Description	Reasonable Estimate of Emissions (tpy)								
			VOC (Total)	NOx	CO	SO	TSP (Total)	PM-10	Pb	HAPS (Total)	Other (Total)
FG1	Vehicular Traffic	Yard	0.000	0.000	0.000	0.000	0.200	0.000	0.000	0.00000000	0.000
Total			0.000	0.000	0.000	0.000	0.200	0.000	0.000	0.00000000	0.000

CUMBERLAND ENERGY CENTER (75508)
BOP210001

Date: 5/11/2022

New Jersey Department of Environmental Protection
Insignificant Source Emissions

IS NJID	Source/Group Description	Equipment Type	Location Description	Estimate of Emissions (tpy)								
				VOC (Total)	NOx	CO	SO	TSP	PM-10	Pb	HAPS (Total)	Other (Total)
IS2	Open Top, Unheated Surface Cleaner (Top opening < 6 sqare ft., Capacity < 100 gallons)	Other Equipment	Shop	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.00000000	0.000
IS3	(3) Overboard Drain Tanks (<2,000 gallons each)	Other Equipment	CT Structure	0.600	0.000	0.000	0.000	0.000	0.000	0.000	0.00000000	0.000
IS5	Lube Oil Storage Tank and Mist Eliminators (Tank < 2,000 gallons; Mist Eliminators < 50 lb/hr throughput)	Other Equipment	CT Structure	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.00000000	0.000
IS7	Ultra Low Sulfur Distillate (ULSD) Storage Tank (750,000 gallon capacity); [Non applicable VOC > 10,000 gal]	Storage Vessel	Supplies U1	0.270	0.000	0.000	0.000	0.000	0.000	0.000	0.00000000	0.000
IS8	Ultra Low Sulfur Distillate (ULSD) Storage Tank (750,000 gallon capacity); [Non applicable VOC > 10,000 gal]	Storage Vessel	Supplies U4	0.270	0.000	0.000	0.000	0.000	0.000	0.000	0.00000000	0.000
Total				1.540	0.000	0.000	0.000	0.000	0.000	0.000	0.00000000	0.000

BOP210001

**New Jersey Department of Environmental Protection
Equipment Inventory**

Equip. NJID	Facility's Designation	Equipment Description	Equipment Type	Certificate Number	Install Date	Grand- Fathered	Last Mod. (Since 1968)	Equip. Set ID
E1	CT-1	Combustion Turbine	Combustion Turbine	093307	5/30/1990	No	7/24/1992	
E2	CE-1	Gas Compressor Engine	Stationary Reciprocating Engine	093008	5/31/1990	No	7/24/1992	
E3	SB-1	Abrasive (Sand) Blast Equipment	Manufacturing and Materials Handling Equipment	102881	9/13/1991	No		
E4	CT-2	Combustion Turbine (GE LMS-100)	Combustion Turbine		9/1/2008	No		
E6	EG-1	23.77 MMBTU/hr (HHV) Emerg. Gen. (2500 kW)	Emergency Generator		1/1/2015			

75508 CUMBERLAND ENERGY CENTER BOP210001 E1 (Combustion Turbine)
Print Date: 5/11/2022

Make:			
Manufacturer:	General Electric		
Model:	7EA		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	1,032.00		
Type of Turbine:	Industrial		
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	96.00	Units:	Megawatts
Is the combustion turbine using (check all that apply):			
A Dry Low NOx Combustor:	<input type="checkbox"/>		
Steam Injection:	<input type="checkbox"/>	Steam to Fuel Ratio:	
Water Injection:	<input checked="" type="checkbox"/>	Water to Fuel Ratio:	
Other:	<input checked="" type="checkbox"/>	Description:	Inlet Air Fogging
Is the turbine Equipped with a Duct Burner?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	96 MW (Winter); 84 MW (Summer) Water to Fuel Ratio: 0.5 - 1.5		

75508 CUMBERLAND ENERGY CENTER BOP210001 E2 (Stationary Reciprocating Engine)
Print Date: 5/11/2022

Make:	<input type="text"/>	
Manufacturer:	<input type="text" value="Waukesha"/>	
Model:	<input type="text" value="9390GSI"/>	
Maximum Rated Gross Heat Input (MMBtu/hr):	<input type="text" value="13.6"/>	
Class:	<input type="text" value="Rich Burn"/>	
Description:	<input type="text"/>	
Duty:	<input type="text"/>	
Description:	<input type="text"/>	
Minimum Load Range (%):	<input type="text"/>	
Maximum Load Range (%):	<input type="text"/>	
Stroke:	<input type="text" value="4-stroke"/>	
Power Output (BHP):	<input type="text" value="1602.4"/>	
Electric Output(KW):	<input type="text"/>	
Compression Ratio:	<input type="text"/>	
Ignition Type:	<input type="text" value="Spark"/>	
Description:	<input type="text"/>	
Engine Speed (RPM):	<input type="text"/>	
Engine Exhaust Temperature (°F):	<input type="text"/>	
Air to Fuel Ratio at Peak Load:	<input type="text"/>	
Ratio Basis:	<input type="text"/>	
Lambda Factor (scfm/scfm):	<input type="text"/>	
Brake Specific Fuel Consumption at Peak Load (Btu/BHP-hr):	<input type="text"/>	
Output Type:	<input type="text"/>	
Heat to Power Ratio:	<input type="text"/>	
Is the Engine Using a Turbocharger?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Is the Engine Using an Aftercooler?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Is the Engine Using (check all that apply):		
A Prestratified Charge (PSC)	<input type="checkbox"/>	A NOx Converter <input type="checkbox"/>
Air to Fuel Adjustment (AF)	<input type="checkbox"/>	Ignition Timing Retard <input type="checkbox"/>
Low Emission Combustion	<input type="checkbox"/>	Non-Selective Catalytic Retard (NSCR) <input checked="" type="checkbox"/>
Other	<input type="checkbox"/>	
Description:	<input type="text"/>	
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
	Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application? <input type="radio"/> Yes <input checked="" type="radio"/> No	
Comments:	<input type="text" value="Includes Non-Selective Catalytic Reduction (NSCR)"/>	
	<input type="text" value="Compression Ratio: 10:1"/>	
	<input type="text" value="Engine Speed: 450 - 1200 RPMs"/>	
	<input type="text" value="Air to Fuel Ratio at Peak Load: 600 - 1270"/>	

Include Emission Rates on the Potential to Emit Screen for each contaminant in ppmvd @ 7%O2 in addition to lbs/hr and tons/yr.

