



## State of New Jersey

Department of Environmental Protection  
Air, Energy and Materials Sustainability

Division of Air Quality

Bureau of Stationary Sources

401 E. State Street, 2nd Floor, P.O. Box 420, Mail Code 401-02  
Trenton, NJ 08625-0420

PHILIP D. MURPHY  
*Governor*

TAHESHA L. WAY  
*Lt. Governor*

SHAWN M. LATOURETTE  
*COMMISSIONER*

### **Air Pollution Control Operating Permit Significant Modification**

**Permit Activity Number: BOP220002**

**Program Interest Number: 12863**

Mailing Address	Plant Location
MATT LYDON VP OF COMPLIANCE BAYONNE ENERGY CENTER 832 RED OAK LN Sayreville, NJ 08872	BAYONNE ENERGY CTR 401 Hook Rd Bayonne City Hudson County

**Initial Operating Permit Approval Date:**

**September 24, 2009**

**Operating Permit Approval Date:**

**DRAFT**

**Operating Permit Expiration Date:**

**September 24, 2024 (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: <https://dep.nj.gov/boss>. 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 <https://dep.nj.gov/boss>.

## **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://dep.nj.gov/wp-content/uploads/boss/applications-and-forms/administrative-hearing-request-checklist-and-tracking-form.pdf>.

If you have any questions regarding this permit approval, please call Aliya M. Khan at (609) [940-5677].

Approved by:

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David J. Owen

Enclosure

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

**Facility Name: BAYONNE ENERGY CTR**  
**Program Interest Number: 12863**  
**Permit Activity Number: BOP220002**

**TABLE OF CONTENTS**

<b><u>Section A</u></b>	POLLUTANT EMISSIONS SUMMARY
<b><u>Section B</u></b>	GENERAL PROVISIONS AND AUTHORITIES
<b><u>Section C</u></b>	STATE-ONLY APPLICABLE REQUIREMENTS
<b><u>Section D</u></b>	FACILITY SPECIFIC REQUIREMENTS AND INVENTORIES
	<ul style="list-style-type: none"><li>• FACILITY SPECIFIC REQUIREMENTS – PAGE INDEX</li><li>• REASON FOR APPLICATION</li><li>• FACILITY SPECIFIC REQUIREMENTS (COMPLIANCE PLAN)</li><li>• FACILITY PROFILE (ADMINISTRATIVE INFORMATION)</li><li>• EQUIPMENT INVENTORY</li><li>• EQUIPMENT DETAILS</li><li>• CONTROL DEVICE INVENTORY</li><li>• CONTROL DEVICE DETAILS</li><li>• EMISSION POINT INVENTORY</li><li>• EMISSION UNIT / BATCH PROCESS INVENTORY</li><li>• SUBJECT ITEM GROUP INVENTORY</li><li>• ATTACHMENTS<ul style="list-style-type: none"><li>○ ACID RAIN PERMIT</li><li>○ CSAPR ATTACHMENT</li></ul></li></ul>

## Section A

**Facility Name: BAYONNE ENERGY CTR**  
**Program Interest Number: 12863**  
**Permit Activity Number: BOP220002**

### **POLLUTANT EMISSIONS SUMMARY**

Table 1: Total emissions from all Significant Source Operations<sup>1</sup> at the facility.

Facility's Potential Emissions from all Significant Source Operations (tons per year)										
Source Categories	VOC (total)	NO <sub>x</sub>	CO	SO <sub>2</sub>	TSP (total)	PM <sub>10</sub> (total)	PM <sub>2.5</sub> (total)	Pb	HAPs* (total)	CO <sub>2</sub> e <sup>2</sup>
Emission Units Summary	43.7	131	153	25.9	119	119	119	0.0269	3.74	
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	43.7	131	153	25.9	119	119	119	0.0269	3.74	1,720,151

Table 2: Estimate of total emissions from all Insignificant Source Operations<sup>1</sup> 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 <sub>x</sub>	CO	SO <sub>2</sub>	TSP (total)	PM <sub>10</sub> (total)	PM <sub>2.5</sub> (total)	Pb	HAPs (total)
Insignificant Source Operations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Non-Source Fugitive Emissions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

VOC: Volatile Organic Compounds

NO<sub>x</sub>: Nitrogen Oxides

CO: Carbon Monoxide

SO<sub>2</sub>: 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

PM<sub>10</sub>: Particulates under 10 microns

PM<sub>2.5</sub>: Particulates under 2.5 microns

Pb: Lead

HAPs: Hazardous Air Pollutants

CO<sub>2</sub>e: 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.

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

<sup>2</sup> Total CO<sub>2</sub>e emissions for the facility.

## Section A

**Facility Name: BAYONNE ENERGY CTR**  
**Program Interest Number: 12863**  
**Permit Activity Number: BOP220002**

### **POLLUTANT EMISSIONS SUMMARY**

Table 3: Summary of Hazardous Air Pollutants (HAP) Emissions from Significant Source Operations <sup>3</sup>:

HAP	TPY
Acrolein	0.00432
Arsenic	0.0212
Benzene	0.00847
Beryllium	0.000596
Cadmium	0.00923
Formaldehyde	0.479
Lead	0.0269
Manganese	1.52
Naphthalene	0.00117
Nickel	0.00885
PAH	0.00169
Propylene Oxide	0.0157

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

Other Air Contaminant	TPY
NH <sub>3</sub>	92.7
H <sub>2</sub> SO <sub>4</sub> mist	9.00
CH <sub>4</sub>	33.3
Nitrous Oxide	4.41

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<sup>3</sup> 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: BAYONNE ENERGY CTR**

**Program Interest Number: 12863**

**Permit Activity Number: BOP220002**

### **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 an affirmative defense, consistent with General Provision #10 below, 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.
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. The permittee may not assert an affirmative defense to penalty liability for non-compliance with a provision or condition of the operating permit that is based on any federally delegated regulation, including but not limited to NSPS, NESHAP, or MACT. An affirmative defense to penalty liability for non-compliance with a provision or condition of the operating permit may be asserted by a permittee if:
  1. The provision or condition of the operating permit is based solely on State or local law; and
  2. The affirmative defense is asserted and established as required by N.J.S.A. 26:2C-19.1 through 19.5.
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 <https://dep.nj.gov/boss/applications-and-forms/> (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: <https://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]
25. Any emission limit values in an operating permit shall be interpreted to be followed by inherent trailing zeros (0) in the decimal portion of the limit to three significant figures (e.g. a printed limit of “1 lb/hr” means a limit of “1.00 lb/hr”) except for concentration limits less than 10 parts per million (ppm). For such concentration limits, the emission limit shall be interpreted to be followed by inherent trailing zeros (0) in the decimal portion of the limit to two significant figures (e.g. a printed limit of “1 ppm” means a limit of “1.0 ppm”).

## **Section C**

**Facility Name: BAYONNE ENERGY CTR**  
**Program Interest Number: 12863**  
**Permit Activity Number: BOP220002**

## **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	GR3	---	1-13
D	GR4	---	ALL

## Section D

**Facility Name: BAYONNE ENERGY CTR**

**Program Interest Number: 12863**

**Permit Activity Number: BOP220002**

### **FACILITY SPECIFIC REQUIREMENTS AND INVENTORIES**

#### **FACILITY SPECIFIC REQUIREMENTS PAGE INDEX**

#### **Subject Item and Name**

#### **Page Number**

##### **Facility (FC):**

FC

1

##### **Groups (GR):**

<b>GR NJID</b>	<b>GR Designation</b>	<b>GR Description</b>	
GR1	Facility PTE	Facility Annual Emissions	7
GR2	GR2 Blk Str	Black Start Readiness Test and Actual Black Start Operation of Turbines and Generators	12
GR3	RGGI	RGGI Requirements	15
GR4	NJAC 7:27F	NJAC 7:27F - NJPACT Requirements	25

##### **Emission Units (U):**

<b>U NJID</b>	<b>U Designation</b>	<b>U Description</b>	
U1	8 Turbines	8 Simple Cycle Stationary Gas Turbines (used for electric power generation)	29
U2	Em Gen	1.75 MW Emergency Generator	100
U3	Fire Pump	157 HP Fire Pump	110
U4	2 Turbines	2 Simple Cycle Stationary Gas Turbines (used for electric power generation)	118
U6	BS Em Engine	Black Start Emergency Engine Operation	185

**New Jersey Department of Environmental Protection**  
**Reason for Application**

**Permit Being Modified**

**Permit Class:** BOP      **Number:** 230001

**Description of Modifications:** This proposed modification, BOP 220002, proposes to incorporate operational enhancements to Units 1-8 (U1 OS1-OS8) combustion turbines, aligning them with the operational abilities of Unit 9-10 during natural gas firing, i.e., a maximum electrical output of 66 MW per turbine. The modification will be implemented by a computer enhancement that allows the electrically generator limiter to be increased from 64 MW to 66 MW and heat input increase from 603 MMBtu/hour to 643 MMBtu/hour while combusting natural gas. No changes are proposed for the ultra-low sulfur diesel firing operations or the emergency engines. There are no changes proposed during oil firing and no anticipated changes to emissions during low load operation (U1 OS 17-24) and start-up and shutdown (U1 OS 25-40 for natural gas firing and OS 41-56 ultra-low sulfur diesel firing).

There will be no emissions increases requested for annual facility wide emissions for all criteria pollutants.

The following changes are being made to the permit:

1. Increase the electrical output for CTGs 1 through 8 from 64 megawatts (MW) to 66 MW for natural gas firing operating scenarios (OS1-8) with a corresponding increase in maximum heat input rate from 603 MMBtu/hr (HHV) to 643 MMBtu/hr (HHV). The facility is not proposing an increase in annual emissions of criteria pollutants NO<sub>x</sub>, CO, VOC, PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and Sulfuric Acid but there will be an increase in hourly emissions of criteria pollutants, and Ammonia.
2. Increase in hourly emissions as follows:  
NO<sub>x</sub> increases from 5.5 lb/hr to 5.92 lb/hr  
CO increases from 6.76 lb/hr to 7.21 lb/hr  
VOC increases from 1.93 lb/hr to 2.06 lb/hr  
TSP, PM<sub>10</sub>, PM<sub>2.5</sub> no change and stays the same increases from 5.0 lb/hr  
Ammonia increases from 4.16 lb/hr to 4.38 lb/hr
3. Add Initial Stack Testing Requirements to Emission Unit U1 for all criteria pollutants due to the proposed increase in maximum heat input rate and MWs of each turbine and emissions. The facility is proposing a decrease in SO<sub>2</sub> short term emissions by using a lower sulfur content of natural gas.
4. Correct the stack height of U4 turbines from 151 to 153.7 ft.
5. Increase the GHG emissions from the facility from 1,634,281 tpy to 1,720,150 tpy due to an increase in heat input rate of U1 turbines.
6. Add additional HAPs that are above the N.J.A.C. 7:27-17 reporting thresholds to the permit of permitted HAPs (U1 and U4). These HAPs already existed at the facility but were not included in the permit previously. These are Arsenic, Benzene, Beryllium, Cadmium, Naphthalene, Nickel and Propylene oxide.
7. Reduce the total emissions of HAPs from the facility from 11.3 tpy to 3.74 tpy. Although the facility is including more HAPs that are above the reporting thresholds the reduction in total HAPs emissions is by applying an oxidation catalyst control efficiency of 90% for organic HAPs during natural gas combustion and 85% control efficiency for organic HAPs during oil combustion. Control efficiency of 90% for these pollutants is from the Sims Roy Aug 21, 2001 memorandum. In addition, the facility is using 50% turbine load during first half hour and steady state 100 % load the rest half hour for Start-up and

**New Jersey Department of Environmental Protection**  
**Reason for Application**

shutdown emissions calculations.

8. In Section A, Table 1 the missing Pb tpy values from U4 turbines are added.

9. Reduce short term SO<sub>2</sub> emissions for U1 turbines by using a fuel sulfur content of 0.42 grains per scf for natural gas, the same sulfur content that was used for calculating SO<sub>2</sub> emissions from U4 turbines. The hourly emissions are being reduced from 1.22 lb/hr to 0.77 lb/hr, but the facility is not proposing any reduction in annual emissions for SO<sub>2</sub> of 25.9 tpy.

10. Update of the FC section of the compliance plan.

11. Inclusion of methane emissions and nitrous oxide emissions to U1 and U4 as they are above the 0.05 pound per hour N.J.A.C 7:27-8 reporting thresholds.

12. Update of Section B, General Provisions and Authority of the Permit Text.

BOP220002

**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.

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

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.	<p>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.</p> <p>The NJDEP online web portal can be accessed at:  <a href="http://www.state.nj.us/dep/online/">http://www.state.nj.us/dep/online/</a>. 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]</p>
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)].	<p>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)]</p>
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.



BOP220002

**New Jersey Department of Environmental Protection  
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]

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

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: <a href="http://www.state.nj.us/dep/online/">http://www.state.nj.us/dep/online/</a> . 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]

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

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.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	If an operating permit has expired, the conditions of the operating permit, including the requirements for stack testing, 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.

BOP220002

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

**Subject Item: GR1 Facility Annual Emissions**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	NOx (Total) <= 131.4 tons/yr based on a consecutive 12 month period, rolling one month basis. The above NOx emissions in tons/yr include startup and shutdown emissions and Low load operation emissions from the 10 turbines at U1 and U4, one emergency diesel generator (EDG) at U2, one fire water pump at U3, and one black start emergency generator (BSG) at U6.[N.J.A.C. 7:27-22.16(a)]. [N.J.A.C. 7:27-18.3(b)]	NOx (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary), (U2, OS Summary), (U3, OS Summary), (U4, OS Summary), and ( U6 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 each month during operation. Record monthly and annual emissions. [N.J.A.C. 7:27-22.16(o)]	None.
2	CO <= 153.3 tons/yr based on a consecutive 12 month period, rolling one month basis. The above CO emissions in tons/yr include startup and shutdown emissions and Low load operation emissions from the 10 turbines at U1 and U4, one emergency diesel generator (EDG) at U2, one fire water pump at U3, and one black start emergency generator (BSG) at U6. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary), (U2, OS Summary), (U3, OS Summary), (U4, OS Summary), and ( U6 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 each month during operation. Record monthly and annual emissions. [N.J.A.C. 7:27-22.16(o)]	None.
3	VOC (Total) <= 43.7 tons/yr based on a consecutive 12 month period, rolling one month basis. This limit includes formaldehyde emissions. Total annual emissions of VOC from the facility shall include VOC emissions in tons/yr from 10 turbines at U1 and U4 including Low load operation emissions from the 10 turbines, one emergency diesel generator (EDG) at U2, one fire water pump at U3, and one black start emergency generator (BSG) at U6.[N.J.A.C. 7:27-22.16(a)]. [N.J.A.C. 7:27-18.3(b)]	VOC (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary), (U2, OS Summary), (U3, OS Summary), (U4, OS Summary), and ( U6 OS Summary). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. Record monthly and annual emissions. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	SO <sub>2</sub> ≤ 17.3 tons/yr based on a consecutive 12 month period, rolling one month basis. Total annual emissions of SO <sub>2</sub> from the facility shall include SO <sub>2</sub> emissions in tons/yr from 10 turbines at U1 and U4 including Low load operation emissions from the 10 turbines, one emergency diesel generator (EDG) at U2, one fire water pump at U3, and one black start emergency generator (BSG) at U6. [N.J.A.C. 7:27-22.16(o)]	SO <sub>2</sub> : Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary), (U2, OS Summary), (U3, OS Summary), (U4, OS Summary), and ( U6 OS Summary). [N.J.A.C. 7:27-22.16(a)]	SO <sub>2</sub> : Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. Record monthly and annual emissions. [N.J.A.C. 7:27-22.16(o)]	None.
5	TSP ≤ 119.4 tons/yr based on a consecutive 12 month period, rolling one month basis. Total annual emissions of TSP from the facility shall include TSP emissions in tons/yr from 10 turbines at U1 and U4 including Low load operation emissions from the 10 turbines, one emergency diesel generator (EDG) at U2, one fire water pump at U3, and one black start emergency generator (BSG) at U6. [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary), (U2, OS Summary), (U3, OS Summary), (U4, OS Summary), and ( U6 OS Summary). [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. Record monthly and annual emissions. [N.J.A.C. 7:27-22.16(o)]	None.
6	PM-2.5 (Total) ≤ 119.4 tons/yr based on a consecutive 12 month period, rolling one month basis. Total annual emissions of PM-2.5 from the facility shall include PM-2.5 emissions in tons/yr from 10 turbines at U1 and U4 including Low load operation emissions from the 10 turbines, one emergency diesel generator (EDG) at U2, one fire water pump at U3, and one black start emergency generator (BSG) at U6. [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary), (U2, OS Summary), (U3, OS Summary), (U4, OS Summary), and ( U6 OS Summary). [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. Record monthly and annual emissions. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	PM-10 (Total) <= 119.4 tons/yr based on a consecutive 12 month period, rolling one month basis. Total annual emissions of PM-10 from the facility shall include PM-10 emissions in tons/yr from 10 turbines at U1 and U4 including Low load operation emissions from the 10 turbines, one emergency diesel generator (EDG) at U2, one fire water pump at U3, and one black start emergency generator (BSG) at U6. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary), (U2, OS Summary), (U3, OS Summary), (U4, OS Summary), and ( U6 OS Summary). [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. Record monthly and annual emissions. [N.J.A.C. 7:27-22.16(o)]	None.
8	Ammonia <= 92.7 tons/yr based on a consecutive 12 month period, rolling one month basis. Total annual emissions of Ammonia from the facility shall include Ammonia emissions emitted by the eight combustion turbines (CTs) at U1, and two CTs at U4. [N.J.A.C. 7:27-22.16(a)]	Ammonia: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary), and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Ammonia: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.
9	Acrolein <= 0.0128 tons/yr Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Acrolein: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
10	Arsenic Emissions <= 0.0212 tons/yr. Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
11	Benzene <= 0.0329 tons/yr. Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Benzene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	Beryllium Emissions <= 0.000596 tons/yr Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
13	Cadmium Emissions <= 0.00923 tons/yr Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
14	Formaldehyde <= 1.42 tons/yr Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
15	Manganese compounds <= 1.52 tons/yr Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Manganese compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
16	Naphthalene <= 0.0121 tons/yr Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	Nickel Emissions <= 0.00885 tons/yr Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
18	Polynuclear aromatic hydrocarbons (PAHs) <= 0.0485 tons/yr Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
19	Pb <= 0.0269 tons/yr Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(a)]	Pb: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Pb: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
20	Propylene oxide <= 0.0485 tons/yr. Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(a)]	Propylene oxide: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Propylene oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
21	Sulfuric Acid Mist Emissions <= 9 tons/yr Maximum emissions for 10 combustion turbines of U1 and U4. [N.J.A.C. 7:27-22.16(a)]	Sulfuric Acid Mist Emissions: Monitored by calculations once initially. The total facility wide annual emissions shall be calculated by adding the annual emissions calculated at (U1, OS Summary) and (U4, OS Summary). [N.J.A.C. 7:27-22.16(o)]	Sulfuric Acid Mist Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Subject Item: GR2 Black Start Readiness Test and Actual Black Start Operation of Turbines and Generators**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Hours of Operation &lt;= 6 hr/yr per turbine and twenty four hours (24) total for all ten (10) turbines for BLACK START READINESS TESTING (BSRT).</p> <p>Black start readiness testing employing upto 10 combustion turbines 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10, (Emission Unit U1 OS17 through OS24: Equipment IDs E1, E2, E3, E4, E5, E6, E7,E8; Emission Unit U4 OS9 and OS10: Equipment IDs E11, E12, ); emergency generator (Emission Unit U2; Equipment ID E9) and emergency generator (Emission Unit U6; Equipment ID E13) is permitted once per year.</p> <p>If the readiness test fails, re-tests are permitted such that the total time for all readiness tests (or re-tests) shall not exceed six (6) hours per year.</p> <p>Each readiness test (or re-test) shall not exceed two (2) hours.</p> <p>During all readiness tests, the U2 emergency generator and U6 black start generator are permitted to operate during the startup of the combustion turbines at Emission Unit U1 and Emission Unit U4 as in the requirements at GR2.</p> <p>No testing will occur on designated "Ozone Action Days" as required by N.J.A.C. 7:27-19.2(d)2. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Hours of Operation: Monitored by hour/time monitor each hour during operation. The permittee shall install and operate a totalizing, non-resettable hour meter to monitor the total hours of operation of each turbine and each generator during each black start test. [N.J.A.C. 7:27-22]</p>	<p>Hours of Operation: Recordkeeping by manual logging of parameter or storing data in a computer data system each hour during operation The owner or operator shall maintain on site and record in a logbook or computer data system, the following information:</p> <ol style="list-style-type: none"> <li>1. The total operating time of each turbine and each generator specifically operated during each black start readiness test.</li> <li>2. i. Readiness tests and re-tests should be specifically designated as such in the logbook or computer data system.</li> <li>ii. the date(s) for its operation for black start readiness test and the startup and shutdown time</li> <li>iii. The total operating time based on the generators' hour meter; and,</li> <li>iv. The name of the operator.</li> </ol> <p>The owner or operator of the turbines and generators shall maintain the above records for a period no less than five 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)]</p>	<p>None.</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	<p><b>BLACK START READINESS TESTING (BSRT):</b> During the BSRT operation of the following equipment would be as directed by North American Electric Reliability Corporation (NERC) Transmission Operator (TOP), Con Edison.</p> <p>1: black start emergency generator (BSG) at Emission Unit U6, Equipment ID E13; 2: emergency diesel generator (EDG) at Emission Unit U2, Equipment ID E9; 3: eight (8) combustion turbines (CTs) at Emission Unit U1, OS17 through OS24, Equipment IDs E1, E2, E3, E4, E5, E6, E7, E8; and, 4. two(2) CTs at Emission Unit U4, OS9 and OS10, Equipment IDs E11, E12</p> <p>Once upto ten(10) combustion turbines (ten or less) as requested by North American Electric Reliability Corporation (NERC) Transmission Operator (TOP), for black start testing under GR2 at U1OS17, U1OS18, U1OS19, U1OS20, U1OS21, U1OS22, U1OS23, U1OS24, U4OS9, U4OS10, are started and assume the "house load" or "critical load" from EDG and BSG, then the EDG and BSG shall be turned off.</p> <p>"House load" refers to the internal load (power demand/consumption of facility equipment) that is required to start or operate electrical equipment at the facility. It can also be called "critical load" at the facility. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Other: Monitored by gross and net output of the turbine in Mw-hr.</p> <p>The black start generators (U6) and emergency generator (U2) shall cease operation when upto ten combustion turbines at GR2 is/are supporting "house load" and supplying net power to the grid.[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. Record gross and net output in Mw-hr under these operating scenarios as applicable. [N.J.A.C. 7:27-22.16(o)]</p>	<p>None.</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>Hours of Operation &lt;= 36 hr/yr for actual black start operation</p> <p>During an actual blackout emergency requiring black start operation, also called black start restoration , operation of black start emergency generator (BSG) at Emission Unit U6; Equipment ID E13, emergency diesel generator (EDG) at Emission Unit U2; Equipment ID E9, and ten (10) combustion turbines (CTs) at Emission Unit U1, OS17 through OS24; Equipment IDs E1, E2, E3, E4, E5, E6, E7, E8 and Emission Unit U4, OS9 and OS10; Equipment IDs E11, E12); would be as directed by North American Electric Reliability Corporation (NERC) Transmission Operator (TOP).</p> <p>During an actual blackout emergency, upto ten CTs listed above would come on line with BSG and EGD supporting house load, based on system restoration needs. Once the required number of CTs were self sustaining and carrying house loads then the EDG and BSG shall be turned off.</p> <p>"House load" refers to the internal load (power demand/consumption of facility equipment) that is required to start or operate electrical equipment at the facility. It can also be called "critical load" at the facility. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Hours of Operation: Monitored by hour/time monitor upon occurrence of event.</p> <p>Monitor and record the duration of each Black Start Emergency Operation in hours.</p> <p>List all the combustion turbines that are operated during the black start operation. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Hours of Operation: Recordkeeping by duration of each Black Start Emergency Operation to document compliance with this Applicable Requirement.[N.J.A.C. 7:27-22.16(o)].</p>	None.
4	<p>N.J.A.C. 7:27-4, N.J.A.C. 7:27-16, and N.J.A.C. 7:27-19, emission limits as listed in this permit apply to all the turbines at U1 and U4 during this operating scenario which is during the black start readiness testing, and an actual black start restoration scenario. [N.J.A.C. 7:27-22.16(a)]</p>	None.	<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>	None.