75508 CUMBERLAND ENERGY CENTER BOP210001 E3 (Manufacturing and Materials Handling Equipment)
Print Date: 5/11/2022

Make:	
Manufacturer:	Empire
Model:	6060 SRC
Type of Manufacturing and Materials Handling Equipment:	Sand blasting equipment
Capacity:	4.00E+01
Units:	other units
Description (if other):	lb/hr
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

75508 CUMBERLAND ENERGY CENTER BOP210001 E4 (Combustion Turbine)
Print Date: 5/11/2022

Make: GE LMS100

Manufacturer: General Electric

Model: LMS100

Maximum rated Gross Heat Input (MMBtu/hr-HHV): 946.00

Type of Turbine: Aero-Derivative

Type of Cycle: Simple-Cycle Description:

Industrial Application: Electrical Generator Description:

Power Output: 103.00 Units: Megawatts

Is the combustion turbine using (check all that apply):

A Dry Low NOx Combustor: ☐

Steam Injection: ☐ Steam to Fuel Ratio:

Water Injection: ☒ Water to Fuel Ratio:

Other: ☒ Description: SCR / CO Cataly.

Is the turbine Equipped with a Duct Burner? ☐ Yes ☒ No

Have you attached a diagram showing the location and/or the configuration of this equipment? ☐ Yes ☒ No

Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application? ☐ Yes ☒ No

Comments: Water Injection, SCR and Catalytic Oxidizer used during NG and LSLPP combustion.
Water to Fuel Ratio: Natural Gas: 0.01, Fuel Oil: 0.63
Heat Input: 944 Oil / 946 Gas

The combustion turbine is a General Electric (GE) Model LMS100. The LMS100 is a new GE aeroderivative model turbine technology that incorporates an air-to-water heat exchanger to cool compressor air between the low-pressure directed from the exhaust of the the low-pressure and returned to the Supercore, which includes the high-pressure compressor sections. The cooler air and high-pressure compressor sections increase power output and overall efficiency. The unit will be able to produce a nominal 103 MW of electricity and will be equipped with water injection and selective catalytic reduction (SCR) to reduce emissions of nitrogen oxides (NOx) and an oxidation catalyst to reduce carbon monoxide (CO) emissions. The turbine will have the ability to operate on natural gas and ultra-low sulfur fuel oil. The project is designed to operate on either fuel up to 5,250 full load hours per year with the primary purpose of generating electricity for sale to the Pennsylvania-Jersey-Maryland (PJM) power grid.

The turbine will operate at 100% load except during combustion turbine start-up, shutdown and/or fuel switching. The emission levels reflected in this application reflect emission guarantees from the vendor based on worst-case emissions at various ambient temperatures. Upon leaving the combustion turbine, the exhaust gases will be directed into a 145-foot above grade exhaust stack. The unit will have a nominal maximum heat input capacity of 896 million British thermal units per hour (mmBtu/hr) when operating on natural gas and a nominal maximum heat input of 888 mmBtu/hr when operating on fuel oil, based on the higher heating value (HHV) of each fuel.

75508 CUMBERLAND ENERGY CENTER BOP210001 E6 (Emergency Generator)
Print Date: 5/11/2022

Make:	<input type="text" value="Caterpillar"/>		
Manufacturer:	<input type="text" value="Caterpillar (2015)"/>		
Model:	<input type="text" value="3516C (2015) Model Year"/>		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	<input type="text" value="23.77"/>		
Will the equipment be used in excess of 500 hours per year?	<input type="radio"/> Yes <input type="radio"/> No		
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input type="radio"/> No	Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	<input type="radio"/> Yes <input type="radio"/> No
Comments:	<input type="text" value="2500 kW"/> <input type="text" value="3634 HP"/> <input type="text" value="Displacement per cylinder: 4.86 L"/>		

CUMBERLAND ENERGY CENTER (75508)

Date: 5/11/2022

BOP210001

**New Jersey Department of Environmental Protection
Control Device Inventory**

CD NJID	Facility's Designation	Description	CD Type	Install Date	Grand-Fathered	Last Mod. (Since 1968)	CD Set ID
CD1	CE-1	Non-Selective Catalytic Converter for Gas Compressor Engine	Selective Non-Catalytic Reduction	10/30/2013	No		
CD2	SB-1	Baghouse for Abrasive Blast Equipment	Particulate Filter (Baghouse)	5/31/1991	No		
CD3	CT-2_SCR	Selective Catalytic Reduction	Selective Catalytic Reduction	9/1/2008	No		
CD4	CT-2-OxyCat	Oxidation Catalyst	Oxidizer (Catalytic)	9/1/2008	No		

75508 CUMBERLAND ENERGY CENTER BOP210001 CD1 (Selective Non-Catalytic Reduction)
Print Date: 5/11/2022

Make:	
Manufacturer:	DCL America Incorporated
Model:	DC75-14HGS
Minimum Temperature at Reagent Injection Point (°F):	750.0
Maximum Temperature at Reagent Injection Point (°F):	1,250.0
Type of Reagent:	
Description:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Maximum NOx to Reagent Mole Ratio:	
Number of Reagent Injectors:	
Location of Reagent Injectors:	
Reagent Injection Method:	
Maximum Anticipated Ammonia Slip (ppm):	
Description of Feedback System which Controls the Amount of Reagent Charged to the Control Apparatus:	
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	1
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	Temperature monitoring via thermocouple - auto shut off of engine if Temp > 1250 degrees F
Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Have you attached a diagram showing the location and/or configuration of this control apparatus?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	