BOP220002

## New Jersey Department of Environmental Protection Facility Specific Requirements

Subject Item: GR3 RGGI Requirements

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. 7:27C-8.5(c)]</p>

**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)]

BOP220002

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

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.

BOP220002

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

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"> <li>- All emissions monitoring information, in accordance with N.J.A.C. 7:27C-8 and 40 CFR 75.57;</li> <li>- Copies of all reports, compliance certifications, and other submissions, and all records made or required under the CO2 Budget Trading Program; and</li> <li>- 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.</li> </ul> <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.



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

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"> <li>1. Identification of the CO2 budget source and each CO2 budget unit at the source;</li> <li>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</li> <li>3. The compliance certification:</li> </ol> <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>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	<p>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.</p> <p>The facility may comply with 40CFR75 by monitoring fuel flow and using Equation G-4 in Appendix G of Part 75. [N.J.A.C. 7:27C- 8.1(c)1]</p>	<p>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)]</p> <p>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)].</p>	<p>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)]</p>	<p>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)]</p>

**New Jersey Department of Environmental Protection  
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]

BOP220002

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

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)]

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

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>

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

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)]

BOP220002

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

**Subject Item:** GR4 NJPACT Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>CO2 &lt;= 1,700 lb/MW-hr.</p> <p>From June 1, 2024 thru May 31, 2027, any existing electrical generating unit (EGU) with a nameplate capacity equal to or greater than 25 MWe shall emit no more than 1,700 pounds of CO2 per MWh gross energy output.</p> <p>Compliance is demonstrated when the CO2 emission rate, determined using procedures in 40 CFR 60.5540(a)(1) through (7), for the initial and each subsequent 12-operating-month rolling average compliance period, is less than or equal to the applicable CO2 emission standard (above). [N.J.A.C. 7:27F-2.5(d)1]</p>	<p>CO2: Monitored by calculations each month during operation, based on a 12-operating-month rolling average. The owner or operator shall use the compliance demonstration procedures at 40 CFR 60.5540 that pertain to EGUs with an output -based emission limit for CO2 by using the procedures in 40 CFR 60.5540(a)(1) through (7) to calculate the CO2 mass emissions.</p> <p>The hourly CO2 mass emissions must be calculated from the fuel use, according to 60.5535(c)(1) through (3) and the generating load must be measured in accordance with 60.5535(d). The calculations shall only be performed for "valid operating hours", as defined in 40 CFR 60.5540(a)(1). [N.J.A.C. 7:27F-2.6(c)]</p>	<p>CO2: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. The owner or operator must comply with the recordkeeping requirements at 40 CFR 60.5560 that pertain to EGUs with an output -based emission limit for CO2 by maintaining records of the information used to demonstrate compliance as specified in 40 CFR 60.7(b) and (f) and 40 CFR 60.5560, in a form suitable and readily available for expeditious review. [N.J.A.C. 7:27F-2.6(d)]</p>	None.
2	<p>CO2 &lt;= 1,300 lb/MW-hr.</p> <p>From June 1, 2027 thru May 31, 2035, any existing electrical generating unit (EGU) with a nameplate capacity equal to or greater than 25 MWe shall emit no more than 1,300 pounds of CO2 per MWh gross energy output.</p> <p>Compliance is demonstrated when the CO2 emission rate, determined using procedures in 40 CFR 60.5540(a)(1) through (7), for the initial and each subsequent 12-operating-month rolling average compliance period, is less than or equal to the applicable CO2 emission standard (above). [N.J.A.C. 7:27F-2.5(d)2]</p>	<p>CO2: Monitored by calculations each month during operation, based on a 12-operating-month rolling average. The owner or operator shall use the compliance demonstration procedures at 40 CFR 60.5540 that pertain to EGUs with an output -based emission limit for CO2 by using the procedures in 40 CFR 60.5540(a)(1) through (7) to calculate the CO2 mass emissions.</p> <p>The hourly CO2 mass emissions must be calculated from the fuel use, according to 60.5535(c)(1) through (3) and the generating load must be measured in accordance with 60.5535(d). The calculations shall only be performed for "valid operating hours", as defined in 40 CFR 60.5540(a)(1). [N.J.A.C. 7:27F-2.6(c)]</p>	<p>CO2: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. The owner or operator must comply with the recordkeeping requirements at 40 CFR 60.5560 that pertain to EGUs with an output -based emission limit for CO2 by maintaining records of the information used to demonstrate compliance as specified in 40 CFR 60.7(b) and (f) and 40 CFR 60.5560, in a form suitable and readily available for expeditious review. [N.J.A.C. 7:27F-2.6(d)]</p>	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>CO2 ≤ 1,000 lb/MW-hr.</p> <p>On and after June 1, 2035, any existing electrical generating unit (EGU) with a nameplate capacity equal to or greater than 25 MWe shall emit no more than 1,000 pounds of CO2 per MWh gross energy output.</p> <p>Compliance is demonstrated when the CO2 emission rate, determined using procedures in 40 CFR 60.5540(a)(1) through (7), for the initial and each subsequent 12-operating-month rolling average compliance period, is less than or equal to the applicable CO2 emission standard (above). [N.J.A.C. 7:27F-2.5(d)3]</p>	<p>CO2: Monitored by calculations each month during operation, based on a 12-operating-month rolling average. The owner or operator shall use the compliance demonstration procedures at 40 CFR 60.5540 that pertain to EGUs with an output-based emission limit for CO2 by using the procedures in 40 CFR 60.5540(a)(1) through (7) to calculate the CO2 mass emissions.</p> <p>The hourly CO2 mass emissions must be calculated from the fuel use, according to 60.5535(c)(1) through (3) and the generating load must be measured in accordance with 60.5535(d). The calculations shall only be performed for "valid operating hours", as defined in 40 CFR 60.5540(a)(1). [N.J.A.C. 7:27F-2.6(c)]</p>	<p>CO2: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. The owner or operator must comply with the recordkeeping requirements at 40 CFR 60.5560 that pertain to EGUs with an output-based emission limit for CO2 by maintaining records of the information used to demonstrate compliance as specified in 40 CFR 60.7(b) and (f) and 40 CFR 60.5560, in a form suitable and readily available for expeditious review. [N.J.A.C. 7:27F-2.6(d)]</p>	None.
4	<p>CO2 Mass Emissions: The owner or operator shall use the compliance demonstration procedures at 40 CFR 60.5540 that pertain to EGUs with an output-based emission limit for CO2. Calculations of the hourly CO2 (tons/h) and EGU operating times must be done in accordance with 40 CFR 60.5535(c)(1) through (3).</p> <p>Pursuant to 40 CFR 60.5535(c), the owner or operator must implement the applicable procedures in appendix D to 40 CFR 75 to determine hourly EGU heat input rates (MMBtu/h), based on hourly measurements of fuel flow rate and periodic determinations of the gross calorific value (GCV) of each fuel combusted. For each measured hourly heat input rate, use equation G-4 in appendix G to 40 CFR 75 to calculate the hourly CO2 mass emission rate (tons/h). [N.J.A.C. 7:27F-2.6(c)]</p>	<p>Monitored by fuel flow/firing rate instrument continuously, based on a 1 hour block average. [N.J.A.C. 7:27F-2.6(c)]</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The owner or operator must comply with the recordkeeping requirements at 40 CFR 60.5560 that pertain to EGUs with an output-based emission limit for CO2.</p> <p>The hourly CO2 (tons/h) and EGU (or stack) operating times used to calculate CO2 mass emissions are required to be recorded under 40 CFR 75.57(e). These data must be used to calculate the hourly CO2 mass emissions. [N.J.A.C. 7:27F-2.6(d)]</p>	None.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	<p>Electrical Output: The owner or operator shall use the compliance demonstration procedures at 40 CFR 60.5540 that pertain to EGUs with an output - based emission limit for CO<sub>2</sub>.</p> <p>Pursuant to 40 CFR 60.5535 (d), the owner or operator must install, calibrate, maintain, and operate a sufficient number of watt meters to continuously measure and record the hourly gross electric output. These measurements must be performed using 0.2 class electricity metering instrumentation and calibration procedures as specified under ANSI Standards No. C12.20. [N.J.A.C. 7:27F-2.6(c)]</p>	<p>Other: Monitored by watt meter continuously (See Applicable Requirement).</p> <p>Consistent with 40 CFR 60.5535(e) and 40 CFR 60.5520, if two or more affected EGUs serve a common electric generator, the owner or operator must apportion the combined hourly gross or net energy output to the individual affected EGUs according to the fraction of the total steam load contributed by each EGU. Alternatively, if the EGUs are identical, the owner or operator may apportion the combined hourly gross or net electric load to the individual EGUs according to the fraction of the total heat input contributed by each EGU.[N.J.A.C. 7:27F-2.6(c)].</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The owner or operator must comply with the recordkeeping requirements at 40 CFR 60.5560 that pertain to EGUs with an output -based emission limit for CO<sub>2</sub> by maintaining records of the information used to demonstrate compliance as specified in 40 CFR 60.7(b) and (f) and 40 CFR 60.5560, in a form suitable and readily available for expeditious review. [N.J.A.C. 7:27F-2.6(d)]</p>	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	<p>Emergency Use of Fuel Oil During Natural Gas Curtailment:</p> <p>If a fossil fuel-fired electric generating unit, subject to 7:27F-2, temporarily combusts fuel oil or other liquid fuel in place of natural gas, pursuant to a natural gas curtailment period (as defined at N.J.A.C. 7:27F-2.1), the CO<sub>2</sub> emissions from that EGU during the period of curtailment shall not be included in the 12-operating-month rolling average used to determine compliance with the emission limits of this subchapter, so long as:</p> <ol style="list-style-type: none"> <li>1. The EGU's permit authorizes fuel switching pursuant to N.J.A.C. 7:27-19;</li> <li>2. The owner or operator is not practicably able to obtain a sufficient supply of natural gas;</li> <li>3. The owner or operator's inability to obtain natural gas is due to circumstances beyond the control of the owner or operator, such as a natural gas curtailment;</li> <li>4. The EGU ceases using fuel oil or other liquid fuel in place of natural gas and resumes using natural gas as soon as a sufficient supply of natural gas becomes practicably available; and</li> <li>5. The owner or operator keeps records of curtailment periods and incorporates such records into the reports submitted to the Department as required by N.J.A.C. 7:27-22. [N.J.A.C. 7:27F-2.3(c)]</li> </ol>	<p>Other: Monitor the date and time of any natural gas curtailment during which the EGU combusted fuel oil or other liquid fuel in place of natural gas.[N.J.A.C. 7:27F-2.3(c)].</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. For each period of natural gas curtailment, during which the EGU combusted fuel oil or other liquid fuel in place of natural gas, the permittee shall maintain a record that includes the following information:</p> <ol style="list-style-type: none"> <li>i. Information sufficient to identify each EGU for which the owner or operator claims an exemption under this section, including a brief description of the source (for example, "dry-bottom coal-fired boiler serving an electric generating unit"), its location, its permit number, any other identifying numbers, and any other information necessary to distinguish it from other equipment also owned or operated by the owner or operator of the electric generating unit;</li> <li>ii. A statement that the owner or operator is not practicably able to obtain a sufficient supply of natural gas;</li> <li>iii. The date and time at which the owner or operator first became practicably unable to obtain natural gas; and</li> <li>iv. A description of the circumstances causing the owner's or operator's inability to obtain natural gas. [N.J.A.C. 7:27F-2.3(c)5]</li> </ol>	<p>None.</p>

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Subject Item:** CD101 Water Injection Turbine 1, CD201 Water Injection Turbine 2, CD301 Water Injection Turbine 3, CD401 Water Injection Turbine 4, CD501 Water Injection Turbine 5, CD601 Water Injection Turbine 6, CD701 Water Injection Turbine 7, CD801 Water Injection Turbine 8

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The permittee shall operate the Water Injection System (CD101, CD201, CD301, CD401, CD501, CD601, CD701, CD801) during all periods that the gas turbine is operating, except during start-up, shutdown and low load operation (OS17 through OS24). [N.J.A.C. 7:27-22.16(a)]	Monitored by hour/time monitor continuously, based on an instantaneous determination. The permittee shall record the time and duration of the operation of both the water injection system and the gas turbine. [N.J.A.C. 7:27-22.16(a)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The permittee shall continuously record the time and duration of the operation of the gas turbine and the water injection system. [N.J.A.C. 7:27-22.16(o)]	None.
2	Water-to-Fuel Ratio: The water-to-fuel ratio shall be within the manufacturer's recommended limits. This is done automatically by the manufacturer's controller. [N.J.A.C. 7:27-22.16(a)]	None.	Water-to-Fuel Ratio: 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)]	None.

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Subject Item:** CD102 Selective Catalytic Reduction Turbine 1, CD202 Selective Catalytic Reduction Turbine 2, CD302 Selective Catalytic Reduction Turbine 3, CD402 Selective Catalytic Reduction Turbine 4, CD502 Selective Catalytic Reduction Turbine 5, CD602 Selective Catalytic Reduction Turbine 6, CD702 Selective Catalytic Reduction Turbine 7, CD802 Selective Catalytic Reduction Turbine 8

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The Selective Catalytic Reduction system shall be used to destroy 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 for the turbines in this permit are met. [N.J.A.C. 7:27-22.16(a)]	None.	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)].	None.
2	The SCRs ( CD102, CD202, CD302, CD402, CD502, CD602 ,CD702, CD802) shall be operated at all times that the turbine is operating, except during start-up, shutdown and low load operation (OS17 through OS24). [N.J.A.C. 7:27-22.16(a)]	Monitored by hour/time monitor continuously. The permittee shall record the time and duration of the operation of both the SCR and the gas turbine. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The permittee shall continuously record the time and duration of the operation of the stationary combustion engine and the selective catalytic reduction unit (SCR). [N.J.A.C. 7:27-22.16(o)]	None.
3	The SCR catalyst, CD102, CD202, CD302, CD402, CD502, CD602 ,CD702, CD802, array(s) shall be maintained and replaced in accordance with the recommendations and schedules of the manufacturer and based on NOx emission levels indicated through CEM/stack testing. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	Temperature at Exit of Catalyst $\geq$ 550 and Temperature at Exit of Catalyst $\leq$ 860 degrees F Except during start-up, shutdown and low load operation (OS17 through OS24). Applicable to SCRs( CD102, CD202, CD302, CD402, CD502, CD602 , CD702, CD802). The permittee shall not be considered in violation for any deviation of this requirement if the corresponding NOx emissions from the turbine are in compliance with the applicable emission limits established in this permit. [N.J.A.C. 7:27-22.16(a)]	Temperature at Exit of Catalyst: Monitored by temperature instrument continuously. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [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.
5	NOx Control Efficiency $\geq$ 90 % (design Value) for natural gas firing. Applicable to Selective Catalytic Reduction (CD102, CD202, CD302, CD402, CD502, CD602, CD702, CD802). [N.J.A.C. 7:27-22.16(a)]	NOx Control Efficiency: Monitored by documentation of construction once initially. [N.J.A.C. 7:27-22.16(o)]	Other: The permittee shall keep SCR manufacturer's documentation, as-built performance guarantee and operation and maintenance manual on-site.[N.J.A.C. 7:27-22.16(o)].	None.
6	NOx Control Efficiency $\geq$ 88 % (design Value) for ULSD oil firing. Applicable to Selective Catalytic Reduction (CD102, CD202, CD302, CD402, CD502, CD602, CD702, CD802). [N.J.A.C. 7:27-22.16(a)]	NOx Control Efficiency: Monitored by documentation of construction once initially. [N.J.A.C. 7:27-22.16(o)]	Other: The permittee shall keep SCR manufacturer's documentation, as-built performance guarantee and operation and maintenance manual on-site.[N.J.A.C. 7:27-22.16(o)].	None.