75508 CUMBERLAND ENERGY CENTER BOP210001 CD1 (Selective Non-Catalytic Reduction)
Print Date: 5/11/2022

75508 CUMBERLAND ENERGY CENTER BOP210001 CD2 (Particulate Filter (Baghouse))
Print Date: 5/11/2022

Make:	<input type="text"/>
Manufacturer:	<input type="text" value="Empire"/>
Model:	<input type="text" value="6060 SCR"/>
Number of Bags:	<input type="text" value="30"/>
Size of Bags (ft²):	<input type="text"/>
Total Bag Area (ft²):	<input type="text" value="200.0"/>
Bag Fabric:	<input type="text" value="Cotton"/>
Fabric Weight (oz/ft²):	<input type="text" value="9.60"/>
Fabric Weave:	<input type="text" value="5 Hainess"/>
Fabric Finish:	<input type="text" value="Sateen"/>
Maximum Design Temperature Capability (°F):	<input type="text" value="180.0"/>
Maximum Design Air Flow Rate (acfm):	<input type="text" value="900.0"/>
Draft Type:	<input type="text" value=""/>
Maximum Air Flow Rate to Cloth Area Ratio:	<input type="text"/>
Minimum Operating Pressure Drop (in. H2O):	<input type="text" value="3.00"/>
Maximum Operating Pressure Drop (in. H2O):	<input type="text" value="4.00"/>
Method of Monitoring Pressure Drop:	<input type="text" value="Manometer"/>
Maximum Inlet Temperature (°F):	<input type="text"/>
Minimum Inlet Temperature (°F):	<input type="text"/>
Dew Point of Gas Stream Maximum Inlet Temperature (°F):	<input type="text"/>
Maximum Operating Exhaust Gas Flow Rate (acfm):	<input type="text"/>
Maximum Inlet Gas Stream Moisture Content (%):	<input type="text"/>
Method for Determining When Bag Replacement is Required:	<input type="text" value="Routine Inspection"/>
Method for Determining When Cleaning is Required:	<input type="text" value="Routine Inspection"/>
Method of Bag Cleaning:	<input type="text" value="Mechanical Shak"/>
Description:	<input type="text"/>
Is Bag Cleaning Conducted On-Line?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	<input type="text" value="1"/>
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	<input type="text" value="NONE"/>
Have you attached a Particle Size Distribution Analysis?	<input type="radio"/> Yes <input checked="" type="radio"/> No

75508 CUMBERLAND ENERGY CENTER BOP210001 CD2 (Particulate Filter (Baghouse))
Print Date: 5/11/2022

Have you attached data from recent performance testing?

☐ Yes ☒ No

Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?

☐ Yes ☒ No

Have you attached a diagram showing the location and/or configuration of this control apparatus?

☐ Yes ☒ No

Comments:

Size of Bags: 5" X 57.75"
Maximum Air Flow Rate to Cloth Area Ratio: 4.5:1
Maximum Inlet Temperature (deg F): Ambient
Temperature
Maximum Inlet Gas Stream Moisture Content (%):
Ambient

75508 CUMBERLAND ENERGY CENTER BOP210001 CD3 (Selective Catalytic Reduction)
Print Date: 5/11/2022

Make:	
Manufacturer:	Cormatech
Model:	CMMT-27
Minimum Temperature at Catalyst Bed (°F):	700
Maximum Temperature at Catalyst Bed (°F):	870
Minimum Temperature at Reagent Injection Point (°F):	700
Maximum Temperature at Reagent Injection Point (°F):	870
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	0.3
Maximum Reagent Charge Rate (gpm):	0.8
Minimum Concentration of Reagent in Solution (% Volume):	19
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	10
Type of Catalyst:	TBD
Volume of Catalyst (ft³):	
Form of Catalyst:	TBD
Anticipated Life of Catalyst:	15000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	Continuous Emission Monitoring for NOx and NH3.
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	1
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	Continuous Emission Monitor for NOx and NH3
Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Have you attached a diagram showing the location and/or configuration of this control apparatus?	<input checked="" type="radio"/> Yes <input type="radio"/> No

75508 CUMBERLAND ENERGY CENTER BOP210001 CD3 (Selective Catalytic Reduction)
Print Date: 5/11/2022

Comments:

75508 CUMBERLAND ENERGY CENTER BOP210001 CD4 (Oxidizer (Catalytic))
Print Date: 5/11/2022

Make:	
Manufacturer:	BASF
Model:	CAMET
Minimum Inlet Temperature (°F):	700
Maximum Inlet Temperature (°F)	870
Minimum Outlet Temperature (°F)	700
Maximum Outlet Temperature (°F):	870
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	946
Minimum Pressure Drop Across Catalyst (psi):	1
Maximum Pressure Drop Across Catalyst (psi):	5
Catalyst Material:	78-80% Stainless Steel; 20-22% Aluminum; <2% Platinum
Form of Catalyst:	Other
Description:	Block
Minimum Expected Life of Catalyst:	15
Units:	Years
Volume of Catalyst (ft³):	214
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	1
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	Continuous Emission Monitor for CO
Have you attached data from recent performance testing?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Have you attached a diagram showing the location and/or configuration of this control apparatus?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	

CUMBERLAND ENERGY CENTER (75508)
BOP210001

Date: 5/11/2022

New Jersey Department of Environmental Protection
Emission Points Inventory

PT NJID	Facility's Designation	Description	Config.	Equiv. Diam. (in.)	Height (ft.)	Dist. to Prop. Line (ft)	Exhaust Temp. (deg. F)			Exhaust Vol. (acfm)			Discharge Direction	PT Set ID
							Avg.	Min.	Max.	Avg.	Min.	Max.		
PT1	CT-1	Combustion Turbine 1 Stack	Rectangle	161	65	800	800.0	630.0	1,008.0	1,300,000.0	1,000,000.0	1,600,000.0	Up	
PT2	CE-1	Gas Compressor Engine Stack	Round	14	25	800	1,077.0	1,000.0	1,100.0	7,742.0	7,700.0	7,780.0	Up	
PT3	SB-1	Abrasive Blast Booth	Rectangle	3	8	1,000	68.0	32.0	100.0	900.0	800.0	1,000.0	Up	
PT4	CT-2	Combustion Turbine 2 Stack	Rectangle	162	145	330	778.0	725.0	870.0	902,610.0	790,311.0	907,454.0	Up	
PT6	EG-1	Emerg. Gen. E6 Stack	Round	12	15	70			915.0			19,579.0	Up	

CUMBERLAND ENERGY CENTER (75508)
BOP210001

Date: 5/11/2022

New Jersey Department of Environmental Protection
Emission Unit/Batch Process Inventory

U 1 CT-1 Combustion Turbine

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours		VOC Range	Flow (acfm)		Temp. (deg F)	
								Min.	Max.		Min.	Max.	Min.	Max.
OS1	CT-1 OilO	Oil Fired Turbine Operating During the Ozone Season.	Normal - Steady State	E1		PT1	2-01-001-01	0.0	1,500.0				630.0	1,008.0
OS2	CT-1 OilNonO	Oil Fired Turbine Operating During the Non-Ozone Season.	Normal - Steady State	E1		PT1	2-01-001-01	0.0	1,500.0				630.0	1,008.0
OS3	CT-1 OilSUSD	Oil Fired - Turbine Start-up or Shut down	Startup	E1		PT1								
OS4	CT-1 GasO	Gas Fired Turbine Operating During the Ozone Season.	Normal - Steady State	E1		PT1	2-01-002-01	0.0	2,500.0				630.0	1,008.0
OS5	CT-1 GasNonO	Gas Fired Turbine Operating During the Non-Ozone Season.	Normal - Steady State	E1		PT1	2-01-002-01	0.0	2,500.0				630.0	1,008.0
OS6	CT-1 GasSUSD	Gas Fired - Turbine Start-up or Shutdown	Startup	E1		PT1								

U 2 CE-1 Natural Gas-fired Gas Compressor Engine

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours		VOC Range	Flow (acfm)		Temp. (deg F)	
								Min.	Max.		Min.	Max.	Min.	Max.
OS1	CE-1	Gas Fired Natural Gas Compressor Engine	Normal - Steady State	E2	CD1 (P)	PT2	2-02-002-53	0.0	2,500.0		7,700.0	7,800.0	750.0	1,250.0

CUMBERLAND ENERGY CENTER (75508)
BOP210001

Date: 5/11/2022

New Jersey Department of Environmental Protection
Emission Unit/Batch Process Inventory

U 3 SB-1 Abrasive Blast Equipment

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours		VOC Range	Flow (acfm)		Temp. (deg F)	
								Min.	Max.		Min.	Max.	Min.	Max.
OS1	SB-1	Abrasive Blast Equipment	Normal - Steady State	E3	CD2 (P)	PT3	3-09-002-02	0.0	8,760.0		800.0	1,000.0	32.0	100.0

U 4 CT-2 GE LMS100 Combustion Turbine

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours		VOC Range	Flow (acfm)		Temp. (deg F)	
								Min.	Max.		Min.	Max.	Min.	Max.
OS1	CT-2 Oil	Combustion Turbine - Low Sulfur Light Petroleum Product Fuel Oil Operation	Normal - Steady State	E4	CD3 (P) CD4 (P)	PT4	2-01-001-01	0.0	5,250.0	A	790,311.0	897,766.0	743.0	870.0
OS2	CT-2 OILSUSD	Combustion Turbine - Oil Fired Start-Up or Shut Down	Startup	E4		PT4								
OS3	CT-2 Gas	Combustion Turbine - Natural Gas Operation	Normal - Steady State	E4	CD3 (P) CD4 (P)	PT4	2-01-002-01	0.0	5,250.0	A	815,851.0	907,454.0	725.0	870.0
OS4	CT-2 NG SUSD	Combustion Turbine - Natural Gas Fired Start-Up or Shut Down	Startup	E4		PT4								
OS5	CT-2 FT	Combustion Turbine - Fuel Transfer		E4		PT4								

CUMBERLAND ENERGY CENTER (75508)
BOP210001

Date: 5/11/2022

New Jersey Department of Environmental Protection
Emission Unit/Batch Process Inventory

U 6 EG-1 (EG-003-4) Emergency Generator, 2500 kW

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours		VOC Range	Flow (acfm)		Temp. (deg F)	
								Min.	Max.		Min.	Max.	Min.	Max.
OS1	EG-1	23.77 MMBtu/hr (HHV) Emerg. Gen. (2500 kW) Diesel fuel, 100 hr/yr	Normal - Steady State	E6		PT6								

Date: 5/11/2022

**New Jersey Department of Environmental Protection
Subject Item Group Inventory**

Group NJID: GR10 RGGI

Members:

Type	ID	OS	Step
U	U 1	OS0 Summary	
U	U 4	OS0 Summary	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): RGGI Requirements

Condition/Requirements that will be complied with or are no longer applicable as a result of this Group:

RGGI

Operating Circumstances:

All Operation

Appendix I:

Cross-State Air Pollution Rule (CSAPR) Title V requirements for

- **CSAPR NO_x Annual Trading Program,**
- **CSAPR NO_x Ozone Season Trading Program, and**
- **CSAPR SO₂ Trading Program**

Transport Rule (TR) Trading Program Title V Requirements

TR NO_x Annual Trading Program requirements (40 CFR 97.406)

(a) Designated representative requirements.

The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.413 through 97.418.

(b) Emissions monitoring, reporting, and recordkeeping requirements.

- (1) The owners and operators, and the designated representative, of each TR NO_x Annual source and each TR NO_x Annual unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.430 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.431 (initial monitoring system certification and recertification procedures), 97.432 (monitoring system out-of-control periods), 97.433 (notifications concerning monitoring), 97.434 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.435 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).
- (2) The emissions data determined in accordance with 40 CFR 97.430 through 97.435 shall be used to calculate allocations of TR NO_x Annual allowances under 40 CFR 97.411(a)(2) and (b) and 97.412 and to determine compliance with the TR NO_x Annual emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.430 through 97.435 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) NO_x emissions requirements.