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Subject Item:** CD103 Oxidation Catalyst 1, CD203 Oxidation Catalyst 2, CD303 Oxidation Catalyst 3, CD403 Oxidation Catalyst 4, CD503 Oxidation Catalyst 5, CD603 Oxidation Catalyst 6, CD703 Oxidation Catalyst 7, CD803 Oxidation Catalyst 8

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Destruction and Removal Efficiency <math>\leq</math> 90 % (design value) for CO for gas firing such that CO and VOC (Total) emission limits, as established in this permit, are met.</p> <p>The Oxidation Catalysts ( CD103, CD203, CD303, CD403, CD503, CD603, CD703, CD803), 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. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Destruction and Removal Efficiency: Monitored by documentation of construction once initially. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Destruction and Removal Efficiency: Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency. The permittee shall maintain Catalytic Oxidizer system manufacturer's documentation, specifications, and operation &amp; maintenance manual (O&amp;M) on-site. [N.J.A.C. 7:27-22.16(o)]</p>	None.
2	<p>Destruction and Removal Efficiency <math>\leq</math> 85 % (design value) for CO for oil firing, such that CO and VOC (Total) emission limits, as established in this permit, are met.</p> <p>The Oxidation Catalysts ( CD103, CD203, CD303, CD403, CD503, CD603, CD703, CD803), 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. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Destruction and Removal Efficiency: Monitored by documentation of construction once initially. [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 &amp; maintenance manual (O&amp;M) on-site. [N.J.A.C. 7:27-22.16(o)].</p>	None.
3	<p>The oxidation catalysts, referred by CD103, CD203, CD303, CD403, CD503, CD603, CD703, CD803, shall be operated at all times that the turbine is operating except during start-up shutdown and low load operation (OS17 through OS24). [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by hour/time monitor continuously, based on an instantaneous determination. The permittee shall record the time and duration of the operation of both the oxidation catalyst and the gas turbine. [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 the gas turbine and the oxidation catalyst unit. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	The Oxidation Catalysts CD103, CD203, CD303, CD403, CD503, CD603, CD703, CD803, array(s) shall be maintained and replaced in accordance with the recommendations and schedules of the manufacturer, based on usage rate. [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by documentation of construction.[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.
5	Temperature at Exit of Catalyst $\geq 550$ and Temperature at Exit of Catalyst $\leq 900$ degrees F, except during start-up, shutdown, and low load operation (OS17 through OS24). Applicable to oxidation catalysts CD103, CD203, CD303, CD403, CD503, CD603, CD703, and CD803. [N.J.A.C. 7:27-22.16(o)]	Temperature at Exit of Catalyst: Monitored by temperature instrument continuously. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [N.J.A.C. 7:27-22.16(o)]	Temperature at Exit of Catalyst: Recordkeeping by manual logging of parameter or storing data in a computer data system continuously. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p><b>INITIAL STACK TESTING SUMMARY.</b></p> <p>The permittee shall conduct an initial stack test using a protocol approved by the Department to demonstrate compliance with emission limits for NO<sub>x</sub>, CO, VOC, TSP, PM<sub>2.5</sub>, PM<sub>10</sub>, and Ammonia emission limits while burning natural gas as specified in the compliance plan for OS1, OS2, OS3, OS4, OS5, OS6, OS7 and OS8.</p> <p>The stack emission testing shall be conducted at worst-case operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition.</p> <p>The permittee shall provide EMS with the turbine load performance curve with the protocol.</p> <p>The initial performance test for compliance with NO<sub>x</sub> emission limits, as per NSPS KKKK, 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. [40CFR60.4400] [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by stack emission testing once initially. The stack test must be conducted on natural gas within 180 days after initial startup of the new or modified source or within 60 days of approval of a timely submitted protocol, whichever comes later.</p> <p>Pursuant to N.J.A.C. 7:27-16.23(c) and 19.15(c), the initial stack test to demonstrate compliance with VOC/NO<sub>x</sub> RACT standards shall be conducted within 180 days from the date on which source operation commences operation.</p> <p>If a source is subject to NSPS, extending the testing date beyond 180 days after the source's initial startup requires prior approval from US EPA. [N.J.A.C. 7:27-22.18] and. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results once initially. [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: 380-01A, PO Box 420, Trenton, NJ 08625 within 60 days from the date of the initial operation of the turbines after modification. Within 30 days of protocol approval, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. The stack test must be conducted within 180 days from the date of the initial operation of each turbine firing natural gas. N.J.A.C. 7:27-22.19(d).</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.</p> <p>The test results shall be reported in lb/hr, lb/MMBTU (HHV) and ppmvd @ 15% O<sub>2</sub> as applicable. [N.J.A.C. 7:27-22.18(e)], [N.J.A.C. 7:27-22.18(h)] and. [N.J.A.C. 7:27-22.16(o)]</p>



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	<p><b>RENEWAL STACK TESTING</b></p> <p><b>SUMMARY:</b> The permittee shall conduct a stack test no later than every five years (see General Provisions) from the last stack test using an approved protocol to demonstrate compliance with emission limits for NO<sub>x</sub>, CO, VOC, TSP, PM<sub>2.5</sub>, PM<sub>10</sub>, and Ammonia while combusting natural gas as specified in the compliance plan for U1 OS1, OS2, OS3, OS4, OS5, OS6, OS7 and OS8; and for NO<sub>x</sub>, CO, VOC, TSP, PM<sub>2.5</sub>, PM<sub>10</sub> and Ammonia while combusting ultra low sulfur distillate (ULSD) as specified in the compliance plan for U1 OS9, OS10, OS11, OS12, OS13, OS14, OS15, and OS16</p> <p>Stack test shall be conducted on ULSD within 180 days after a turbine reaches 100 operating hours on ULSD in any given calendar year. Each turbine shall be tested a maximum of once per permit term on ULSD. The permittee shall provide EMS with the turbine load performance curve with the protocol.</p> <p>The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NO<sub>x</sub> 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 above. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Other:</p> <p>Monitoring as required under the applicable operating scenario(s). [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.</p> <p>Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 no later than 12 months prior to the completion of the five year period since the last stack test for natural gas.</p> <p>The stack test protocol for stack emission testing when a turbine combusts ULSD oil shall be submitted within 30 calendar days after a turbine reaches 100 operating hours on ULSD in a given calendar year.</p> <p>Within 30 days after protocol approval or no less than 60 days prior to the intended test date, whichever is later, the permittee must contact EMS at 609-530-4041 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.</p> <p>The test results shall be reported in lb/hr, lb/MMBTU (HHV) and ppmvd @ 15% O<sub>2</sub> as applicable.</p> <p>[N.J.A.C. 7:27-22.18(e)], [N.J.A.C. 7:27-22.18(h)] and. [N.J.A.C. 7:27-22.16(o)]</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>CEMS REQUIREMENTS SUMMARY:</p> <p>Operate Continuous Monitoring Systems (CEMS) to demonstrate compliance with CO, NOx , and O2 as specified in the compliance plan for U1 OS Summary, and U1OS1 through U1OS33.</p> <p>Continuous parametric monitors and continuous parametric data recorders shall be operated to demonstrate compliance with monitoring parameters as specified in the compliance plan for U1 OS Summary, and U1OS1 through U1OS24. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by continuous emission monitoring system continuously. Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)]</p>	<p>None.</p>
4	<p>CEMS/COMS REQUIREMENTS SUMMARY</p> <p>The Permittee shall operate CEMS according to the approved certification and in compliance with daily, quarterly, and annual quality assurance requirements. The CEMS shall include continuous monitoring of all necessary parameters (e.g. oxygen, moisture, temperature, flow rate) to allow the required corrections to be applied to demonstrate compliance with the emission limits.</p> <p>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)]</p>	<p>None.</p>	<p>None.</p>	<p>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. Comply with the requirement: Upon occurrence of event. [N.J.A.C. 7:27-22]</p>
5	<p>CO &lt;= 250 ppmvd @ 15% O2. VOC RACT emission limit applies during all operation. [N.J.A.C. 7:27-16.9(b)]</p>	<p>CO: Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see INITIAL AND RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]</p>	<p>CO: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see INITIAL AND RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [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 (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	CO <= 250 ppmvd @ 15% O <sub>2</sub> . CO RACT emission limit applies during all operation. [N.J.A.C. 7:27-16.9(b)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-16.23(a)1]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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 quarter year (the quarter years 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)]
7	VOC (Total) <= 50 ppmvd @ 15% O <sub>2</sub> . VOC RACT emission limit applies during all operation. [N.J.A.C. 7:27-16.9(b)]	VOC (Total): Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see INITIAL AND RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test) (Please see INITIAL AND RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	The Permittee shall adjust the combustion process in accordance with the procedure set forth at N.J.A.C. 7:27-19.16, in order to optimize the emission of NOx, CO and VOC. Adjustment of the combustion process shall be carried out according to manufacturer's recommended procedures and maintenance schedules for each turbine. [N.J.A.C. 7:27-16.9(f)2, N.J.A.C. 7:27-19.5(e)2] & [N.J.A.C. 7:27-19.16(g)]	Monitored by continuous emission monitoring system upon performing combustion adjustment Or Periodic Emission Monitoring. [N.J.A.C. 7:27-19.16(h)]	Recordkeeping by data acquisition system (DAS) / electronic data storage upon performing combustion adjustment or manual logging of parameter upon performing combustion adjustment. The records should be kept in a permanent form suitable for inspections. The owner or operator shall record the following information for each adjustment:  1. The date of the adjustment and the times at which it 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 NOx, CO and O2 measured before and after the adjustment was made; and  5. The type and amount of fuel used since the last combustion adjustment was performed. [N.J.A.C. 7:27-19.16(h)]	None.
9	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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	TSP <= 95.2 tons/yr. Annual emission from the eight turbine include the emissions from low load operation. [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). Total annual emissions of TSP emitted by the eight combustion turbines (CTs) at U1, shall be calculated as follows:</p> <p>TSP (Total) tons/month = [(5.0 lbs/hr x sum of monthly operating hours for eight CTs at U1 firing natural gas) + (15 lbs/hr x sum of monthly operating hours for eight CTs at U1 firing ULSD oil) + (14 lbs/hr x monthly operating hours for two CTs during startup) + (11.7 lbs/hr x [HBT+ HBO])]/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for black start readiness testing HBO=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for actual black start operation</p> <p>Using the above equation, the permittee shall calculate the total monthly emissions of the eight turbines for each calendar month, and sum those emissions with the emissions of the eight turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	TSP: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	PM-10 (Total) <= 95.2 tons/yr. Annual emission from the eight turbine include the emissions from low load operation. [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). Total annual emissions of PM-10 emitted by the eight combustion turbines (CTs) at U1, shall be calculated as follows:</p> <p>PM-10 (Total) tons/month =[(5.0 lbs/hr x sum of monthly operating hours for eight CTs at U1 firing natural gas) + (15 lbs/hr x sum of monthly operating hours for eight CTs at U1 firing ULSD oil) + (11.7 lbs/hr x [HBT+ HBO])]/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for black start readiness testing HBO=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for actual black start operation</p> <p>Using the above equation, the permittee shall calculate the total monthly emissions of the eight turbines for each calendar month, and sum those emissions with the emissions of the eight turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	PM-10 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	PM-2.5 (Total) <= 95.2 tons/yr. Annual emission from the eight turbine include the emissions from low load operation. [N.J.A.C. 7:27-22.16(a)]	<p>PM-2.5 (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). Total annual emissions of PM-2.5 emitted by the eight combustion turbines (CTs) at U1, shall be calculated as follows:</p> <p>PM-2.5 (Total) tons/month =[(5.0 lbs/hr x sum of monthly operating hours for eight CTs at U1 firing natural gas) + (15 lbs/hr x sum of monthly operating hours for eight CTs at U1 firing ULSD oil) + (11.7 lbs/hr x [HBT+ HBO])]/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for black start readiness testing HBO=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for actual black start operation</p> <p>Using the above equation, the permittee shall calculate the total monthly emissions of the eight turbines for each calendar month, and sum those emissions with the emissions of the eight turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	PM-2.5 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	VOC (Total) <= 36.7 tons/yr. This limit includes formaldehyde emissions. Annual emission from the eight turbine include the emissions from low load operation.[N.J.A.C 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.2(a)]	<p>VOC (Total): Monitored by calculations each month during operation. Total annual emissions of VOC emitted by the eight combustion turbines (CTs) at U1, shall be calculated as follows:</p> <p>VOC (Total) tons/month =[(2.06 lbs/hr x sum of monthly operating hours for eight CTs at U1 firing natural gas) + (3.27 lbs/hr x sum of monthly operating hours for eight CTs at U1 firing ULSD oil) + (1.75 lbs/hr x [HBT+ HBO])]/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for black start readiness testing HBO=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for actual black start operation</p> <p>Using the above equation, the permittee shall calculate the total monthly emissions of the eight turbines for each calendar month, and sum those emissions with the emissions of the eight turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	VOC (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	<p>NOx (Total) &lt;= 13.3 tons/yr per turbine at U1.</p> <p>This NOx cap on each turbine is to avoid exceeding N.J.A.C. 7:27-18, Control and Prohibition of Air Pollution from New or Altered Sources Affecting Ambient Air Quality (Emission Offset Rules).</p> <p>Annual emissions from each turbine includes the emissions from startup, shutdown and low load operation. [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.2(a)]</p>	<p>NOx (Total): Monitored by continuous emission monitoring system continuously, based on a consecutive 12 month period (rolling 1 month basis).</p> <p>Total annual emissions of NOx from each combustion turbines (CT) at U1 shall be calculated as follows:</p> <p>NOx (total) tons/month/turbine = Cumulative monthly NOx emissions (tons) derived from each combustion turbine CEMS system at U1/ 2000 lbs/ton + (40.51 lbs/hr x [HBT+ HBO])/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of each CT at U1(OS17 through OS24) for black start readiness testing HBO=sum of monthly operating hours of each CT at U1(OS17 through OS24) for actual black start operation</p> <p>Using the above equation, the permittee shall calculate the total monthly emissions of each turbine for each calendar month, and sum those emissions with the emissions of that turbine in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	<p>NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	NOx (Total) <= 106.4 tons/yr. Annual emission from the eight turbine include the emissions from startup, shutdown and low load operation. [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.2(a)]	<p>NOx (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). Total annual emissions of NOx from the eight combustion turbines (CTs) at U1 shall be calculated as follows:</p> <p>NOx (total) tons/month = Cumulative monthly NOx emissions (tons) derived from each combustion turbine CEMS system at U1/ 2000 lbs/ton + (40.51 lbs/hr x [HBT+ HBO])/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for black start readiness testing HBO=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for actual black start operation</p> <p>Using the above equation, the permittee shall calculate the total monthly emissions of the eight turbines for each calendar month, and sum those emissions with the emissions of the eight turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(a)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
16	CO ≤ 129.3 tons/yr. Annual emission from the eight turbine include the emissions from startup, shutdown and low load operation. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). Total annual emissions of CO emitted by the eight combustion turbines (CTs) at U1, shall be calculated as follows:  CO (total) tons/month= Cumulative monthly CO emissions (tons) derived from each combustion turbine CEMS system at U1 + (38.2 lbs/hr x [HBT+ HBO])/2000 lbs/ton Where: HBT=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for black start readiness testing HBO=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for actual black start operation  Using the above equation, the permittee shall calculate the total monthly emissions of the eight turbines for each calendar month, and sum those emissions with the emissions of the eight turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	<p>SO<sub>2</sub> ≤ 14.7 tons/yr. based on fuel Sulfur content of 0.42 grains/scf and Maximum Heat Input Rate of 643 MMBTU/hr (HHV) and hours of operation of 4748 hrs per year on Natural gas.</p> <p>Annual emission from the eight turbine include the emissions from low load operation. [N.J.A.C. 7:27-22.16(a)]</p>	<p>SO<sub>2</sub>: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). Total annual emissions of SO<sub>2</sub> emitted by the eight combustion turbines (CTs) at U1, shall be calculated as follows:</p> <p>SO<sub>2</sub> (Total) tons/month = [(0.77 lbs/hr x sum of monthly operating hours for eight CTs at U1 firing natural gas) + (0.8 lbs/hr x sum of monthly operating hours for eight CTs at U1 firing ULSD oil) + (0.124 lbs/hr x [HBT+ HBO])]/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for black start readiness testing HBO=sum of monthly operating hours of the 8 CTs at U1(OS17 through OS24) for actual black start operation</p> <p>Using the above equation, the permittee shall calculate the total monthly emissions of the eight turbines for each calendar month, and sum those emissions with the emissions of the eight turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	<p>SO<sub>2</sub>: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]</p>	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
18	Ammonia <= 78 tons/yr. Annual emission from the eight turbine include the emissions from low load operation. [N.J.A.C. 7:27-22.16(o)]	Ammonia: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). Total annual emissions of Ammonia shall include Ammonia emitted by the eight combustion turbines (CTs) at U1 as follows:  NH3 (Total) tons/month =[(4.38 lbs/hr x sum of monthly operating hours for eight combustion turbines at U1 firing natural gas) + (3.66 lbs/hr x sum of monthly operating hours for eight combustion turbines at U4 firing oil)]/ 2000 lbs/ton.  Using the above equation, the permittee shall calculate the total monthly emissions of the eight turbines for each calendar month, and sum those emissions with the emissions of the eight turbines, in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]	Ammonia: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
19	Methane <= 26.9 tons/yr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and Emission Factor from Part 98, Sub. C, Table C-2 and 4748 hours of operation of 8 turbines. [N.J.A.C. 7:27-22.16(a)]	Methane: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methane: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
20	Nitrous oxide <= 3.52 tons/yr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and 2585 hours per year on natural gas for 8 turbines, plus CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, and 720 hours per year on ULSD for 8 turbines and Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Nitrous oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nitrous oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	Acrolein <= 0.0107 tons/yr. Maximum emission rate for 8 combustion turbines. This emission rate is based on CT maximum heat input rate of 643 MMBtu/hr (HHV) and hours of operation of 4748 hrs/yr on natural gas and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acrolein: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
22	Arsenic Emissions <= 0.01704 tons/yr. Maximum emission rate for 8 combustion turbines. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr(HHV) and hours of operation on ULSD of 720 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
23	Benzene <= 0.0264 tons/yr. Maximum emission rate for 8 combustion turbines. This emission rate is based on CT maximum heat input rate of 643 MMBtu/hr (HHV) and hours of operation of 2585 hrs/yr on natural gas, plus CT maximum heat input rate of 538 MMBtu/hr(HHV) and hours of operation on ULSD of 720 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Benzene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
24	Beryllium Emissions <= 0.00048 tons/yr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr(HHV) and hours of operation on ULSD of 720 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
25	Sulfuric Acid Mist Emissions $\leq 6.97$ tons/yr , based on Manufacturer's Data 2008. [N.J.A.C. 7:27-22.16(o)]	<p>Sulfuric Acid Mist Emissions: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). Total annual emissions of sulfuric acid shall include sulfuric acid emitted by the eight combustion turbines (CTs) at U1 as follows:</p> <p>sulfuric acid (Total) tons/month <math>= [(0.37 \text{ lbs/hr} \times \text{sum of monthly operating hours for eight combustion turbines at U1 firing natural gas}) / 2000 \text{ lbs/ton}.</math></p> <p>Using the above equation, the permittee shall calculate the total monthly emissions of the eight turbines for each calendar month, and sum those emissions with the emissions of the eight turbines, in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	Sulfuric Acid Mist Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
26	<p>Cadmium Emissions <math>\leq 0.00744</math> tons/yr. Maximum emission rate for 8 combustion turbines.</p> <p>This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr(HHV) and hours of operation on ULSD of 720 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]</p>	Cadmium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
27	<p>Formaldehyde <math>\leq 1.19</math> tons/yr Maximum emission rate for 8 combustion turbines.</p> <p>This emission rate is based on CT maximum heat input rate of 643 MMBtu/hr (HHV) and hours of operation of 4748 hrs/yr on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(a)]</p>	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
28	Pb <= 0.0217 tons/yr This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr(HHV) and hours of operation on ULSD of 720 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Pb: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Pb: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
29	Manganese Emissions <= 1.22 tons/yr. Maximum emission rate for 8 combustion turbines. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr(HHV) and hours of operation on ULSD of 720 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Manganese Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Manganese Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
30	Naphthalene <= 0.00976 tons/yr. Maximum emission rate for 8 combustion turbines. This emission rate is based on CT maximum heat input rate of 643 MMBtu/hr (HHV) and hours of operation of 2585 hrs/yr on natural gas and 538 MMBtu/hr (HHV) and hours of operation of 720 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas, 85% removal efficiency on ULSD. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
31	Nickel Emissions <= 0.00713 tons/yr This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr(HHV) and hours of operation on ULSD of 720 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
32	Polynuclear aromatic hydrocarbons (PAHs) <= 0.012 tons/yr. Maximum emission rate for 8 combustion turbines. This emission rate is based on CT maximum heat input rate of 643 MMBtu/hr (HHV) and hours of operation of 2585 hrs/yr on natural gas, CT maximum heat input rate of 538 MMBtu/hr (HHV) and hours of operation of 720 hrs/yr on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas, 85% removal efficiency on ULSD. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
33	Propylene oxide <= 0.0485 tons/yr. Maximum emission rate for 8 combustion turbines. This emission rate is based on CT maximum heat input rate of 643 MMBtu/hr (HHV) and hours of operation of 2585 hrs/yr on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(o)]	Propylene oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Propylene oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
34	Turbine fuel limited to Natural Gas and Ultra low sulfur distillate oil with a sulfur content of 15 ppm by weight [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
35	The permittee shall submit an Excess Emission Monitoring Performance Report to the appropriate Regional Enforcement Office (REO) for review and approval. This report shall be submitted to the REO whether or not an emission exceedance has occurred. [N.J.A.C. 7:27-22.16(a)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system at no required frequency. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
36	The owner or operator shall develop a QA/QC plan for all CEMS/COMS required by this permit prepared in accordance with the NJDEP Technical Manual 1005 posted on the AQPP webpage at <a href="http://www.state.nj.us/dep/aqpp">http://www.state.nj.us/dep/aqpp</a> [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 date and quarterly reports.[N.J.A.C. 7:27-22.16(o)].	None.
37	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]
38	All requests, reports, applications, submittals, and other communication required by 40 CFR 60 shall be submitted in duplicate to the EPA Region II Administrator. [40 CFR 60.4(a)]	None.	None.	Submit a report: As per the approved schedule , submit reports to EPA Region II as required by 40 CFR 60. Send information to: Director, Air and Waste Management Division, US Environmental Protection Agency, Region II, 290 Broadway, New York, NY 10007-1866. [40 CFR 60.4(a)]
39	Submit copy of all requests, reports, applications, submittals, and other communication required by 40 CFR 60 to the Northern Regional Enforcement Office of NJDEP. [40 CFR 60.4(b)]	None.	None.	Submit a report: Upon occurrence of event : Submit reports to the Northern Regional Office as required by 40 CFR 60. Submit to:  Northern Regional Office New Jersey Department of Environmental Protection 7 Ridgedale Avenue Cedar Knolls, NJ 07927. [40 CFR 60.4(b)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
40	The owner or operator subject to the provisions of 40 CFR Part 60, shall notify the Department in writing, of the date of construction or reconstruction of the facility as defined under 40 CFR Part 60 Subpart A. Notification shall be postmarked no later than 30 days after such date. [40 CFR 60.7(a)(1)]	None.	None.	Submit a report: As per the approved schedule. The permittee shall notify the Department within thirty (30) days from the date of construction. [40 CFR 60.7(a)(1)]
41	A 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). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4)]	None.	None.	Comply with the requirement: Upon occurrence of event submit notification to EPA Region II and the Northern Regional Office per 40 CFR 60.7. [40 CFR 60.7(a)(4)]
42	Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]	None.	Other: Manual logging of the parameters specified in 40 CFR 60.7(b) in a permanently bound log book. Upon occurrence of event. (See Applicable Requirement).[40 CFR 60.7(b)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
43	The owner or operator shall submit to the Administrator, for each pollutant monitored, an excess emissions and monitoring systems performance report and a summary report form. [40 CFR 60.7(c)]	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 electronically through the NJDEP online EEMPR web portal. The report shall be postmarked by the 30th day following the end of each calendar half. The report shall be submitted and be in a format as specified at 40 CFR 60.7(c) and 40 CFR 60.7(d). [40 CFR 60.7(c)]
44	Any owner or operator subject to the provisions of this part shall maintain a file of 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; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. [40 CFR 60.7(f)]	None.	Recordkeeping by manual logging of parameter continuously. The parameters shall include 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. All records shall be kept on-site for at least five (5) years, and readily made available to the Department upon request. [40 CFR 60.7(f)]	None.
45	Within 60 days after achieving the maximum production rate at which the affected facility will operate, but not later than 180 days after initial startup of the facility, the owner or operator shall conduct performance test(s) and shall furnish the Administrator a written report of the results. [40 CFR 60.8(a)]	None.	None.	Submit a report: At a common schedule agreed upon by the operator and the Administrator. The owner or operator shall submit results of the performance test(s) to the Administrator. [40 CFR 60.8(a)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
46	Performance tests shall be conducted under conditions the Administrator specifies to the plant operator based on representative performance of the affected facility. Operations during periods of startup, shutdown and malfunction shall not constitute representative conditions for the purpose of the performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)]	None.	None.	None.
47	The owner or operator shall provide the Administrator at least 30 days prior notice of any performance test and shall provide adequate performance testing facilities as specified in 40 CFR Part 60.8(e).[40 CFR 60.8(d)].	None.	None.	Submit a report: As per the approved schedule. Written notification shall be submitted to the NJDEP Northern Regional Office at least 30-days prior to any performance test. The permittee shall provide adequate performance testing facilities as specified in 40 CFR Part 60.8(e). [40 CFR 60.8(d)]
48	Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. [40 CFR 60.8(f)]	None.	None.	None.
49	Compliance with NSPS standards specified in this permit, other than opacity, shall be determined only by performance tests established by 40 CFR 60.8, unless otherwise specified in NSPS. [40 CFR 60.11(a)]	None.	None.	None.
50	At all times, including periods of startup, shutdown, and malfunctions, owners and operators shall, to the extent practicable, maintain and operate the facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing air emissions. [40 CFR 60.11(d)]	None.	None.	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
51	No owner or operator subject to the provisions of this part 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.
52	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) once initially. [40 CFR 60.13(c)]	None.	Submit a report: As per the approved schedule , 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. [40 CFR 60.13(c)(2)]
53	The owner or operator shall perform calibrations and span adjustments for continuous emission monitors and continuous opacity monitors following procedures outlined in 40 CFR 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.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
54	NO <sub>x</sub> (Total) ≤ 1.2 lb/MW-hr of useful output. This limit applies to a turbine that has heat input at peak load greater than 50 MMBtu/hr (HHV) but less or equal to 850 MMBtu/hr (HHV) firing natural gas and commenced construction after February 18, 2005. [40 CFR 60.4320(a)]	NO <sub>x</sub> (Total): Monitored by stack emission testing once initially, 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 <sub>x</sub> 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 <sub>x</sub> measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO <sub>x</sub> (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400] and. [40 CFR 60.4405]	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)]