- (1) TR NO_x Annual emissions limitation.
 - (i). As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_x Annual source and each TR NO_x Annual unit at the source shall hold, in the source's compliance account, TR NO_x Annual allowances available for deduction for such control period under 40 CFR 97.424(a) in an amount not less than the tons of total NO_x emissions for such control period from all TR NO_x Annual units at the source.
 - (ii). If total NO_x emissions during a control period in a given year from the TR NO_x Annual units at a TR NO_x Annual source are in excess of the TR NO_x Annual emissions limitation set forth in paragraph (c)(1)(i) above, then:
 - (A). The owners and operators of the source and each TR NO_x Annual unit at the source shall hold the TR NO_x Annual allowances required for deduction under 40 CFR 97.424(d); and
 - (B). The owners and operators of the source and each TR NO_x Annual unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAA and the Clean Air Act.
- (2) TR NO_x Annual assurance provisions.
 - (i). If total NO_x emissions during a control period in a given year from all TR NO_x Annual units at TR NO_x Annual sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the

common designated representative's share of such NO_x emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NO_x Annual allowances available for deduction for such control period under 40 CFR 97.425(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.425(b), of multiplying— (A) The quotient of the amount by which the common designated representative's share of such NO_x emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such NO_x emissions exceeds the respective common designated representative's assurance level; and (B) The amount by which total NO_x emissions from all TR NO_x Annual units at TR NO_x Annual sources in the state for such control period exceed the state assurance level.

- (ii). The owners and operators shall hold the TR NO_x Annual allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.
 - (iii). Total NO_x emissions from all TR NO_x Annual units at TR NO_x Annual sources in the State during a control period in a given year exceed the state assurance level if such total NO_x emissions exceed the sum, for such control period, of the state NO_x Annual trading budget under 40 CFR 97.410(a) and the state's variability limit under 40 CFR 97.410(b).
 - (iv). It shall not be a violation of 40 CFR part 97, subpart AAAAAA or of the Clean Air Act if total NO_x emissions from all TR NO_x Annual units at TR NO_x Annual sources in the State during a control period exceed the state assurance level or if a common designated representative's share of total NO_x emissions from the TR NO_x Annual units at TR NO_x Annual sources in the state during a control period exceeds the common designated representative's assurance level.
 - (v). To the extent the owners and operators fail to hold TR NO_x Annual allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,
 - (A). The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - (B). Each TR NO_x Annual allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAAA and the Clean Air Act.
- (3) Compliance periods.
- (i). A TR NO_x Annual unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of January 1, 2015, or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.
 - (ii). A TR NO_x Annual unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.
- (4) Vintage of allowances held for compliance.
- (i). A TR NO_x Annual allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR NO_x Annual allowance that was allocated for such control period or a control period in a prior year.

- (ii). A TR NO_x Annual allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR NO_x Annual allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.
- (5) Allowance Management System requirements. Each TR NO_x Annual allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart AAAAA.
- (6) Limited authorization. A TR NO_x Annual allowance is a limited authorization to emit one ton of NO_x during the control period in one year. Such authorization is limited in its use and duration as follows:
 - (i). Such authorization shall only be used in accordance with the TR NO_x Annual Trading Program; and
 - (ii). Notwithstanding any other provision of 40 CFR part 97, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.
- (7) Property right. A TR NO_x Annual allowance does not constitute a property right.
- (d) Title V permit revision requirements.**
 - (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR NO_x Annual allowances in accordance with 40 CFR part 97, subpart AAAAA.
 - (2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.430 through 97.435, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.406(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).
- (e) Additional recordkeeping and reporting requirements.**
 - (1) Unless otherwise provided, the owners and operators of each TR NO_x Annual source and each TR NO_x Annual unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - (i). The certificate of representation under 40 CFR 97.416 for the designated representative for the source and each TR NO_x Annual unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.416 changing the designated representative.
 - (ii). All emissions monitoring information, in accordance with 40 CFR part 97, subpart AAAAA.
 - (iii). Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR NO_x Annual Trading Program.
 - (2) The designated representative of a TR NO_x Annual source and each TR NO_x Annual unit at the source shall make all submissions required under the TR NO_x Annual Trading Program, except

as provided in 40 CFR 97.418. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

- (1) Any provision of the TR NO_x Annual Trading Program that applies to a TR NO_x Annual source or the designated representative of a TR NO_x Annual source shall also apply to the owners and operators of such source and of the TR NO_x Annual units at the source.
- (2) Any provision of the TR NO_x Annual Trading Program that applies to a TR NO_x Annual unit or the designated representative of a TR NO_x Annual unit shall also apply to the owners and operators of such unit.

(g) Effect on other authorities.

No provision of the TR NO_x Annual Trading Program or exemption under 40 CFR 97.405 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR NO_x Annual source or TR NO_x Annual unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

TR NO_x Ozone Season Trading Program Requirements (40 CFR 97.506)

(a) Designated representative requirements.

The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.513 through 97.518.

(b) Emissions monitoring, reporting, and recordkeeping requirements.

- (1) The owners and operators, and the designated representative, of each TR NO_x Ozone Season source and each TR NO_x Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.530 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.531 (initial monitoring system certification and recertification procedures), 97.532 (monitoring system out-of-control periods), 97.533 (notifications concerning monitoring), 97.534 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.535 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).
- (2) The emissions data determined in accordance with 40 CFR 97.530 through 97.535 shall be used to calculate allocations of TR NO_x Ozone Season allowances under 40 CFR 97.511(a)(2) and (b) and 97.512 and to determine compliance with the TR NO_x Ozone Season emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.530 through 97.535 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) NO_x emissions requirements.

- (1) TR NO_x Ozone Season emissions limitation.
 - (i). As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_x Ozone Season source and each TR NO_x Ozone Season unit at the source shall hold, in the source's compliance account, TR NO_x Ozone Season allowances available for deduction for such control period under 40 CFR 97.524(a) in an amount not less than the tons of total NO_x emissions for such control period from all TR NO_x Ozone Season units at the source.
 - (ii). If total NO_x emissions during a control period in a given year from the TR NO_x Ozone Season units at a TR NO_x Ozone Season source are in excess of the TR NO_x Ozone Season emissions limitation set forth in paragraph (c)(1)(i) above, then:
 - (A). The owners and operators of the source and each TR NO_x Ozone Season unit at the source shall hold the TR NO_x Ozone Season allowances required for deduction under 40 CFR 97.524(d); and
 - (B). The owners and operators of the source and each TR NO_x Ozone Season unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart BBBB and the Clean Air Act.
- (2) TR NO_x Ozone Season assurance provisions.
 - (i). If total NO_x emissions during a control period in a given year from all TR NO_x Ozone Season units at TR NO_x Ozone Season sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_x emissions during such control period exceeds the common designated representative's assurance level for the state

and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NO_x Ozone Season allowances available for deduction for such control period under 40 CFR 97.525(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.525(b), of multiplying—

- (A). The quotient of the amount by which the common designated representative's share of such NO_x emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such NO_x emissions exceeds the respective common designated representative's assurance level; and
 - (B). The amount by which total NO_x emissions from all TR NO_x Ozone Season units at TR NO_x Ozone Season sources in the state for such control period exceed the state assurance level.
- (ii). The owners and operators shall hold the TR NO_x Ozone Season allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.
 - (iii). Total NO_x emissions from all TR NO_x Ozone Season units at TR NO_x Ozone Season sources in the state during a control period in a given year exceed the state assurance level if such total NO_x emissions exceed the sum, for such control period, of the State NO_x Ozone Season trading budget under 40 CFR 97.510(a) and the state's variability limit under 40 CFR 97.510(b).
 - (iv). It shall not be a violation of 40 CFR part 97, subpart BBBBBB or of the Clean Air Act if total NO_x emissions from all TR NO_x Ozone Season units at TR NO_x Ozone Season sources in the state during a control period exceed the state assurance level or if a common designated representative's share of total NO_x emissions from the TR NO_x Ozone Season units at TR NO_x Ozone Season sources in the state during a control period exceeds the common designated representative's assurance level.
 - (v). To the extent the owners and operators fail to hold TR NO_x Ozone Season allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,
 - (A). The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - (B). Each TR NO_x Ozone Season allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart BBBBBB and the Clean Air Act.
- (3) Compliance periods.
- (i). A TR NO_x Ozone Season unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of May 1, 2015 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.530(b) and for each control period thereafter.
 - (ii). A TR NO_x Ozone Season unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of May 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.530(b) and for each control period thereafter.
- (4) Vintage of allowances held for compliance.
- (i). A TR NO_x Ozone Season allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR NO_x Ozone

Season allowance that was allocated for such control period or a control period in a prior year.

- (ii). A TR NO_x Ozone Season allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR NO_x Ozone Season allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.
- (5) Allowance Management System requirements. Each TR NO_x Ozone Season allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart BBBBB.
- (6) Limited authorization. A TR NO_x Ozone Season allowance is a limited authorization to emit one ton of NO_x during the control period in one year. Such authorization is limited in its use and duration as follows:
 - (i). Such authorization shall only be used in accordance with the TR NO_x Ozone Season Trading Program; and
 - (ii). Notwithstanding any other provision of 40 CFR part 97, subpart BBBBB, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.
- (7) Property right. A TR NO_x Ozone Season allowance does not constitute a property right.

(d) Title V permit revision requirements.

- (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR NO_x Ozone Season allowances in accordance with 40 CFR part 97, subpart BBBBB.
- (2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.530 through 97.535, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.506(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

(e) Additional recordkeeping and reporting requirements.

- (1) Unless otherwise provided, the owners and operators of each TR NO_x Ozone Season source and each TR NO_x Ozone Season unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - (i). The certificate of representation under 40 CFR 97.516 for the designated representative for the source and each TR NO_x Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.516 changing the designated representative.
 - (ii). All emissions monitoring information, in accordance with 40 CFR part 97, subpart BBBBB.
 - (iii). Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR NO_x Ozone Season Trading Program.

- (2) The designated representative of a TR NO_x Ozone Season source and each TR NO_x Ozone Season unit at the source shall make all submissions required under the TR NO_x Ozone Season Trading Program, except as provided in 40 CFR 97.518. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

- (1) Any provision of the TR NO_x Ozone Season Trading Program that applies to a TR NO_x Ozone Season source or the designated representative of a TR NO_x Ozone Season source shall also apply to the owners and operators of such source and of the TR NO_x Ozone Season units at the source.
- (2) Any provision of the TR NO_x Ozone Season Trading Program that applies to a TR NO_x Ozone Season unit or the designated representative of a TR NO_x Ozone Season unit shall also apply to the owners and operators of such unit.

(g) Effect on other authorities.

No provision of the TR NO_x Ozone Season Trading Program or exemption under 40 CFR 97.505 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR NO_x Ozone Season source or TR NO_x Ozone Season unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

TR SO₂ Group 1 Trading Program requirements (40 CFR 97.606)

(a) Designated representative requirements.

The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.613 through 97.618.

(b) Emissions monitoring, reporting, and recordkeeping requirements.

- (1) The owners and operators, and the designated representative, of each TR SO₂ Group 1 source and each TR SO₂ Group 1 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.630 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.631 (initial monitoring system certification and recertification procedures), 97.632 (monitoring system out-of-control periods), 97.633 (notifications concerning monitoring), 97.634 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.635 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).
- (2) The emissions data determined in accordance with 40 CFR 97.630 through 97.635 shall be used to calculate allocations of TR SO₂ Group 1 allowances under 40 CFR 97.611(a)(2) and (b) and 97.612 and to determine compliance with the TR SO₂ Group 1 emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.630 through 97.635 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) SO₂ emissions requirements.

- (1) TR SO₂ Group 1 emissions limitation.
 - (i). As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR SO₂ Group 1 source and each TR SO₂ Group 1 unit at the source shall hold, in the source's compliance account, TR SO₂ Group 1 allowances available for deduction for such control period under 40 CFR 97.624(a) in an amount not less than the tons of total SO₂ emissions for such control period from all TR SO₂ Group 1 units at the source.
 - (ii). If total SO₂ emissions during a control period in a given year from the TR SO₂ Group 1 units at a TR SO₂ Group 1 source are in excess of the TR SO₂ Group 1 emissions limitation set forth in paragraph (c)(1)(i) above, then:
 - (A). The owners and operators of the source and each TR SO₂ Group 1 unit at the source shall hold the TR SO₂ Group 1 allowances required for deduction under 40 CFR 97.624(d); and
 - (B). The owners and operators of the source and each TR SO₂ Group 1 unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation 40 CFR part 97, subpart CCCCC and the Clean Air Act.
- (2) TR SO₂ Group 1 assurance provisions.
 - (i). If total SO₂ emissions during a control period in a given year from all TR SO₂ Group 1 units at TR SO₂ Group 1 sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such SO₂ emissions during such control period exceeds the common designated representative's assurance level for the state and

such control period, shall hold (in the assurance account established for the owners and operators of such group) TR SO₂ Group 1 allowances available for deduction for such control period under 40 CFR 97.625(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.625(b), of multiplying—