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
55	NOx (Total) <= 25 ppmvd @ 15% O2. This limit applies to a turbine that has heat input at peak load greater than 50 MMBtu/hr (HHV) but less or equal to 850 MMBtu/hr (HHV) firing natural gas and which commenced construction after February 18, 2005. [40 CFR 60.4320(a)]	NOx (Total): Monitored by stack emission testing once initially, 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] and. [40 CFR 60.4405]	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)]



BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
56	NOx (Total) <= 3.6 lb/MW-hr of useful output. This limit applies to a turbine that has heat input at peak load greater than 50 MMBtu/hr (HHV) but less or equal to 850 MMBtu/hr (HHV) firing fuels other than natural gas and commenced construction after February 18, 2005. [40 CFR 60.4320(a)]	NOx (Total): Monitored by stack emission testing once initially, 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] and. [40 CFR 60.4405]	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)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
57	NO <sub>x</sub> (Total) ≤ 74 ppmvd @ 15% O <sub>2</sub> . This limit applies to a turbine that has heat input at peak load greater than 50 MMBtu/hr (HHV) but less or equal to 850 MMBtu/hr (HHV) firing fuels other than natural gas and which commenced construction after February 18, 2005. [40 CFR 60.4320(a)]	NO <sub>x</sub> (Total): Monitored by stack emission testing once initially, 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 <sub>x</sub> 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 <sub>x</sub> measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO <sub>x</sub> (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400] and. [40 CFR 60.4405]	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)]
58	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.
59	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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
60	SO <sub>2</sub> ≤ 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)]	Other: 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 <sub>2</sub> per MMBtu heat input using sources of information listed in 40 CFR 60.4365(a) or perform representative fuel sampling as described in 60.4365(b). [40 CFR 60.4365].	None.	Submit documentation of compliance: Once initially. The permittee shall furnish the Administrator and NJDEP a written report of the results. 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 <sub>2</sub> per MMBtu heat input using sources of information listed in 40 CFR 60.4365(a) or perform representative fuel sampling as described in 60.4365(b). [40 CFR 60.8(a)]
61	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.
62	The permittee shall install and certify a NO <sub>x</sub> diluent CEMS in accordance with to appendix A to 40 CFR 75. The relative accuracy test audit (RATA) shall be performed on a lb/MMBTU basis. [40 CFR 60.4345(a)]	Monitored by continuous emission monitoring system continuously. During each full unit operating hour, both the NO <sub>x</sub> 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)]	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 <sub>x</sub> 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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
63	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. [40 CFR 60.4345(a)]	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)]	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)]	None.
64	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.
65	The owner or operator shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in 40 CFR 60.4365. The sulfur content of the fuel must be determined using total sulfur methods described in 40 CFR 60.4415 or, alternatively, as allowed in 40 CFR 60.4360. 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 60.4360]	Other: The owner or operator may develop custom schedule for determination of the total sulfur content of gaseous fuels. The custom schedule shall be substantiate with data and shall be approved by the Administrator before they can be used to comply with the Sulfur standard in fuel except for the two custom schedules set forth in 40 CFR 60.4370(c)(1)(i) through (iv) and in 40 CFR 60.4370(c)(2) which are acceptable without prior Administrator approval. [40 CFR 60.4370(c)].	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 60.4415]	Submit a report: As per the approved schedule. The permittee shall determine excess emissions and monitoring downtime as described in 40 CFR 60.4385(a) through (c) and submit an excess emissions report by the 30th day following the end of each 6-month period as prescribed in 40 CFR 60.4395. [40 CFR 60.4385]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
66	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 <sub>2</sub> /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 <sub>2</sub> /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 (500ppmw) 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 <sub>2</sub> /MMBtu heat input. [40 CFR 60.4365(a)]
67	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 NO <sub>x</sub> 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: NO <sub>x</sub> concentration, CO <sub>2</sub> or O <sub>2</sub> 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 NO <sub>x</sub> 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].	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]
68	Acid Rain:Comply with the requirements contained in the attached Acid Rain Permit. [40 CFR 72]	Other: Acid Rain:Comply with the requirements contained in the attached Acid Rain Permit.[40 CFR 72].	Other: Acid Rain:Comply with the requirements contained in the attached Acid Rain Permit.[40 CFR 72].	Other (provide description): As per the approved schedule Acid Rain:Comply with the requirements contained in the attached Acid Rain Permit. [40 CFR 72]

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
69	The permittee shall comply with 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 Trading Program applicable to this affected unit. [40 CFR 97]	Other: As per the CSAPR attachment.[40 CFR 97].	Other: As per the CSAPR attachment.[40 CFR 97].	Other (provide description): Other As per the CSAPR attachment. [40 CFR 97]

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS1 Turbine No. 1 firing natural gas, OS2 Turbine No. 2 firing natural gas, OS3 Turbine No. 3 firing natural gas, OS4 Turbine No. 4 firing natural gas, OS5 Turbine No. 5 firing natural gas, OS6 Turbine No. 6 firing natural gas, OS7 Turbine No. 7 firing natural gas, OS8 Turbine No. 8 firing natural gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. Smoke emissions from stationary turbine engines no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Opacity <= 10 % , exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	Particulate Emissions <= 64 lb/hr Particulate emission limit from the combustion of natural gas based on rated heat input of 643 MMBtu/hr(HHV) for each turbine. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
4	Maximum Gross Heat Input <= 643 MMBTU/hr (HHV) per turbine firing natural gas. [N.J.A.C. 7:27-22.16(o)]	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 continuously. [N.J.A.C. 7:27-22.16(o)]	None.
5	NOx (Total) <= 1 lb/MW-hr. [N.J.A.C. 7:27-19.5(g)2]	NOx (Total): Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	NOx (Total) <= 1 lb/MW-hr per turbine firing natural gas. [N.J.A.C. 7:27-19.5(g)2]	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 (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [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. [N.J.A.C. 7:27-22.16(o)]
7	NOx (Total) <= 2.5 ppmvd @ 15% O <sub>2</sub> . N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
8	NOx (Total) <= 2.5 ppmvd @ 15% O <sub>2</sub> . N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	NOx (Total): Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
9	NOx (Total) <= 0.00921 lb/MMBTU. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	NOx (Total) <= 0.00921 lb/MMBTU. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	NOx (Total): Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
11	NOx (Total) <= 5.92 lb/hr based on NOx emissions of 2.5 ppmvd@15% O2 and Maximum Heat Input Rate of 643 MMBTU/hr (HHV), N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
12	NOx (Total) <= 5.92 lb/hr based on NOx emissions of 2.5 ppmvd@15% O2 and Maximum Heat Input Rate of 643 MMBTU/hr (HHV), N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	NOx (Total): Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
13	CO <= 5 ppmvd @ 15% O2. [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 (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	CO <= 5 ppmvd @ 15% O <sub>2</sub> . [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
15	CO <= 0.0112 lb/MMBTU. [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 (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
16	CO <= 0.0112 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
17	CO <= 7.21 lb/hr based on CO emissions of 5 ppmvd@15% O <sub>2</sub> and Maximum Heat Input Rate of 643 MMBTU/hr (HHV). [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 (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
18	CO <= 7.21 lb/hr based on CO emissions of 5 ppmvd@15% O <sub>2</sub> and Maximum Heat Input Rate of 643 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	VOC (Total) <= 2.5 ppmvd @ 15% O <sub>2</sub> . This limit includes formaldehyde emissions. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	VOC (Total): Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
20	VOC (Total) <= 2.06 lb/hr based on VOC emissions of 2.5 ppmvd@15% O <sub>2</sub> and Maximum Heat Input Rate of 643 MMBTU/hr (HHV). . This limit includes formaldehyde emissions. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	VOC (Total): Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
21	SO <sub>2</sub> <= 0.772 lb/hr based on fuel Sulfur content of 0.42 grains/scf and Maximum Heat Input Rate of 643 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
22	TSP <= 5 lb/hr based on Manufacturer's recommended emission facotrs and Maximum Heat Input Rate of 643 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by stack emission testing at no required frequency. (Please see U1/OS Summary/ Ref. #1 for details). iNITIAL STACK TESTING WAS CONDUCTED AND COMPLIED WITH. [N.J.A.C. 7:27-22.16(o)]	None.	None.
23	PM-2.5 (Total) <= 5 lb/hr based on Manufacturer's recommended emission facotrs and Maximum Heat Input Rate of 643 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	PM-10 (Total) $\leq$ 5 lb/hr based on Manufacturer's recommended emission factors and Maximum Heat Input Rate of 643 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
25	Ammonia Slip $\leq$ 5 ppmvd @ 15% O <sub>2</sub> based on NJDEP State of the Art (SOTA) and Maximum Heat Input Rate of 643 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	Ammonia Slip: Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Ammonia Slip: Recordkeeping by stack test results once initially and every 5 years (based on completion date of the last stack test). (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
26	Ammonia $\leq$ 4.38 lb/hr based on NH <sub>3</sub> emissions of 5 ppmvd @ 15% O <sub>2</sub> and Maximum Heat Input Rate of 643 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	. (Please see INITIAL and RENEWAL STACK TESTING SUMMARY at U1/OS Summary for details). Ammonia: Monitored by stack emission testing once initially and every 5 years (based on completion date of the last stack test). [N.J.A.C. 7:27-22.16(o)]	Ammonia: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially and every 5 years (based on completion date of the last stack test). [N.J.A.C. 7:27-22.16(o)]	None.
27	Sulfuric Acid Mist Emissions $\leq$ 0.37 lb/hr based on Manufacturer's Data submitted 2008. [N.J.A.C. 7:27-22.16(a)]	Sulfuric Acid Mist Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Sulfuric Acid Mist Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
28	Acrolein $\leq$ 0.000412 lb/hr, based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acrolein: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
29	Formaldehyde $\leq 0.0457$ lb/hr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5 and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
30	Methane $\leq 1.42$ lb/hr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Methane: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methane: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
31	Naphthalene $\leq 0.0000836$ lb/hr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5 and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
32	Nitrous oxide $\leq 0.142$ lb/hr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Nitrous oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nitrous oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
33	Polynuclear aromatic hydrocarbons (PAHs) $\leq 0.000141$ lb/hr This emission rate is based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
34	Natural Gas Usage $\leq 2,777 \text{ MMft}^3/\text{yr}$ per turbine. [N.J.A.C. 7:27-22.16(a)]	Natural Gas Usage: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis). The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. The monitor range shall meet the requirements of 40 CFR Part 75, Appendix D. [N.J.A.C. 7:27-22.16(o)]	Natural Gas Usage: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
35	Hours of Operation While Firing Natural Gas $\leq 4,748 \text{ hr/yr}$ minus three times the hours of operation on Ultra Low Sulfur Distillate (ULSD) oil.  e.g Hours of operation on natural gas $\leq 4,748 \text{ hours/yr} - 3 \times (\text{hours/yr on ULSD})$ . [N.J.A.C. 7:27-22.16(a)]	Hours of Operation While Firing Natural Gas: Monitored by hour/time monitor daily, based on a consecutive 12 month period (rolling 1 month basis). The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [N.J.A.C. 7:27-22.16(a)]	Hours of Operation While Firing Natural Gas: Recordkeeping by manual logging of parameter or storing data in a computer data system continuously. [N.J.A.C. 7:27-22.16(a)]	

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS9 Turbine No. 1 firing ultra low sulfur diesel fuel, OS10 Turbine No. 2 firing ultra low sulfur diesel fuel, OS11 Turbine No. 3 firing ultra low sulfur diesel fuel, OS12 Turbine No. 4 firing ultra low sulfur diesel fuel, OS13 Turbine No. 5 firing ultra low sulfur diesel fuel, OS14 Turbine No. 6 firing ultra low sulfur diesel fuel, OS15 Turbine No. 7 firing ultra low sulfur diesel fuel, OS16 Turbine No. 8 firing ultra low sulfur diesel fuel