- (A). The quotient of the amount by which the common designated representative's share of such SO₂ emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such SO₂ emissions exceeds the respective common designated representative's assurance level; and
 - (B). The amount by which total SO₂ emissions from all TR SO₂ Group 1 units at TR SO₂ Group 1 sources in the state for such control period exceed the state assurance level.
- (ii). The owners and operators shall hold the TR SO₂ Group 1 allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.
 - (iii). Total SO₂ emissions from all TR SO₂ Group 1 units at TR SO₂ Group 1 sources in the state during a control period in a given year exceed the state assurance level if such total SO₂ emissions exceed the sum, for such control period, of the state SO₂ Group 1 trading budget under 40 CFR 97.610(a) and the state's variability limit under 40 CFR 97.610(b).
 - (iv). It shall not be a violation of 40 CFR part 97, subpart CCCCC or of the Clean Air Act if total SO₂ emissions from all TR SO₂ Group 1 units at TR SO₂ Group 1 sources in the state during a control period exceed the state assurance level or if a common designated representative's share of total SO₂ emissions from the TR SO₂ Group 1 units at TR SO₂ Group 1 sources in the state during a control period exceeds the common designated representative's assurance level.
 - (v). To the extent the owners and operators fail to hold TR SO₂ Group 1 allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,
 - (A). The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - (B). Each TR SO₂ Group 1 allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart CCCCC and the Clean Air Act.
- (3) Compliance periods.
- (i). A TR SO₂ Group 1 unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of January 1, 2015 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.630(b) and for each control period thereafter.
 - (ii). A TR SO₂ Group 1 unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.630(b) and for each control period thereafter.
- (4) Vintage of allowances held for compliance.
- (i). A TR SO₂ Group 1 allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR SO₂ Group 1 allowance that was allocated for such control period or a control period in a prior year.

- (ii). A TR SO₂ Group 1 allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR SO₂ Group 1 allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.
- (5) Allowance Management System requirements. Each TR SO₂ Group 1 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart CCCCC.
- (6) Limited authorization. A TR SO₂ Group 1 allowance is a limited authorization to emit one ton of SO₂ during the control period in one year. Such authorization is limited in its use and duration as follows:
 - (i). Such authorization shall only be used in accordance with the TR SO₂ Group 1 Trading Program; and
 - (ii). Notwithstanding any other provision of 40 CFR part 97, subpart CCCCC, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.
- (7) Property right. A TR SO₂ Group 1 allowance does not constitute a property right.
- (d) Title V permit revision requirements.**
 - (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR SO₂ Group 1 allowances in accordance with 40 CFR part 97, subpart CCCCC.
 - (2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.630 through 97.635, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR part 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.606(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).
- (e) Additional recordkeeping and reporting requirements.**
 - (1) Unless otherwise provided, the owners and operators of each TR SO₂ Group 1 source and each TR SO₂ Group 1 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - (i). The certificate of representation under 40 CFR 97.616 for the designated representative for the source and each TR SO₂ Group 1 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.616 changing the designated representative.
 - (ii). All emissions monitoring information, in accordance with 40 CFR part 97, subpart CCCCC.
 - (iii). Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR SO₂ Group 1 Trading Program.
 - (2) The designated representative of a TR SO₂ Group 1 source and each TR SO₂ Group 1 unit at the source shall make all submissions required under the TR SO₂ Group 1 Trading Program, except

as provided in 40 CFR 97.618. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

- (1) Any provision of the TR SO₂ Group 1 Trading Program that applies to a TR SO₂ Group 1 source or the designated representative of a TR SO₂ Group 1 source shall also apply to the owners and operators of such source and of the TR SO₂ Group 1 units at the source.
- (2) Any provision of the TR SO₂ Group 1 Trading Program that applies to a TR SO₂ Group 1 unit or the designated representative of a TR SO₂ Group 1 unit shall also apply to the owners and operators of such unit.

(g) Effect on other authorities.

No provision of the TR SO₂ Group 1 Trading Program or exemption under 40 CFR 97.605 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR SO₂ Group 1 source or TR SO₂ Group 1 unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

Appendix II

Phase II Acid Rain permit

Issued to: Cumberland Energy Center
Rt. 49 West of Union Rd.
4001 East Main St.
Millville, NJ 08332

Owned by: Calpine New Jersey Generation, LLC
6 Hillman Drive,
Suite 201
Chadds Ford, PA 19317

Operated by: Calpine Operating Services Company, Inc
4001 East Main St.
Millville, NJ 08332

ORIS Code: 5083

Effective: January 24, 2017 thru January 23, 2022 (Coincide with the Operating Permit Date)

This Acid Rain Permit is issued under the authority of Chapter 106, P.L. 1967 (N.J.S.A 26:2C-9.2) and Titles IV and V of the Clean Air Act. The owners and operators of each affected unit at the facility shall comply with all of the requirements established in this permit.

Approved by:

Aliya Khan
Supervisor, Bureau of Air Permits

ACID RAIN PERMIT CONTENTS

- 1) STATEMENT OF BASIS
- 2) UNIT SPECIFIC REQUIREMENTS
- 3) COMMENTS, NOTES, AND JUSTIFICATIONS REGARDING PERMIT DECISIONS
- 4) PHASE II PERMIT APPLICATION

1) Statement of Basis

In accordance with N.J.S.A. 26:2C-9.2 and Titles IV and V of the Clean Air Act, the Department issues this permit pursuant to N.J.A.C. 7:27 et seq.

2) Unit Specific Requirements

Refer to 40 CFR 72 for specific requirements.

3) Comments, Notes, And Justifications Regarding Permit Decisions

This facility is subject to the operating permit regulations promulgated at N.J.A.C. 7:27-22. Therefore, the facility must obtain an operating permit. The procedures for incorporating this Acid Rain permit into the operating permit shall be consistent with the State requirements at N.J.A.C. 7:27-29, the Federal requirements at 40 CFR 72 and any official guidance issued by USEPA.