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 10 %. Smoke emissions from stationary turbine engines no greater than 10% opacity, exclusive of visible condensed water vapor, for a period of more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. Periodic Visual observations. Once every 100 hours of oil firing operation. Visual observations shall be conducted by certified smoke reader every 100 hours of oil firing operation using NJ Test Method 2.  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. [N.J.A.C. 7:27-22.16(o)]	Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency Manual logging of Visual Observations in a permanently bound logbook or readily accessible computer memory. Once every 100 hours of ULSD fuel oil firing operation.  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 recording exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of operation, the reason for monitoring at the lesser frequency shall also be recorded. [N.J.A.C. 7:27-22.16(o)]	None.
2	Particulate Emissions <= 60 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
3	Sulfur Content in Fuel <= 15 ppmw (0.0015% by weight). Effective July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]	Sulfur Content in Fuel: Monitored by fuel sampling (e.g. oil) per delivery. The sulfur content in fuel shall be monitored and recorded in accordance with 40 CFR 75 Appendix D.2.2 and Table D-4. [N.J.A.C. 7:27-22.16(o)]	Other: The sulfur content in fuel shall be monitored and recorded in accordance with 40 CFR 75 Appendix D.2.2 and Table D-4.[N.J.A.C. 7:27-22.16(o)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	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 Table 1B. [N.J.A.C. 7:27- 9.2(b)]	None.	None.	None.
5	NOx (Total) <= 1.6 lb/MW-hr. [N.J.A.C. 7:27-19.5(g)2]	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 (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-19.15(a)2]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. Refer to CEMS Requirements specified at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	NOx (Total) <= 1 lb/MW-hr. NOx RACT emission limit applies during operation on high electric demand days, regardless of fuel combusted, unless combusting gaseous fuel is not possible due to gas curtailment. [N.J.A.C. 7:27-19.5(g)(2), Table 7] "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 <a href="http://oasis.pjm.com/doc/projload.txt">http://oasis.pjm.com/doc/projload.txt</a> .  Note: This emission limit applies on and after May 1, 2015. [N.J.A.C. 7:27-19.5(g)2]	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 (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-19.15(a)2]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
7	Maximum Gross Heat Input <= 538 MMBTU/hr (HHV) when firing Ultra Low Sulfur Distillate oil (ULSD) with a sulfur content of 15 ppm by weight or less. [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 continuously. [N.J.A.C. 7:27-22.16(o)]	None.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	Fuel Oil Usage <= 2.75 MMgal/yr per turbine. [N.J.A.C. 7:27-22.16(a)]	Fuel Oil Usage: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 12 month period (rolling 1 month basis). The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [N.J.A.C. 7:27-22.16(o)]	Fuel Oil Usage: Recordkeeping by data acquisition system (DAS) / electronic data storage each month during operation. The gallons per any consecutive 12-month period shall be calculated by the sum of the gallons consumed during any one month added to the sum of the gallons consumed during the preceeding 11 months. The permittee shall select the time period for accounting, such as fiscal month, calendar month or production month. Once selected, the period must not be changed without prior approval from the Department. [N.J.A.C. 7:27-22.16(o)]	
9	Hours of Operation While Firing Fuel Oil <= 720 hr/yr per turbine. [N.J.A.C. 7:27-22.16(o)]	Hours of Operation While Firing Fuel Oil: Monitored by hour/time monitor daily, based on a consecutive 12 month period (rolling 1 month basis). The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [N.J.A.C. 7:27-22.16(o)]	Hours of Operation While Firing Fuel Oil: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. [N.J.A.C. 7:27-22.16(o)]	None.
10	Hours of Operation While Firing Fuel Oil <= 13.5 hours per day per turbine. [N.J.A.C. 7:27-22.16(a)]	Hours of Operation While Firing Fuel Oil: Monitored by hour/time monitor continuously, based on one calendar day. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [N.J.A.C. 7:27-22.16(o)]	Hours of Operation While Firing Fuel Oil: Recordkeeping by data acquisition system (DAS) / electronic data storage daily. [N.J.A.C. 7:27-22.16(o)]	None.
11	NOx (Total) <= 10.45 lb/hr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	NOx (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	NOx (Total) <= 5 ppmvd @ 15% O <sub>2</sub> . N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
13	NOx (Total) <= 5 ppmvd @ 15% O <sub>2</sub> . N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	NOx (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
14	TSP <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. Refer to STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(a)]	TSP: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). Refer to STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(a)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
15	PM-10 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(0)]	PM-10 (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
16	PM-2.5 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit a stack test report: As per the approved schedule (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	VOC (Total) <= 3.27 lb/hr. This limit includes formaldehyde emissions. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	VOC (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
18	VOC (Total) <= 4.5 ppmvd @ 15% O <sub>2</sub> . This limit includes formaldehyde emissions. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	VOC (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
19	CO <= 6.4 lb/hr. [N.J.A.C. 7:27-21.16(o)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
20	CO <= 6.4 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
21	CO <= 5 ppmvd @ 15% O <sub>2</sub> . [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 (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	CO <= 5 ppmvd @ 15% O <sub>2</sub> . [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
23	SO <sub>2</sub> <= 0.807 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
24	Ammonia <= 5 ppm @ 15% O <sub>2</sub> . [N.J.A.C. 7:27-22.16(o)]	Ammonia: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Ammonia: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (Please see STACK TESTING SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
25	Methane <= 3.56 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and Emission Factor from Part 98, Sub C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Methane: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methane: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
26	Nitrous oxide <= 0.712 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and Emission Factor from Part 98, Sub C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Nitrous oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nitrous oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
27	Ammonia <= 3.87 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Ammonia: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Ammonia: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
28	Sulfuric Acid Mist Emissions $\leq$ 0.2 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD Manufacturer's Data. [N.J.A.C. 7:27-22.16(a)]	Sulfuric Acid Mist Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Sulfuric Acid Mist Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
29	Arsenic Emissions $\leq$ 0.00592 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Arsenic Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
30	Beryllium Emissions $\leq$ 0.000167 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Beryllium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
31	Cadmium Emissions $\leq$ 0.00258 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Cadmium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
32	Formaldehyde $\leq$ 0.0226 lb/hr, based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5 and 85 percent oxidation catalyst removal efficiency for ULSD. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
33	Manganese compounds $\leq$ 0.425 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Manganese compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generati..

OS9, OS10, OS11, OS12, OS13, OS14, OS15, OS16

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
34	Naphthalene $\leq$ 0.00282 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 85 percent oxidation catalyst removal efficiency for ULSD. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
35	Nickel Emissions $\leq$ 0.00247 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
36	Pb $\leq$ 0.00753 lb/hr This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, with hours of operation of 720 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Pb: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Pb: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
37	Polynuclear aromatic hydrocarbons (PAHs) $\leq$ 0.00323 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 85 percent oxidation catalyst removal efficiency for ULSD. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS17 Turbine No. 1 firing natural gas-Low Load Black Start Operation , OS18 Turbine No. 2 firing natural gas-Low Load Black Start Operation, OS19 Turbine No. 3 firing natural gas-Low Load Black Start Operation, OS20 Turbine No. 4 firing natural gas-Low Load Black Start Operation, OS21 Turbine No. 5 firing natural gas-Low Load Black Start Operation, OS22 Turbine No. 6 firing natural gas-Low Load Black Start Operation, OS23 Turbine No. 7 firing natural gas-Low Load Black Start Operation, OS24 Turbine No. 8 firing natural gas-Low Load Black Start Operation

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. Smoke emissions from stationary turbine engines no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Opacity <= 10 % , exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	Particulate Emissions <= 64.3 lb/hr Particulate emission limit from the combustion of natural gas based on rated heat input of 643 MMBtu/hr for each turbine. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
4	Maximum Gross Heat Input <= 643 MMBTU/hr (HHV) per turbine firing natural gas. [N.J.A.C. 7:27-22.16(o)]	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 continuously. [N.J.A.C. 7:27-22.16(o)]	None.
5	NOx (Total) <= 1 lb/MW-hr per turbine firing natural gas. [N.J.A.C. 7:27-19.5(g)2]	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 (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [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. [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	NOx (Total) <= 40.5 lb/hr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	NOx (Total): Monitored by continuous emission monitoring system each hour during operation (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
7	CO <= 38.2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system each hour during operation (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]
8	VOC (Total) <= 1.75 lb/hr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	VOC (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
9	SO2 <= 0.124 lb/hr. [N.J.A.C. 7:27-22.16(a)]	SO2: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	SO2: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
10	TSP <= 11.7 lb/hr. [N.J.A.C. 7:27-22.16(o)]	TSP: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
11	PM-10 (Total) <= 11.7 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
12	PM-2.5 (Total) <= 11.7 lb/hr. [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.



BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	<p>Hours of Operation &lt;= 6 hr/yr per turbine and twenty four hours (24) total for all ten (10) turbines for BLACK START READINESS TESTING (BSRT).</p> <p>Black start readiness testing employing upto 10 combustion turbines 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10, (Emission Unit U1 OS17 through OS24: Equipment IDs E1, E2, E3, E4, E5, E6, E7,E8; Emission Unit U4 OS9 and OS10: Equipment IDs E11, E12, ); emergency generator (Emission Unit U2; Equipment ID E9) and emergency generator (Emission Unit U6; Equipment ID E13) is permitted once per year.</p> <p>If the readiness test fails, re-tests are permitted such that the total time for all readiness tests (or re-tests) shall not exceed six (6) hours per year.</p> <p>Each readiness test (or re-test) shall not exceed two (2) hours.</p> <p>During all readiness tests, the U2 emergency generator and U6 black start generator are permitted to operate during the startup of the combustion turbines at Emission Unit U1 and Emission Unit U4 as in the requirements at GR2.</p> <p>No testing will occur on designated "Ozone Action Days" as required by N.J.A.C. 7:27-19.2(d)2. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Hours of Operation: Monitored by hour/time monitor each hour during operation The permittee shall install and operate a totalizing, non-resettable hour meter to monitor the total hours of operation of each turbine and each generator during each black start test. [N.J.A.C. 7:27-22]</p>	<p>Hours of Operation: Recordkeeping by manual logging of parameter or storing data in a computer data system each hour during operation The owner or operator shall maintain on site and record in a logbook or computer data system, the following information:</p> <ol style="list-style-type: none"> <li>1. The total operating time of each turbine and each generator specifically operated during each black start readiness test.</li> <li>2. i. Readiness tests and re-tests should be specifically designated as such in the logbook or computer data system.</li> <li>ii. the date(s) for its operation for black start readiness test and the startup and shutdown time</li> <li>iii. The total operating time based on the generators' hour meter; and,</li> <li>iv. The name of the operator.</li> </ol> <p>The owner or operator of the turbines and generators shall maintain the above records for a period no less than five years after the record was made and shall make the records readily available to the Department or the EPA upon request.</p> <p>Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]</p>	<p>None.</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	<p><b>BLACK START READINESS TESTING (BSRT):</b> During the BSRT operation of the following equipment would be as directed by North American Electric Reliability Corporation (NERC) Transmission Operator (TOP). 1: black start emergency generator (BSG) at Emission Unit U6, Equipment ID E13; 2: emergency diesel generator (EDG) at Emission Unit U2, Equipment ID E9; 3: eight (8) combustion turbines (CTs) at Emission Unit U1, OS17 through OS24, Equipment IDs E1, E2, E3, E4, E5, E6, E7, E8; and, 4. two(2) CTs at Emission Unit U4, OS9 and OS10, Equipment IDs E11, E12</p> <p>Once upto ten(10) combustion turbines (ten or less) as requested by North American Electric Reliability Corporation (NERC) Transmission Operator (TOP) for black start testing under GR2 at U1OS17, U1OS18, U1OS19, U1OS20, U1OS21, U1OS22, U1OS23, U1OS24, U4OS9, U4OS10, are started and assume the "house load" or "critical load" from EDG and BSG, then the EDG and BSG shall be turned off.</p> <p>"House load" refers to the internal load (power demand/consumption of facility equipment) that is required to start or operate electrical equipment at the facility. It can also be called "critical load" at the facility. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Other: Monitored by gross and net output of the turbine in Mw-hr. The black start generators (U6) and emergency generator (U2) shall cease operation when upto ten combustion turbines at GR2 is/are supporting "house load" and supplying net power to the grid.[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. Record gross and net output in Mw-hr under these operating scenarios as applicable. [N.J.A.C. 7:27-22.16(o)]</p>	<p>None.</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	<p>Hours of Operation &lt;= 36 hr/yr for actual blackout operation. During an actual blackout emergency (ABE) requiring black start service, also called black start restoration , operation of black start emergency generator (BSG) at Emission Unit U6; Equipment ID E13, emergency diesel generator (EDG) at Emission Unit U2; Equipment ID E9, and ten (10) combustion turbines (CTs) at Emission Unit U1, OS17 through OS24; Equipment IDs E1, E2, E3, E4, E5, E6, E7, E8 and Emission Unit U4, OS9 and OS10; Equipment IDs E11, E12); would be as directed by North American Electric Reliability Corporation (NERC) Transmission Operator (TOP).</p> <p>During an actual blackout emergency, upto ten CTs listed above would come on line with BSG and EGD supporting house load based on system restoration needs. Once the required number of CTs were self sustaining and carrying house loads then the EDG and BSG shall be turned off.</p> <p>"House load" refers to the internal load (power demand/consumption of facility equipment) that is required to start or operate electrical equipment at the facility. It can also be called "critical load" at the facility. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Hours of Operation: Monitored by hour/time monitor upon occurrence of event Monitor and record the duration of each Black Start Emergency Operation in hours.</p> <p>List all the combustion turbines that are operated during the black start operation. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Hours of Operation: Recordkeeping by duration of each Black Start Emergency Operation to document compliance with this Applicable Requirement.[N.J.A.C. 7:27-22.16(o)].</p>	None.
16	<p>N.J.A.C. 7:27-4, N.J.A.C. 7:27-16, and N.J.A.C. 7:27-19, emission limits as listed in this permit apply to all the turbines at U1 and U4 during this operating scenario which is during the black start readiness testing, and an actual black start restoration scenario. [N.J.A.C. 7:27-22.16(a)]</p>	None.	<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>	None.

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS25 Turbine No. 1 Startup-Gas, OS26 Turbine No. 2 Startup-Gas, OS27 Turbine No. 3 Startup-Gas, OS28 Turbine No. 4 Startup-Gas, OS29 Turbine No. 5 Startup-Gas, OS30 Turbine No. 6 Startup-Gas, OS31 Turbine No. 7 Startup-Gas, OS32 Turbine No. 8 Startup-Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Start-up Period <= 30 minutes. Startup: The period from initiating the unit's combustion of fuel and operational ramp up to achievement of dispatched megawatt output, not to exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]	Start-up Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Start-up Period: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	NOx (Total) <= 14 lb/hr , based on a 3 hour rolling average based on a 1 hour block average when the three one-hour blocks include at least one startup..[N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.b(3)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. The limit shall apply when the three one-hour blocks include at least one startup. (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
3	CO <= 250 ppmvd @ 15% O2 during startup. [N.J.A.C. 7:27-16.9(c)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-16.23(a)1]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
4	VOC (Total) <= 50 ppmvd @ 15% O2. [N.J.A.C. 7:27-16.9(b)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during startup on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
5	SO2 <= 1.22 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the SO2 emission limits during startup on natural gas.[N.J.A.C. 7:27-21.16(o)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	TSP <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during startup on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM2.5 emission limits during startup on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
8	PM-10 (Total) <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM10 emission limits during startup on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
9	The fire pump may not be operated for reasons of testing or maintenance during start up or shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	The emergency generator may not be operated for reasons of testing or maintenance during start up or shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
11	Sulfuric Acid Mist Emissions <= 0.37 lb/hr. [N.J.A.C. 7:27-22.16(a)]	Sulfuric Acid Mist Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Sulfuric Acid Mist Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
12	Acrolein <= 0.00123 lb/hr , based on an average heat input of 482.3 MMBtu/hr during start-up for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 643 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acrolein: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	Formaldehyde $\leq 0.137$ lb/hr , based on an average heat input of 482.3 MMBtu/hr during start-up for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 643 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
14	Methane $\leq 1.42$ lb/hr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Methane: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methane: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
15	Nitrous oxide $\leq 0.142$ lb/hr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Nitrous oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nitrous oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
16	Polynuclear aromatic hydrocarbons (PAHs) $\leq 0.000424$ lb/hr , based on an average heat input of 482.3 MMBtu/hr during start-up for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 643 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
17	Propylene oxide $\leq 0.00559$ lb/hr , based on an average heat input of 482.3 MMBtu/hr during start-up for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 643 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Propylene oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Propylene oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS33 Turbine No. 1 Shutdown-Gas, OS34 Turbine No. 2 Shutdown-Gas, OS35 Turbine No. 3 Shutdown-Gas, OS36 Turbine No. 4 Shutdown-Gas, OS37 Turbine No. 5 Shutdown-Gas, OS38 Turbine No. 6 Shutdown-Gas, OS39 Turbine No. 7 Shutdown-Gas, OS40 Turbine No. 8 Shutdown-Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Shutdown Period <= 30 minutes. Shutdown Period is the period from initiating the unit's operational shutdown process and ramp down to the cessation of fuel combustion, not to exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]	Shutdown Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(0)]	Shutdown Period: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	NOx (Total) <= 14 lb/hr , based on a 3 hour rolling average based on a 1 hour block average when the three one-hour blocks include at least one shutdown.[N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. The limit shall apply when the three one-hour blocks include at least one shutdown (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
3	CO <= 250 ppmvd @ 15% O2 during shutdown. [N.J.A.C. 7:27-16.9(b)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-16.23(a)1]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
4	VOC (Total) <= 50 ppmvd @ 15% O2. [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during shutdown on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
5	SO2 <= 1.22 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the SO2 emission limits during shutdown on natural gas.[N.J.A.C. 7:27-21.16(o)].	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	TSP <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during shutdown on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM2.5 emission limits during shutdown on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
8	PM-10 (Total) <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM10 emission limits during shutdown on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
9	The fire pump may not be operated for reasons of testing or maintenance during shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	The emergency generator may not be operated for reasons of testing or maintenance during shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
11	Acrolein <= 0.00123 lb/hr , based on an average heat input of 482.3 MMBtu/hr during shutdown for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 643 MMBtu/hr), and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acrolein: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
12	Formaldehyde <= 0.137 lb/hr , based on an average heat input of 482.3 MMBtu/hr during shutdown for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 643 MMBtu/hr), and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.



BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	Polynuclear aromatic hydrocarbons (PAHs) $\leq 0.000424$ lb/hr , based on an average heat input of 482.3 MMBtu/hr during shutdown for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 643 MMBtu/hr), and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
14	Propylene oxide $\leq 0.00559$ lb/hr , based on an average heat input of 482.3 MMBtu/hr during shutdown for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 643 MMBtu/hr), and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Propylene oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Propylene oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS41 Turbine No. 1 Startup-ULSD, OS42 Turbine No. 2 Startup-ULSD, OS43 Turbine No. 3 Startup-ULSD, OS44 Turbine No. 4 Startup-ULSD, OS45 Turbine No. 5 Startup-ULSD, OS46 Turbine No. 6 Startup-ULSD, OS47 Turbine No. 7 Startup-ULSD, OS48 Turbine No. 8 Startup-ULSD

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Start-up Period <= 30 minutes. Startup: The period from initiating the unit's combustion of fuel and operational ramp up to achievement of dispatched megawatt output, not to exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]	Start-up Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(0)]	Start-up Period: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	NOx (Total) <= 21 lb/hr , based on a 3 hour rolling average based on a 1 hour block average when the three one-hour blocks include at least one startup.[N.J.A.C. 7:27-22.16(a)]. [N.J.A.C. 7:27-18.3(b)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. The limit shall apply when the three one-hour blocks include at least one startup. (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
3	CO <= 250 ppmvd @ 15% O2 during startup. [N.J.A.C. 7:27-16.9(c)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-16.23(a)1]	(Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [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. [N.J.A.C. 7:27-22.16(o)]
4	VOC (Total) <= 50 ppmvd @ 15% O2. [N.J.A.C. 7:27-16.9(b)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during startup on ULSD[N.J.A.C. 7:27-22.16(o)].	None.
5	SO2 <= 0.8 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the SO2 emission limits during startup on ULSD.[N.J.A.C. 7:27-21.16(o)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	TSP <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during startup on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM2.5 emission limits during startup on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.
8	PM-10 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM-10 emission limits during startup on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.
9	The fire pump may not be operated for reasons of testing or maintenance during start up or shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	The emergency generator may not be operated for reasons of testing or maintenance during start up or shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
11	Arsenic Emissions <= 0.00592 lb/hr This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, with hours of operation of 720 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Arsenic Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
12	Benzene <= 0.00962 lb/hr. This emission rate is based on an average heat input of 403.5 MMBtu/hr during start-up for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 538 MMBtu/hr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Benzene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	Beryllium Emissions $\leq 0.000167$ lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Beryllium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
14	Cadmium Emissions $\leq 0.00258$ lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Cadmium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
15	Formaldehyde $\leq 0.049$ lb/hr This emission rate is based on an average heat input of 403.5 MMBtu/hr during start-up for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 538 MMBtu/hr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
16	Manganese compounds $\leq 0.425$ lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Manganese compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
17	Naphthalene $\leq 0.00612$ lb/hr This emission rate is based on an average heat input of 403.5 MMBtu/hr during start-up for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 538 MMBtu/hr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
18	Nickel Emissions $\leq$ 0.00247 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
19	Pb $\leq$ 0.00753 lb/hr This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Pb: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Pb: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
20	Polynuclear aromatic hydrocarbons (PAHs) $\leq$ 0.00699 lb/hr. This emission rate is based on an average heat input of 403.5 MMBtu/hr during start-up for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 538 MMBtu/hr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U1 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS49 Turbine No. 1 Shutdown-ULSD, OS50 Turbine No. 2 Shutdown-ULSD, OS51 Turbine No. 3 Shutdown-ULSD, OS52 Turbine No. 4 Shutdown-ULSD, OS53 Turbine No. 5 Shutdown-ULSD, OS54 Turbine No. 6 Shutdown-ULSD, OS55 Turbine No. 7 Shutdown-ULSD, OS56 Turbine No. 8 Shutdown-ULSD

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Shutdown Period <= 30 minutes. Shutdown Period is the period from initiating the unit's operational shutdown process and ramp down to the cessation of fuel combustion, not to exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]	Shutdown Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(0)]	Shutdown Period: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	NOx (Total) <= 21 lb/hr , based on a 3 hour rolling average based on a 1 hour block average when the three one-hour blocks include at least one shutdown.[N.J.A.C. 7:27-22.16(a)]. [N.J.A.C. 7:27-18.3(b)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. The limit shall apply when the three one-hour blocks include at least one shutdown. (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
3	CO <= 250 ppmvd @ 15% O2 during shutdown. [N.J.A.C. 7:27-16.9(b)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [N.J.A.C. 7:27-16.23(a)1]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U1/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
4	VOC (Total) <= 50 ppmvd @ 15% O2. [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during shutdown on ULSD[N.J.A.C. 7:27-22.16(o)].	None.
5	SO2 <= 0.8 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the SO2 emission limits during shutdown on ULSD[N.J.A.C. 7:27-21.16(o)].	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	TSP <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during shutdown on ULSD[N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM2.5 emission limits during shutdown on ULSD[N.J.A.C. 7:27-22.16(o)].	None.
8	PM-10 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM10 emission limits during shutdown on ULSD[N.J.A.C. 7:27-22.16(o)].	None.
9	The fire pump may not be operated for reasons of testing or maintenance during shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	The emergency generator may not be operated for reasons of testing or maintenance during shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
11	Arsenic Emissions <= 0.00592 lb/hr This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, with hours of operation of 720 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Arsenic Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
12	Benzene <= 0.00962 lb/hr This emission rate is based on an average heat input of 403.5 MMBtu/hr during shutdown for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 538 MMBtu/hr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Benzene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	Beryllium Emissions $\leq 0.000167$ lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Beryllium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
14	Cadmium Emissions $\leq 0.00258$ lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Cadmium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
15	Formaldehyde $\leq 0.049$ lb/hr. This emission rate is based on an average heat input of 403.5 MMBtu/hr during shutdown for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 538 MMBtu/hr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
16	Manganese compounds $\leq 0.425$ lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Manganese compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
17	Naphthalene $\leq 0.00612$ lb/hr. This emission rate is based on an average heat input of 403.5 MMBtu/hr during shutdown for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 538 MMBtu/hr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.



BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
18	Nickel Emissions <= 0.00247 lb/hr. This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
19	Pb <= 0.00753 lb/hr This emission rate is based on CT maximum heat input rate of 538 MMBtu/hr (HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Pb: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Pb: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
20	Polynuclear aromatic hydrocarbons (PAHs) <= 0.00699 lb/hr. This emission rate is based on an average heat input of 403.5 MMBtu/hr during shutdown for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 538 MMBtu/hr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Emission Unit: U2 1.75 MW Emergency Generator

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 IIII [None]	None.	None.	None.
2	TSP <= 0.01 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	PM-10 (Total) <= 0.01 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	VOC (Total) <= 0.07 tons/yr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.2(a)]	None.	None.	None.
5	NOx (Total) <= 1.41 tons/yr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.2(a)]	None.	None.	None.
6	CO <= 0.05 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
7	SO2 <= 0.001 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
8	The owner or operator of a 2007 model year and later emergency generator with a displacement of < 10 liters per cylinder and a maximum engine power >= 37 kW (>= 50 HP) and no greater than 3,000HP (<= 2,237 kW) 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 maximum engine power as follows: NMHC + NOx <= "4.8 " g/HP-hr, CO <= "2.6 " g/HP-hr, PM <= "0.15" g/HP-hr. [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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	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 60.4204(b) or 40 CFR 60.4205(b), must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4204(b) or 40 CFR 60.4205(b) as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications. [40 CFR 60.4211(c)]	None.	Other: The owner or operator must keep documentation for the life of the equipment from the manufacturer that the engine is certified to meet the emission standards as applicable, for the same model year and maximum engine power. [40 CFR 60.4211(c)].	None.
10	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. [40 CFR 60.4211(e)]	Monitored by hour/time monitor continuously. The owner or operator of an emergency stationary internal combustion engine 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 size of the engine 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. [40 CFR 60.4214(b)]	None.
11	The emergency generators may be operated in emergency situations as defined in 40 CFR 60.4219. For emergency engines not meeting emission standards in 40 CFR 60.4204, any operation other than emergency operation and maintenance and testing as permitted in 40 CFR 60.4211(e), is prohibited. [40 CFR 60.4211(e)]	Monitored by hour/time monitor continuously. The owner or operator of an emergency stationary internal combustion engine must install a non-resettable hour meter prior to startup of the engine. [40 CFR 60.4209(a)]	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	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. [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.
13	The emergency generator may not be operated for reasons of testing or maintenance during start up or shut down of the turbines, except as noted below.  The emergency generator may be operated concurrently with upto10 combustion turbines (eight turbines at U1 and/or two turbines at U4) FOR BLACK START READINESS TEST and upto ten combustion turbines for ACTUAL BLACK START OPERATION as per the requirements in this permit at GR2 for Black Start Readiness Test and Actual Black Start Operation of Turbines and Generators [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by manual logging of the parameter or storing data in a computer data system upon occurrence of the event[N.J.A.C. 7:27-22.16(0)].	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)]	None.
14	Start-up Period <= 60 minutes for the emergency generator. [N.J.A.C. 7:27-22.16(a)]	Start-up Period: Monitored by hour/time monitor upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]	Start-up Period: 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)]	None.
15	The emergency generator E9 and the fire pump E10 may not be tested simultaneously [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by manual logging of the parameter or storing data in a computer data system upon occurrence of the event[N.J.A.C. 7:27-22.16(0)].	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)]	None.
16	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. 7:27-22.16(a)]	None.	None.	Submit an Annual Compliance Certification: Annually to the Department and EPA within 60 days after the end of each calendar year. [N.J.A.C. 7:27-22]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	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. If the manufacturer's emission-related written instructions are not followed, the owner or operator must keep the results of the performance test(s) demonstrating compliance with the applicable emission limits. [40 CFR 60.4206].	None.
18	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- 8.13(d)]	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- 8.13(d)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	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. [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.
20	Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in 40 CFR 60.4211, is prohibited. [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.
21	Comply with 40 CFR 60 Subpart A and Subpart IIII. [40 CFR 60]	Other: Comply with 40 CFR 60 Subpart A and Subpart IIII.[40 CFR 60].	Other: Comply with 40 CFR 60 Subpart A and Subpart IIII.[40 CFR 60].	Other (provide description): As per the approved schedule Comply with 40 CFR 60 Subpart A and Subpart IIII. [40 CFR 60]

BOP220002

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

Emission Unit: U2 1.75 MW Emergency Generator

Operating Scenario: OS1 1.75 MW Emergency Generator firing diesel fuel

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. Smoke emissions from stationary internal combustion engines no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Particulate Emissions <= 7.37 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
3	Sulfur Content in Fuel <= 15 ppmw (0.0015% by weight). Effective July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]	Sulfur Content in Fuel: Monitored by fuel sampling (e.g. oil) per delivery. The sulfur content in fuel shall be monitored and recorded in accordance with 40 CFR 75 Appendix D.2.2 and Table D-4. [N.J.A.C. 7:27-22.16(o)]	Other: The sulfur content in fuel shall be monitored and recorded in accordance with 40 CFR 75 Appendix D.2.2 and Table D-4.[N.J.A.C. 7:27-22.16(o)].	None.
4	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 Table 1B. [N.J.A.C. 7:27- 9.2(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	<p>Each 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> <p>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,</p> <p>2. When there is power outage or the primary source of mechanical or thermal energy fails because of an emergency, or when the power disruption resulted from construction, repair, or maintenance activity (CRM) at the facility. Operation of the emergency generator under construction, repair, or maintenance activity is limited to 30 days in any calendar year; or</p> <p>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>	<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</p> <p>Record the following information:</p> <p>1. Once per month, the total operating time from the generator's hour meter, the fuel usage (gallons per month), and the monthly hours of operation for emergency use and during power disruption from CRM. Document if the emergency use was due to internal or external loss of primary source of energy, or due to a fire or flood. If internal loss at the facility, document the emergency and/or CRM that occurred, the damages to the primary source of energy and the amount of time needed for repairs.</p> <p>2. For each time the emergency generator is specifically operated for testing or maintenance:</p> <ul style="list-style-type: none"> <li>i. The reason for its operation;</li> <li>ii. The date(s) of operation and the start up and shut down time;</li> <li>iii. The total operating time for testing or maintenance based on the generator's hour meter; and</li> <li>iv. The name of the operator; and</li> </ul> <p>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> <p>The owner or operator of shall maintain the above records for at least 5 years after the record was made and shall make the records readily available to the Department or the EPA. [N.J.A.C. 7:27-22.16(o)] and . [N.J.A.C. 7:27-22.16(o)] and. [N.J.A.C. 7:27-19.11]</p>	None.



BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	<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 <a href="http://airnow.gov/">http://airnow.gov/</a>, as supplemented or amended and incorporated herein by reference, unless required in writing by a Federal or State law or regulation.</p> <p>Procedures for determining the air quality forecasts for New Jersey are available at the Department's air quality permitting web site at <a href="http://www.state.nj.us/dep/aqpp/aqforecast">http://www.state.nj.us/dep/aqpp/aqforecast</a>; and</p> <p>2. As a source of energy or power after the primary energy or power source has become operable again after emergency or after power disruption resulted from construction, repair, or maintenance activity. Operation of the emergency generator during construction, repair, or maintenance activity shall be limited to no more than 30 days of operation per calendar year. 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.</p> <p>[N.J.A.C. 7:27-19.2(d)]</p>	None.	None.	None.
7	<p>The Permittee shall, once per month, record the total operating time from the generator's hour meter. [N.J.A.C. 7:27-19.11]</p>	<p>Monitored by hour/time monitor continuously . [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 each month during operation. The Permittee shall maintain on site a record of the total operating time from the generator's hour meter. Once per month.</p> <p>. [N.J.A.C. 7:27-19.11]</p>	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	Sulfur Content in Fuel <= 0.0015 % by weight. [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)]	Records of the name of the oil supplier and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil as specified at 40 CFR Part 60.41c shall be maintained. Sulfur Content in Fuel: Recordkeeping by fuel certification receipts per delivery. [N.J.A.C. 7:27-22.16(o)]	None.
9	Emergency generator fuel limited to ultra low sulfur distillate fuel oil (ULSD) [sulfur content <= 15 ppm]. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	Hours of Operation While Firing Diesel <= 100 hr/yr for testing, maintenance, BLACK START READINESS TESTING AND BLACK START OPERATION as per the requirements in this permit at GR2 for Black Start Readiness Test and Actual Black Start Operation of Turbines and Generators. The limit on the allowable hours for testing and maintenance in accordance with the documentation from the manufacturer, the vendor, or the insurance company associated with the engine. [N.J.A.C. 7:27-22.16(a)]	Hours of Operation While Firing Diesel: Monitored by hour/time monitor upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]	Hours of Operation While Firing Diesel: 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 in a logbook or computer data system, the following information: 1. For each time the emergency generator is specifically operated for testing or maintenance: 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. [N.J.A.C. 7:27-22.16(o)]	None.
11	Maximum Gross Heat Input <= 16.83 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep records showing maximum heat input rate for the emergency generator[N.J.A.C. 7:27-22.16(o)].	None.
12	NOx (Total) <= 28.2 lb/hr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	None.	None.	None.
13	CO <= 0.9 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
14	TSP <= 0.17 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
15	PM-2.5 (Total) <= 0.17 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
16	PM-10 (Total) <= 0.17 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
17	VOC (Total) <= 1.35 lb/hr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	None.	None.	None.

BOP220002

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

Emission Unit: U3 157 HP Fire Pump

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 IIII [None]	None.	None.	None.
2	TSP: . Below reporting thresholds [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	PM-10 (Total): . Below reporting thresholds [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	VOC (Total): . Below reporting thresholds [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	NOx (Total) <= 0.05 tons/yr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.2(a)]	None.	None.	None.
6	CO <= 0.02 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
7	The owner or operator of a fire pump engine with a displacement of less than 30 liters per cylinder must comply with the emissions standards in table 4 to NSPS IIII for the same model year and nameplate engine power as follows: NMHC + NOx <= "3.0 " g/HP-hr, CO <= "2.6 " g/HP-hr, PM <= "0.15 " g/HP-hr. [40 CFR 60.4205(c)]	None.	Other: The owner or operator of a pre 2007 model year engine must keep documentation demonstrating compliance with the applicable emission standards, for the same model year and maximum engine power. [40 CFR 60.4211].	None.
8	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 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. [40 CFR 60.4206]	None.	Other: The owner or operator shall keep the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. [40 CFR 60.4206].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	Beginning October 1, 2007, the CI internal combustion engines subject to NSPS IIII that use diesel fuel must use diesel fuel that contains the following per gallon standards: 500 ppm (0.05 percent) maximum sulfur content and either a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent. [40 CFR 60.4207(a)]	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- 8.13(a)]	Recordkeeping by invoices / bills of lading 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- 8.13(a)]	None.
10	Beginning October 1, 2010, the CI internal combustion engines with a displacement of less than 30 liters per cylinder subject to NSPS IIII that use diesel fuel must use diesel fuel 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. [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- 8.13(a)]	Recordkeeping by invoices / bills of lading 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- 8.13(a)]	None.
11	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 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those 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. [40 CFR 60.4211(a)]	None.	Other: The owner or operator shall keep the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. [40 CFR 60.4211(a)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	The owner or operator of a fire pump engine that was manufactured during or after the model year that applies to the engine power rating in table 3 to NSPS IIII and must comply with the emission standards in 40 CFR 60.4205(c), must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205(c), for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications. [40 CFR 60.4211(c)]	None.	Other: The owner or operator must keep documentation for the life of the equipment from the manufacturer that the engine is certified to meet the emission standards. [40 CFR 60.4211(c)].	None.
13	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. [40 CFR 60.4211(f)]	Monitored by hour/time monitor continuously. The owner or operator of an emergency stationary internal combustion engine 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 size of the engine 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 in the applicable model year. [40 CFR 60.4214(b)]	None.
14	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. [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.
15	The fire pump may not be operated for reasons of testing or maintenance during start up or shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
16	Start-up Period <= 60 minutes for the fire pump. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
17	The emergency generator E9 and the fire pump E10 may not be tested simultaneously [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by manual logging of the parameter or storing data in a computer data system upon occurrence of the event[N.J.A.C. 7:27-22.16(0)].	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)]	None.
18	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. 7:27-22.16(a)]	None.	None.	Submit an Annual Compliance Certification: Annually to the Department and EPA within 60 days after the end of each calendar year. [N.J.A.C. 7:27-22]
19	Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in 40 CFR 60.4211, is prohibited. [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.
20	Comply with 40 CFR 60 Subpart A and Subpart IIII. [40 CFR 60]	Other: Comply with 40 CFR 60 Subpart A and Subpart IIII.[40 CFR 60].	Other: Comply with 40 CFR 60 Subpart A and Subpart IIII.[40 CFR 60].	Other (provide description): As per the approved schedule Comply with 40 CFR 60 Subpart A and Subpart IIII. [40 CFR 60]

BOP220002

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

**Emission Unit:** U3 157 HP Fire Pump**Operating Scenario:** OS1 157 HP Fire Pump Combusting Diesel Fuel

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. Smoke emissions from stationary internal combustion engines no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Particulate Emissions <= 0.83 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
3	Sulfur Content in Fuel <= 15 ppmw (0.0015% by weight). Effective July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]	Sulfur Content in Fuel: Monitored by fuel sampling (e.g. oil) per delivery. The sulfur content in fuel shall be monitored and recorded in accordance with 40 CFR 75 Appendix D.2.2 and Table D-4. [N.J.A.C. 7:27-22.16(o)]	Other: The sulfur content in fuel shall be monitored and recorded in accordance with 40 CFR 75 Appendix D.2.2 and Table D-4.[N.J.A.C. 7:27-22.16(o)].	None.
4	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 Table 1B. [N.J.A.C. 7:27- 9.2(a)]	None.	None.	None.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	<p>The emergency fire pump shall be located at the facility and produce mechanical or thermal energy, or electrical power exclusively for use at the facility. This fire pump shall be operated only:</p> <p>1. During the performance of normal testing and maintenance procedures, including other fire protection equipment, as recommended in writing by the fire pump or fire protection system manufacturer and/or as required in writing by a Federal or State law or regulation,</p> <p>2. When there is power outage or the primary source of mechanical or thermal energy fails because of an emergency, or</p> <p>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, or</p> <p>4. To provide power to pump water for fire suppression or protection, or in case of flood, even if there is no power outage and primary source of mechanical energy has not failed. . [N.J.A.C. 7:27-22.16(a)] and [N.J.A.C. 7:27-19.1]</p>	<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 fire pump'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 fire pump fuel usage rate in gallons per hour).</p> <p>Hours of operation for emergency use (per month) = (The monthly total operating time from the fire pump'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 Permittee shall maintain on site and record in a logbook or computer data system, the following information:</p> <p>1. Once per month, the total operating time from the fire pump'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.</p> <p>2. For each time the fire pump is specifically operated for testing or maintenance:</p> <ul style="list-style-type: none"> <li>i. The reason for its operation;</li> <li>ii. The date(s) of operation and the start up and shut down time;</li> <li>iii. The total operating time for testing or maintenance based on the fire pump's hour meter; and</li> <li>iv. The name of the operator; and</li> </ul> <p>3. If a voltage reduction is the reason for the use of the fire pump, a copy of the voltage reduction notification from PJM or other documentation of the voltage reduction.</p> <p>The owner or operator of a fire pump shall maintain the above records for a period no less than 5 years after the record was made and shall make the records readability available to the Department or EPA upon request. [N.J.A.C. 7:27-22.16(o)] and. [N.J.A.C. 7:27-19.11]</p>	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	<p>This emergency fire pump 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 <a href="http://airnow.gov/">http://airnow.gov/</a>, 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 <a href="http://www.state.nj.us/dep/aqpp/aqforecast">http://www.state.nj.us/dep/aqpp/aqforecast</a>; 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.
7	Sulfur Content in Fuel $\leq$ 0.0015 % by weight. [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 fuel certification receipts per delivery. [N.J.A.C. 7:27-22.16(o)]	None.
8	Maximum Gross Heat Input $\leq$ 1.39 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep records showing maximum heat input rate for the fire pump. [N.J.A.C. 7:27-22.16(o)].	None.
9	NO <sub>x</sub> (Total) $\leq$ 0.97 lb/hr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.2(a)]	None.	None.	None.
10	CO $\leq$ 0.35 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
11	VOC (Total) $\leq$ 0.03 lb/hr Below Reporting Thresholds. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	TSP <= 0.03 lb/hr. Below Reporting Thresholds. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
13	PM-2.5 (Total) <= 0.03 lb/hr Below Reporting Thresholds. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
14	PM-10 (Total) <= 0.03 lb/hr. Below Reporting Thresholds. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
15	Emergency fire pump fuel limited to ultra low sulfur distillate fuel oil (ULSD) [sulfur content <= 15 ppm]. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
16	Hours of Operation While Firing Diesel <= 100 hr/yr for testing and maintenance. [N.J.A.C. 7:27-22.16(a)]	Hours of Operation While Firing Diesel: Monitored by hour/time monitor upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]	Hours of Operation While Firing Diesel: 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 in a logbook or computer data system, the following information: 1. For each time the emergency generator is specifically operated for testing or maintenance: 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. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Subject Item:** CD901 Water Injection Turbine 9, CD1001 Water Injection Turbine 10