4) Phase II Permit Application

The owners and operators shall comply with all of the standard requirements and special provisions set forth on the attached Phase II permit application for each affected unit.



Acid Rain Permit Application

For more information, see instructions and 40 CFR 72.30 and 72.31.

This submission is: ☐ New ☐ Revised ☒ for ARP permit renewal

STEP 1

Identify the facility name, State, and plant (ORIS) code.

Cumberland Energy Center	NJ	5083
Facility (Source) Name	State	Plant Code

STEP 2

Enter the unit ID# for every affected unit at the affected source in column "a."

a	b
Unit ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)
1	Yes
4	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes

Permit Requirements

STEP 3

Read the standard requirements.

(1) The designated representative of each affected source and each affected unit at the source shall:

(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;

(2) The owners and operators of each affected source and each affected unit at the source shall:

(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and

(ii) Have an Acid Rain Permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.

(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the source shall:

(i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and

(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.

(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:

(i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or

(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

Sulfur Dioxide Requirements, Cont'd.**STEP 3, Cont'd.**

(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.

(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.

(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

(1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.

(2) The owners and operators of an affected source that has excess emissions in any calendar year shall:

- (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
- (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:

- (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission

of a new certificate of representation changing the designated representative;

STEP 3, Cont'd.

Recordkeeping and Reporting Requirements, Cont'd.

- (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
 - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
- (6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.
- (7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

- (1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with

any other provision of the Act, including the provisions of title I of the Act relating

STEP 3, Cont'd.**Effect on Other Authorities, Cont'd.**

to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a source can hold; *provided*, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;

(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,


(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

STEP 4

Read the certification statement, sign, and date.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name	Paul Ostberg General Manager	
Signature		Date 12/10/2020



State of New Jersey

CHRIS CHRISTIE
Governor

DEPARTMENT of ENVIRONMENTAL PROTECTION

BOB MARTIN
Commissioner

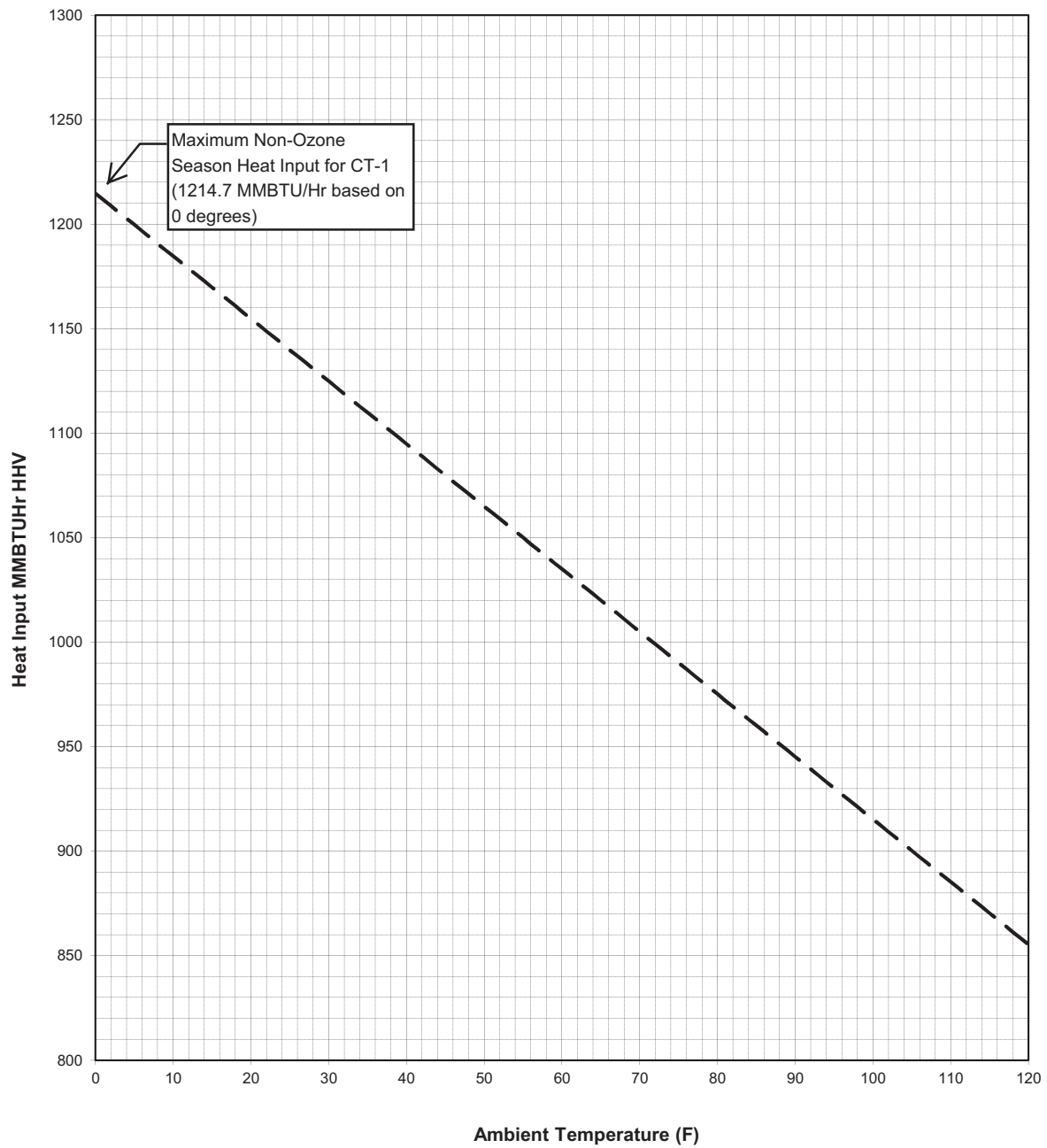
KIM GUADAGNO
Lt. Governor

Appendix III

Ambient Temperature –vs- Heat Input Curves

This curve is to be used to determine the maximum heat input for Unit 1 during non-ozone season operation (U1, OS2 and U1, OS4).

Cumberland Emission Unit #1
Heat Input (MMBTU/hr) vs. Ambient Temperature (F)
While combusting Natural Gas or Fuel Oil



— Heat Input at Peak