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The permittee shall operate the Water Injection System (CD901, CD1001) during all periods that the gas turbine is operating, except during start-up, shutdown, shakedown, and low load operation (U4 OS9 and U4 OS10). [N.J.A.C. 7:27-22.16(a)]	Monitored by hour/time monitor continuously, based on an instantaneous determination. The permittee shall record the time and duration of the operation of both the water injection system and the gas turbine. [N.J.A.C. 7:27-22.16(a)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The permittee shall continuously record the time and duration of the operation of the gas turbine and the water injection system. [N.J.A.C. 7:27-22.16(o)]	None.
2	Water-to-Fuel Ratio: The water-to-fuel ratio shall be within the manufacturer's recommended limits. [N.J.A.C. 7:27-22.16(a)]	Water-to-Fuel Ratio: Monitored by water-to-fuel monitoring device continuously. 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)]	Water-to-Fuel Ratio: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Subject Item:** CD902 Selective Catalytic Reduction Turbine 9, CD1002 Selective Catalytic Reduction Turbine 10

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The SCR's ( CD902, CD1002) shall be operated at all times that the turbine is operating, except during start-up shakedown, and low load operation (U4 OS9 and U4 OS10) as follows:  During startup and shut down the SCR may or may not operate as required by manufacturer's recommendation. [N.J.A.C. 7:27-22.16(a)]	Monitored by hour/time monitor continuously. The permittee shall record the time and duration of the operation of both the SCR and the gas turbine. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The permittee shall continuously record the time and duration of the operation of the stationary combustion turbine and the selective catalytic reduction unit (SCR). [N.J.A.C. 7:27-22.16(o)]	None.
2	The SCR catalyst, CD902, CD1002, array(s) shall be maintained and replaced in accordance with the recommendations and schedules of the manufacturer and based on NOx emission levels indicated through CEM/stack testing. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	Temperature at Exit of Catalyst $\geq$ 550 and Temperature at Exit of Catalyst $\leq$ 860 degrees F , except during start-up, shutdown and low load operation (OS9 and OS10). . Applicable to SCR's( CD902, CD1002). [N.J.A.C. 7:27-22.16(a)]	Temperature at Exit of Catalyst: Monitored by temperature instrument continuously, based on an instantaneous determination. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [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.
4	Selective Catalytic Reduction (CD902, CD1002) : NOx Percentage Removal $\geq$ 90 % (design value) for natural gas firing [N.J.A.C. 7:27-22.16(a)]	Monitored by documentation of construction once initially. [N.J.A.C. 7:27-22.16(o)]	Other: The permittee shall keep SCR manufacturer's documentation, as-built performance guarantee and operation and maintenance manual on-site.[N.J.A.C. 7:27-22.16(o)].	None.
5	Selective Catalytic Reduction (CD902, CD1002) : NOx Percentage Removal $\geq$ 88% for ULSD oil firing. [N.J.A.C. 7:27-22.16(a)]	Monitored by documentation of construction once initially . [N.J.A.C. 7:27-22.16(o)]	Other: The permittee shall keep SCR manufacturer's documentation, as-built performance guarantee and operation and maintenance manual on-site.[N.J.A.C. 7:27-22.16(o)].	None.

BOP220002

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

**Emission Unit:** U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Subject Item:** CD903 Oxidation Catalyst Turbine 9, CD1003 Oxidation Catalyst Turbine 10

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The Oxidation Catalysts (CD903, CD1003), 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. The minimum CO destruction efficiency shall be $\geq 90\%$ (design value) for gas firing such that CO and VOC (Total) emission limits, as established in this permit, are met. [N.J.A.C. 7:27-21.16(a)]	Monitored by documentation of construction once initially. [N.J.A.C. 7:27-22.16(o)]	Other: The permittee shall maintain Catalytic Oxidizer system manufacturer's documentation, specifications, and operation & maintenance manual (O&M) on-site.[N.J.A.C. 7:27-21.16(o)].	None.
2	The Oxidation Catalysts (CD903, CD1003), 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. The minimum CO destruction efficiency shall be $\geq 85\%$ (design value) for oil firing, such that CO and VOC (Total) emission limits, as established in this permit, are met. [N.J.A.C. 7:27-22.16(a)]	Monitored by documentation of construction once initially. [N.J.A.C. 7:27-22.16(o)]	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)].	None.
3	The oxidation catalysts, referred by CD903, CD1003, shall be operated at all times that the turbine is operating except during start-up and shutdown, shakedown, and low load operation (U4 OS9 and U4 OS10) as follows:  During startup and shut down the oxidation catalyst may or may not operate as required by manufacturer's recommendation. [N.J.A.C. 7:27-22.16(a)]	Monitored by hour/time monitor continuously, based on an instantaneous determination. The permittee shall record the time and duration of the operation of both the oxidation catalyst and the gas turbine. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The permittee shall continuously record the time and duration of the operation of the gas turbine and the oxidation catalyst unit. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	The Oxidation Catalysts CD903, CD1003, array(s) shall be maintained and replaced in accordance with the recommendations and schedules of the manufacturer, based on usage rate. [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by documentation of construction.[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.
5	Temperature at Exit of Catalyst $\geq 550$ and Temperature at Exit of Catalyst $\leq 900$ degrees F. [N.J.A.C. 7:27-22.16(a)]	Temperature at Exit of Catalyst: Monitored by temperature instrument continuously. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [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.

New Jersey Department of Environmental Protection  
Facility Specific Requirements

Emission Unit: U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)  
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 72 - Acid rain and [40 CFR 97.CSAPR]	None.	None.	None.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	<p><b>STACK TESTING SUMMARY:</b> The permittee shall conduct a stack test no later than every five years (see General Provisions) from the last stack test using an approved protocol to demonstrate compliance with emission limits for NO<sub>x</sub>, CO, VOC, PM<sub>2.5</sub>, PM<sub>10</sub> and Ammonia while combusting natural gas and while combusting ultra low sulfur distillate (ULSD) as specified in the compliance plan for U4 OS Summary, U4OS1, U4OS2, U4OS3 and U4OS4.</p> <p>Stack test shall be conducted on ULSD within 180 days after a turbine reaches 100 operating hours on ULSD in any given calendar year. Each turbine shall be tested a maximum of once per permit term on ULSD. 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>The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NO<sub>x</sub> 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 above. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Other: Monitoring as required under the applicable operating scenario(s).</p> <p>The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NO<sub>x</sub> and/or CO, with BTS approval. In order for BTS 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 in this condition.[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.</p> <p>Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit.</p> <p>The stack test protocol for stack emission testing when a turbine combusts ULSD oil shall be submitted within 30 calendar days after a turbine reaches 100 operating hours on ULSD in a given calendar year.</p> <p>Within 30 days after protocol approval or no less than 60 days prior to the intended test date, whichever is later, the permittee must contact EMS at 609-530-4041 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.</p> <p>The test results shall be reported in lb/hr, lb/MMBTU (HHV) and ppmvd @ 15% O<sub>2</sub> as applicable. [N.J.A.C. 7:27-22.18(e)], [N.J.A.C. 7:27-22.18(h)] and. [N.J.A.C. 7:27-22.16(o)]</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>CEMS REQUIREMENTS SUMMARY</p> <p>Operate Continuous Emissions Monitoring Systems (CEMS) to demonstrate compliance with NO<sub>x</sub> and CO as specified in the compliance plan for U4 OS Summary, U4OS1, U4OS2, U4OS3 and U4OS4, U4OS5, U4OS6, U4OS7 and U4OS8.</p> <p>Continuous parametric monitors and continuous parametric data recorders shall be operated to demonstrate compliance with monitoring parameters as specified in the compliance plan for U4 OS Summary, U4OS1, U4OS2, U4OS3 and U4OS4, U4OS5, U4OS6, U4OS7 and U4OS8. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by continuous emission monitoring system continuously. Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping as required under the applicable operating scenario(s). Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]</p>	None.
4	<p>CO ≤ 250 ppmvd @ 15% O<sub>2</sub>. VOC RACT emission limit applies during all operation. [N.J.A.C. 7:27-16.9(b)]</p>	<p>CO: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]</p>	<p>CO: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [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 (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]</p>
5	<p>CO ≤ 250 ppmvd @ 15% O<sub>2</sub>. CO RACT emission limit applies during all operation. [N.J.A.C. 7:27-16.9(b)]</p>	<p>CO: Monitored by continuous emission monitoring system continuously, based on one calendar day (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-16.23(a)1]</p>	<p>CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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 quarter year (the quarter years 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>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	VOC (Total) <= 50 ppmvd @ 15% O <sub>2</sub> . VOC RACT emission limit applies during all operation. [N.J.A.C. 7:27-16.9(b)]	VOC (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
7	The Permittee shall adjust the combustion process in accordance with the procedure set forth at N.J.A.C. 7:27-19.16, in order to optimize the emission of NO <sub>x</sub> , CO and VOC. Adjustment of the combustion process shall be carried out according to manufacturer's recommended procedures and maintenance schedules for each turbine. [N.J.A.C. 7:27-16.9(f)2, N.J.A.C. 7:27-19.5(e)2] & [N.J.A.C. 7:27-19.16(g)]	Monitored by continuous emission monitoring system upon performing combustion adjustment Or Periodic Emission Monitoring. [N.J.A.C. 7:27-19.16(h)]	Recordkeeping by data acquisition system (DAS) / electronic data storage upon performing combustion adjustment or manual logging of parameter upon performing combustion adjustment. The records should be kept in a permanent form suitable for inspections. The owner or operator shall record the following information for each adjustment:  1. The date of the adjustment and the times at which it 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 <sub>x</sub> , CO and O <sub>2</sub> measured before and after the adjustment was made; and  5. The type and amount of fuel used since the last combustion adjustment was performed. [N.J.A.C. 7:27-19.16(h)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
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.
9	Emissions of pollutants in tons per year are based on 2,143,980 MMBtu/yr for natural gas (calculated from 613.8 MMBtu/hr(HHV) Maximum heat input rate for natural gas at ISO conditions and 39.87% capacity factor for natural gas); and 700 hrs per year on ULSD at 533.5 MMBtu/hr HHV (Maximum heat input rate for ULSD at ISO conditions) [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	Heat input based on 39.87% capacity factor $\leq 2,132,659$ MMBtu/year ( $39.87\% \times 610.62$ MMBtu/hr $\times 8760$ hours/year) per turbine, on a 12-operating month rolling average basis.  Where 610.62 MMBtu/hr is the design heat input of the turbine at ISO conditions. [N.J.A.C. 7:27-22.16(a)]	Monitored by fuel flow/firing rate instrument continuously based on a 12-operating month rolling average basis. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by manual logging of parameter or storing data in a computer data system continuously. [N.J.A.C. 7:27-22.16(o)]	None.
11	Turbine fuel limited to Natural Gas and Ultra low sulfur distillate oil (ULSD) with a sulfur content of 15 ppm by weight [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	TSP <= 24.4 tons/yr. The above emissions in tons/yr include emissions from low load operation of the two (2) turbines. [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).  . Total annual emissions of TSP from the two combustion turbines (CTs) at U4 shall be calculated as follows:</p> <p>TSP (Total) tons/month = (5.0 lbs/hr x sum of monthly operating hours for two combustion turbines firing natural gas/ 2000 lbs/ton) + (14 lbs/hr x sum of monthly operating hours for two combustion turbines firing oil / 2000 lbs/ton) + (11.7 lbs/hr x [HBT+ HBO])/2000 lbs/ton  Where:  HBT=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for black start readiness testing  HBO=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for actual black start operation</p> <p>The permittee shall calculate the total monthly emissions of the two turbines for each calendar month, and sum those emissions with the emissions of the two turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	TSP: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	PM-10 (Total) <= 24.4 tons/yr. The above emissions in tons/yr include emissions from low load operation of the two (2) turbines. [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).</p> <p>. Total annual emissions of PM-10 (Total) from the two combustion turbines (CTs) at U4 shall be calculated as follows:</p> <p>PM10 (Total) tons/month = (5.0 lbs/hr x sum of monthly operating hours for two combustion turbines firing natural gas/ 2000 lbs/ton) + (14 lbs/hr x sum of monthly operating hours for two combustion turbines firing oil / 2000 lbs/ton) + (11.7 lbs/hr x [HBT+ HBO])/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for black start readiness testing HBO=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for actual black start operation</p> <p>The permittee shall calculate the total monthly emissions of the two turbines for each calendar month, and sum those emissions with the emissions of the two turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	PM-10 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	PM-2.5 (Total) <= 24.4 tons/yr. The above emissions in tons/yr include emissions from low load operation of the two (2) turbines. [N.J.A.C. 7:27-22.16(a)]	<p>PM-2.5 (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis).</p> <p>. Total annual emissions of PM-2.5 from the two combustion turbines (CTs) at U4 shall be calculated as follows:</p> <p>PM2.5 (Total) tons/month = (5.0 lbs/hr x sum of monthly operating hours for two combustion turbines firing natural gas/ 2000 lbs/ton) + (14 lbs/hr x sum of monthly operating hours for two combustion turbines firing oil / 2000 lbs/ton) + (11.7 lbs/hr x [HBT+ HBO])/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for black start readiness testing HBO=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for actual black start operation</p> <p>The permittee shall calculate the total monthly emissions of the two turbines for each calendar month, and sum those emissions with the emissions of the two turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	PM-2.5 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	VOC (Total) <= 6.84 tons/yr. This limit includes formaldehyde emissions. The above emissions in tons/yr include emissions from low load operation of the two (2) turbines.[N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.2(a)]	<p>VOC (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis).</p> <p>. Total annual emissions of VOC from the two combustion turbines (CTs) at U4 shall be calculated as follows:</p> <p>VOC (Total) tons/month = (1.65 lbs/hr x sum of monthly operating hours for two combustion turbines firing natural gas/ 2000 lbs/ton) + (3.25 lbs/hr x sum of monthly operating hours for two combustion turbines firing oil / 2000 lbs/ton) + (1.75lbs/hr x [HBT+ HBO])/2000 lbs/ton</p> <p>Where:</p> <p>HBT=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for black start readiness testing</p> <p>HBO=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for actual black start operation</p> <p>The permittee shall calculate the total monthly emissions of the two turbines for each calendar month, and sum those emissions with the emissions of the two turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	VOC (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
16	<p>NOx (Total) &lt;= 11.9 tons/yr per turbine at U4.</p> <p>This NOx cap on each turbine is to avoid exceeding N.J.A.C. 7:27-18, Control and Prohibition of Air Pollution from New or Altered Sources Affecting Ambient Air Quality (Emission Offset Rules).</p> <p>Annual emissions from each turbine includes the emissions from startup, shutdown and low load operation.[N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.2(a)]</p>	<p>NOx (Total): Monitored by continuous emission monitoring system continuously, based on a consecutive 12 month period (rolling 1 month basis).</p> <p>Total annual emissions of NOx from each combustion turbines (CT) at U4 shall be calculated as follows:</p> <p>NOx (total) tons/month/turbine = Cumulative monthly NOx emissions (tons) derived from each combustion turbine CEMS system at U4/ 2000 lbs/ton + (40.51 lbs/hr x [HBT+ HBO])/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of each CT at U4(OS9 through OS10) for black start readiness testing HBO=sum of monthly operating hours of each CT at U4(OS9 through OS10) for actual black start operation</p> <p>Using the above equation, the permittee shall calculate the total monthly emissions of each turbine for each calendar month, and sum those emissions with the emissions of that turbine in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	<p>NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]</p>	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	NOx (Total) <= 23.8 tons/yr. The above emissions in tons/yr include emissions from startup and shutdown, and from low load operation of the two (2) turbines.[N.J.A.C. 7:27-22.16(a)]. [N.J.A.C. 7:27-18.2(a)]	NOx (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). Total annual emissions of NOx from the two combustion turbines (CTs) at U4 shall be calculated as follows:  NOx (total) tons/month = Cumulative monthly NOx emissions derived from each combustion turbine CEMS system at U4/ 2000 lbs/ton.  Using the above equation, the permittee shall calculate the total monthly emissions of the two turbines for each calendar month, and sum those emissions with the emissions of the two turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [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 each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
18	CO ≤ 24.5 tons/yr. The above emissions in tons/yr include emissions from startup and shutdown, and from low load operation of the two (2) turbines. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis) Total annual emissions of CO from the two combustion turbines (CTs) at U4 shall be calculated as follows:  CO tons/month = Cumulative monthly CO emissions derived from each combustion turbine CEMS system at U4 + (38.2 lbs/hr x [HBT+ HBO])/2000 lbs/ton Where: HBT=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for black start readiness testing HBO=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for actual black start operation  Using the above equation, the permittee shall calculate the total monthly emissions of the two turbines for each calendar month, and sum those emissions with the emissions of the two turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	SO <sub>2</sub> ≤ 2.68 tons/yr. The above emissions in tons/yr include emissions from low load operation of the two (2) turbines. [N.J.A.C. 7:27-22.16(a)]	<p>SO<sub>2</sub>: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis)</p> <p>. Total annual emissions of SO<sub>2</sub> from the two combustion turbines (CTs) at U4 shall be calculated as follows:</p> <p>SO<sub>2</sub> tons/month = (0.77 lbs/hr x sum of monthly operating hours for two combustion turbines firing natural gas/ 2000 lbs/ton) + (0.80 lbs/hr x sum of monthly operating hours for two combustion turbines firing oil / 2000 lbs/ton) + (0.124 lbs/hr x [HBT+ HBO])/2000 lbs/ton</p> <p>Where: HBT=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for black start readiness testing HBO=sum of monthly operating hours of the 2 CTs at U4 (OS9 and OS10) for actual black start operation</p> <p>The permittee shall calculate the total monthly emissions of the two turbines for each calendar month, and sum those emissions with the emissions of the two turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]</p>	SO <sub>2</sub> : Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
20	Ammonia <= 14.6 tons/yr. There is no change in Ammonia emissions from the low load operation of the two turbines. [N.J.A.C. 7:27-22.16(a)]	Ammonia: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis). Total annual emissions of Ammonia from the emission unit U4 shall include Ammonia emitted by the two turbines. The total annual emissions shall be calculated as follows:  Ammonia tons/month = (4.38 lbs/hr x sum of monthly operating hours for two combustion turbines firing natural gas/ 2000 lbs/ton) + (3.84 lbs/hr x sum of monthly operating hours for two combustion turbines firing oil / 2000 lbs/ton)  The permittee shall calculate the total monthly emissions of the two turbines for each calendar month, and sum those emissions with the emissions of the two turbines in the previous eleven (11) calendar months to determine the total annual emissions in the 12 month period. [N.J.A.C. 7:27-22.16(o)]	Ammonia: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.
21	Sulfuric Acid Mist Emissions <= 2 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Sulfuric Acid Mist Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Sulfuric Acid Mist Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
22	Acrolein <= 0.0021 tons/yr Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) and hours of operation of 3493 hrs/yr on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acrolein: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
23	Arsenic Emissions $\leq$ 0.00411 tons/yr. Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr(HHV) and hours of operation on ULSD of 700 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
24	Benzene $\leq$ 0.00656 tons/yr. Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) and hours of operation of 2793 hrs/yr on natural gas, plus CT maximum heat input rate of 533.5 MMBtu/hr(HHV) and hours of operation on ULSD of 700 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Benzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Benzene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
25	Beryllium Emissions $\leq$ 0.000116 tons/yr. Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr(HHV) and hours of operation on ULSD of 700 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
26	Cadmium Emissions $\leq$ 0.00179 tons/yr. Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr(HHV) and hours of operation on ULSD of 700 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generati..

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
27	Formaldehyde <= 0.233 tons/yr Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) and hours of operation of 3493 hrs/yr on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. Keep records of initial calculations. [N.J.A.C. 7:27-22.16(o)]	None.
28	Pb <= 0.00523 tons/yr. Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr(HHV) and hours of operation on ULSD of 700 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Pb: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Pb: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
29	Manganese Emissions <= 0.295 tons/yr. Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr(HHV) and hours of operation on ULSD of 700 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Manganese Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Manganese Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
30	Methane <= 6.43 tons/yr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and Emission Factor from Part 98, Sub. C, Table C-2 and 3493 hours of operation of 2 turbines. [N.J.A.C. 7:27-22.16(a)]	Methane: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methane: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
31	Naphthalene $\leq$ 0.00238 tons/yr. Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) and hours of operation of 2793 hrs/yr on natural gas, plus CT maximum heat input rate of 533.5 MMBtu/hr(HHV) and hours of operation on ULSD of 700 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas, and 85 percent oxidation catalyst removal efficiency for ULSD. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
32	Nickel Emissions $\leq$ 0.00172 tons/yr. Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr(HHV) and hours of operation on ULSD of 700 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
33	Nitrous oxide $\leq$ 0.89 tons/yr, for two turbines based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and 2793 hours per year on natural gas, plus CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, and 700 hours per year on ULSD, and Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Nitrous oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nitrous oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
34	Polynuclear aromatic hydrocarbons (PAHs) <= 0.00292 tons/yr Maximum emission rate for 2 combustion turbines. This emission rate is based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) and hours of operation of 2793 hrs/yr on natural gas, plus CT maximum heat input rate of 533.5 MMBtu/hr(HHV) and hours of operation on ULSD of 700 hours/yr and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas, and 85 percent oxidation catalyst removal efficiency for ULSD. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
35	The permittee shall submit an Excess Emission Monitoring Performance Report to the appropriate Regional Enforcement Office (REO) for review and approval. This report shall be submitted to the REO whether or not an emission exceedance has occurred. [N.J.A.C. 7:27-22.16(a)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system at no required frequency. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
36	The owner or operator shall develop a QA/QC plan for all CEMS/COMS required by this permit prepared in accordance with the NJDEP Technical Manual 1005 posted on the AQPP webpage at <a href="http://www.state.nj.us/dep/aqpp">http://www.state.nj.us/dep/aqpp</a> [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 date and quarterly reports.[N.J.A.C. 7:27-22.16(o)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
37	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]
38	All requests, reports, applications, submittals, and other communication required by 40 CFR 60 shall be submitted in duplicate to the EPA Region II Administrator. [40 CFR 60.4(a)]	None.	None.	Submit a report: As per the approved schedule , submit reports to EPA Region II as required by 40 CFR 60. Send information to: Director, Air and Waste Management Division, US Environmental Protection Agency, Region II, 290 Broadway, New York, NY 10007-1866. [40 CFR 60.4(a)]
39	Submit copy of all requests, reports, applications, submittals, and other communication required by 40 CFR 60 to the Northern Regional Enforcement Office of NJDEP. [40 CFR 60.4(b)]	None.	None.	Submit a report: Upon occurrence of event : Submit reports to the Northern Regional Office as required by 40 CFR 60. Submit to:  Northern Regional Office New Jersey Department of Environmental Protection 7 Ridgedale Avenue Cedar Knolls, NJ 07927. [40 CFR 60.4(b)]
40	The owner or operator subject to the provisions of 40 CFR Part 60, shall notify the Department in writing, of the date of construction or reconstruction of the facility as defined under 40 CFR Part 60 Subpart A. Notification shall be postmarked no later than 30 days after such date. [40 CFR 60.7(a)(1)]	None.	None.	Submit a report: As per the approved schedule. The permittee shall notify the Department within thirty (30) days from the date of construction. [40 CFR 60.7(a)(1)]

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
41	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 the actual date of initial startup of an affected facility postmarked within 15 days after such date. [40 CFR 60.7(a)(3)]	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)(3)]
42	A 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). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4)]	None.	None.	Comply with the requirement: Upon occurrence of event submit notification to EPA Region II and the Northern Regional Office per 40 CFR 60.7. [40 CFR 60.7(a)(4)]
43	Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]	None.	Other: Manual logging of the parameters specified in 40 CFR 60.7(b) in a permanently bound log book. Upon occurrence of event. (See Applicable Requirement).[40 CFR 60.7(b)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
44	Within 60 days after achieving the maximum production rate at which the affected facility will operate, but not later than 180 days after initial startup of the facility, the owner or operator shall conduct performance test(s) and shall furnish the Administrator a written report of the results. [40 CFR 60.8(a)]	None.	None.	Submit a report: At a common schedule agreed upon by the operator and the Administrator. The owner or operator shall submit results of the performance test(s) to the Administrator. [40 CFR 60.8(a)]
45	The owner or operator shall submit to the Administrator, for each pollutant monitored, an excess emissions and monitoring systems performance report and a summary report form. [40 CFR 60.7(c)]	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 electronically through the NJDEP online EEMPR web portal. The report shall be postmarked by the 30th day following the end of each calendar half. The report shall be submitted and be in a format as specified at 40 CFR 60.7(c) and 40 CFR 60.7(d). [40 CFR 60.7(c)]
46	Any owner or operator subject to the provisions of this part shall maintain a file of 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; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. [40 CFR 60.7(f)]	None.	Recordkeeping by manual logging of parameter continuously. The parameters shall include 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. All records shall be kept on-site for at least five (5) years, and readily made available to the Department upon request. [40 CFR 60.7(f)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
47	Performance tests shall be conducted under conditions the Administrator specifies to the plant operator based on representative performance of the affected facility. Operations during periods of startup, shutdown and malfunction shall not constitute representative conditions for the purpose of the performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)]	None.	None.	None.
48	The owner or operator shall provide the Administrator at least 30 days prior notice of any performance test and shall provide adequate performance testing facilities as specified in 40 CFR Part 60.8(e). [40 CFR 60.8(d)]	None.	None.	Submit a report: As per the approved schedule. Written notification shall be submitted to the NJDEP Northern Regional Office at least 30-days prior to any performance test. The permittee shall provide adequate performance testing facilities as specified in 40 CFR Part 60.8(e). [40 CFR 60.8(d)]
49	Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. [40 CFR 60.8(f)]	None.	None.	None.
50	Compliance with NSPS standards specified in this permit, other than opacity, shall be determined only by performance tests established by 40 CFR 60.8, unless otherwise specified in NSPS. [40 CFR 60.11(a)]	None.	None.	None.
51	At all times, including periods of startup, shutdown, and malfunctions, owners and operators shall, to the extent practicable, maintain and operate the facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing air emissions. [40 CFR 60.11(d)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
52	No owner or operator subject to the provisions of this part 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) once initially. [40 CFR 60.13(c)]	None.	Submit a report: As per the approved schedule , 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. [40 CFR 60.13(c)(2)]
54	The owner or operator shall perform calibrations and span adjustments for continuous emission monitors and continuous opacity monitors following procedures outlined in 40 CFR 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	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.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
56	NO <sub>x</sub> (Total) ≤ 1.2 lb/MW-hr of useful output. This limit applies to a turbine that has heat input at peak load greater than 50 MMBtu/hr (HHV) but less or equal to 850 MMBtu/hr (HHV) firing natural gas and commenced construction after February 18, 2005. [40 CFR 60.4320(a)]	NO <sub>x</sub> (Total): Monitored by stack emission testing once initially, 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 <sub>x</sub> 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 <sub>x</sub> measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO <sub>x</sub> (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400] and. [40 CFR 60.4405]	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)]

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
57	NOx (Total) <= 25 ppmvd @ 15% O2. This limit applies to a turbine that has heat input at peak load greater than 50 MMBtu/hr (HHV) but less or equal to 850 MMBtu/hr (HHV) firing natural gas and which commenced construction after February 18, 2005. [40 CFR 60.4320(a)]	NOx (Total): Monitored by stack emission testing once initially, 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] and. [40 CFR 60.4405]	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)]



BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
58	NO <sub>x</sub> (Total) ≤ 3.6 lb/MW-hr of useful output. This limit applies to a turbine that has heat input at peak load greater than 50 MMBtu/hr (HHV) but less or equal to 850 MMBtu/hr (HHV) firing fuels other than natural gas and commenced construction after February 18, 2005. [40 CFR 60.4320(a)]	NO <sub>x</sub> (Total): Monitored by stack emission testing once initially, 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 <sub>x</sub> 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 <sub>x</sub> measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO <sub>x</sub> (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400] and. [40 CFR 60.4405]	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)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
59	NO <sub>x</sub> (Total) ≤ 74 ppmvd @ 15% O <sub>2</sub> . This limit applies to a turbine that has heat input at peak load greater than 50 MMBtu/hr (HHV) but less or equal to 850 MMBtu/hr (HHV) firing fuels other than natural gas and which commenced construction after February 18, 2005. [40 CFR 60.4320(a)]	NO <sub>x</sub> (Total): Monitored by stack emission testing once initially, 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 <sub>x</sub> 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 <sub>x</sub> measurements shall be taken after the duct burner, which has to be in operation during the performance test. [40 CFR 60.4400]	NO <sub>x</sub> (Total): Recordkeeping by stack test results at the approved frequency. [40 CFR 60.4400] and. [40 CFR 60.4405]	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)]
60	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.
61	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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
62	SO <sub>2</sub> ≤ 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)]	Other: 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 <sub>2</sub> per MMBtu heat input using sources of information listed in 40 CFR 60.4365(a) or perform representative fuel sampling as described in 60.4365(b). [40 CFR 60.4365].	None.	Submit documentation of compliance: Once initially. The permittee shall furnish the Administrator and NJDEP a written report of the results. 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 <sub>2</sub> per MMBtu heat input using sources of information listed in 40 CFR 60.4365(a) or perform representative fuel sampling as described in 60.4365(b). [40 CFR 60.8(a)]
63	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.
64	The permittee shall install and certify a NO <sub>x</sub> diluent CEMS in accordance with to appendix A to 40 CFR 75. The relative accuracy test audit (RATA) shall be performed on a lb/MMBtu basis. [40 CFR 60.4345(a)]	Monitored by continuous emission monitoring system continuously. During each full unit operating hour, both the NO <sub>x</sub> 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)]	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 <sub>x</sub> 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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
65	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. [40 CFR 60.4345(a)]	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)]	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)]	None.
66	The permittee shall install, calibrate, maintain, and operate each watt 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 shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in 40 CFR 60.4365. The sulfur content of the fuel must be determined using total sulfur methods described in 40 CFR 60.4415 or, alternatively, as allowed in 40 CFR 60.4360. 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 60.4360]	Other: The owner or operator may develop custom schedule for determination of the total sulfur content of gaseous fuels. The custom schedule shall be substantiate with data and shall be approved by the Administrator before they can be used to comply with the Sulfur standard in fuel except for the two custom schedules set forth in 40 CFR 60.4370(c)(1)(i) through (iv) and in 40 CFR 60.4370(c)(2) which are acceptable without prior Administrator approval. [40 CFR 60.4370(c)].	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 60.4415]	Submit a report: As per the approved schedule. The permittee shall determine excess emissions and monitoring downtime as described in 40 CFR 60.4385(a) through (c) and submit an excess emissions report by the 30th day following the end of each 6-month period as prescribed in 40 CFR 60.4395. [40 CFR 60.4385]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
68	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 <sub>2</sub> /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 <sub>2</sub> /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 (500ppmw) 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 <sub>2</sub> /MMBtu heat input. [40 CFR 60.4365(a)]
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 NO <sub>x</sub> 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: NO <sub>x</sub> concentration, CO <sub>2</sub> or O <sub>2</sub> 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 NO <sub>x</sub> 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].	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-month period. [40 CFR 60.4395]
70	Combustion turbines qualifying under §60.5520(d)(1) are required to maintain fuel purchase records for permitted fuel(s). [40 CFR 60.5525]	Other: Monitored by fuel purchase records each month during operation[40 CFR 60.5525].	Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency recordkeeping by fuel purchase records each month during operation. [40 CFR 60.6565]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
71	CO <sub>2</sub> ≤ 120 lb/MMBTU when combusting more than 90 percent (%) natural gas on a heat input basis on a 12-operating-month rolling average basis. [40 CFR 60.5520(d)]	None.	None.	None.
72	<p>CO<sub>2</sub> ≤ 160 lb/MMBTU when firing when combusting more than or equal to 10 percent (%) ultra low sulfur distillate oil (ULSD) on a heat input basis on a 12-operating-month rolling average basis such that</p> $CO_2 = [(120 \times HTIP_{ng}) + (160 \times HTIP_o)] / (HTIP_{ng} + HTIP_o)$ <p>Where:  CO<sub>2</sub> = the emission standard during the compliance period in units of lb/MMBtu.  HTIP<sub>ng</sub> = the heat input in MMBtu from natural gas.  HTIP<sub>o</sub> = the heat input in MMBtu from ULSD.  120 = allowable emission rate in lb of CO<sub>2</sub>/MMBtu for heat input derived from natural gas.  160 = allowable emission rate in lb of CO<sub>2</sub>/MMBtu for heat input derived from ULSD. [40 CFR 60.5520(d)]</p>	None.	None.	None.
73	The the owner or operator must prepare and submit notifications as specified in 40 CFR 60.7(a)(1) and 40 CFR 60.7(a)(3) and 40 CFR 60.19 as applicable to each affected EGU(s). [40 CFR 60.5550(a)]	Other: As per [40 CFR 60.5550(a)][40 CFR 60.5550(a)].	Other: As per [40 CFR 60.5550(a)][40 CFR 60.5550(a)].	Other (provide description): Other As per [40 CFR 60.5550(a)]. [40 CFR 60.5550(a)]
74	The the owner or operator must prepare and submit notifications specified in 40 CFR 75.61 as applicable to each affected EGU(s). [40 CFR 60.5550(b)]	Other: As per [40 CFR 60.5550(b)][40 CFR 60.5550(b)].	Other: As per [40 CFR 60.5550(b)][40 CFR 60.5550(b)].	Other (provide description): Other As per [40 CFR 60.5550(b)]. [40 CFR 60.5550(b)]

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
75	The owner or operator of an affected EGU that is also subject to Acid Rain Program must submit the quarterly electronic emissions reports as required under Subpart G of 40 CFR 75. [40 CFR 60.5555(c)(1)]	None.	None.	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) electronically using the Emissions Collection and Monitoring Plan System (ECMPS) Client Tool provided by the Clean Air Markets Division in the Office of Atmospheric Programs of EPA submitted by the Designated Representative (DR). The EGU must begin submitting the quarterly electronic emissions reports in accordance with 40 CFR 75.64(a), i.e., beginning with data recorded on and after the earlier of: (A) The date of provisional certification, as defined in 40 CFR 75.20(a)(3); or (B) 180 days after the date on which the EGU commences commercial operation (as defined in 40 CFR 72.2). [40 CFR 60.5555(c)(3)(i)]
76	Acid Rain:Comply with the requirements contained in the attached Acid Rain Permit. [40 CFR 72]	Other: Acid Rain:Comply with the requirements contained in the attached Acid Rain Permit.[40 CFR 72].	Other: Acid Rain:Comply with the requirements contained in the attached Acid Rain Permit.[40 CFR 72].	Other (provide description): As per the approved schedule Acid Rain:Comply with the requirements contained in the attached Acid Rain Permit. [40 CFR 72]
77	The permittee shall comply with 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 Trading Program applicable to this affected unit. [40 CFR 97]	Other: As per the CSAPR attachment.[40 CFR 97].	Other: As per the CSAPR attachment.[40 CFR 97].	Other (provide description): Other. As per the CSAPR attachment. [40 CFR 97]

BOP220002

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

**Emission Unit:** U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS1 Turbine No. 9 firing natural gas, OS2 Turbine No. 10 firing natural gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. Smoke emissions from stationary turbine engines no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Opacity <= 10 % , exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	Particulate Emissions <= 64.3 lb/hr Particulate emission limit from the combustion of natural gas based on rated heat input of 642.9 MMBtu/hr for each turbine. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
4	Maximum Gross Heat Input <= 642.9 MMBTU/hr (HHV) per turbine firing natural gas. Emissions of pollutants in lb/hr per year for natural gas are calculated from 613.8 MMBtu/hr(HHV) Maximum heat input rate of the turbine when firing natural gas at ISO conditions and 39.87% capacity factor. [N.J.A.C. 7:27-22.16(o)]	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 continuously. [N.J.A.C. 7:27-22.16(o)]	None.
5	NOx (Total) <= 1 lb/MW-hr per turbine firing natural gas. [N.J.A.C. 7:27-19.5(g)2]	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. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [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. [N.J.A.C. 7:27-22.16(o)]



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	NO <sub>x</sub> (Total) ≤ 1 lb/MW-hr. NO <sub>x</sub> RACT emission limit applies during all periods of natural gas combustion. [N.J.A.C. 7:27-19.5(g)2]	NO <sub>x</sub> (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs each performed over a 60-minute period specified by the Department. Any NO <sub>x</sub> testing conducted pursuant to this section shall be conducted concurrently with CO testing. (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NO <sub>x</sub> (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
7	[N.J.A.C. 7:27-22.16(a)] and NO <sub>x</sub> (Total) ≤ 2.5 ppmvd @ 15% O <sub>2</sub> . [N.J.A.C. 7:27-18.3(b)]	NO <sub>x</sub> (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	NO <sub>x</sub> (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
8	[N.J.A.C. 7:27-22.16(a)] and NO <sub>x</sub> (Total) ≤ 2.5 ppmvd @ 15% O <sub>2</sub> . [N.J.A.C. 7:27-18.3(b)]	NO <sub>x</sub> (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NO <sub>x</sub> (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
9	NO <sub>x</sub> (Total) ≤ 0.0092 lb/MMBTU [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NO <sub>x</sub> (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	NO <sub>x</sub> (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	NO <sub>x</sub> (Total) ≤ 0.0092 lb/MMBTU [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NO <sub>x</sub> (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NO <sub>x</sub> (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
11	NO <sub>x</sub> (Total) ≤ 5.92 lb/hr [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NO <sub>x</sub> (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	NO <sub>x</sub> (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
12	NO <sub>x</sub> (Total) ≤ 5.92 lb/hr [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NO <sub>x</sub> (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NO <sub>x</sub> (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
13	CO ≤ 5 ppmvd @ 15% O <sub>2</sub> . [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. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
14	CO ≤ 5 ppmvd @ 15% O <sub>2</sub> . [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	CO <= 0.0112 lb/MMBTU. [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. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
16	CO <= 0.0112 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
17	CO <= 7.21 lb/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. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. (Please see U4/OS Summary/CEMS Requirements Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
18	CO <= 7.21 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
19	VOC (Total) <= 2 ppmvd @ 15% O <sub>2</sub> . This limit includes formaldehyde emissions [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	VOC (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
20	VOC (Total) <= 1.65 lb/hr. This limit includes formaldehyde emissions [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	VOC (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
21	SO <sub>2</sub> <= 0.77 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
22	TSP <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
23	PM-2.5 (Total) <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
24	PM-10 (Total) <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
25	Ammonia <= 5 ppmvd @ 15% O <sub>2</sub> . [N.J.A.C. 7:27-22.16(a)]	Ammonia: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on each of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Ammonia: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
26	Ammonia <= 4.19 lb/hr , based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Ammonia: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Ammonia: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
27	Sulfuric Acid Mist Emissions <= 0.564 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
28	Acrolein $\leq$ 0.000393 lb/hr , based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acrolein: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
29	Formaldehyde $\leq$ 0.0436 lb/hr This emission rate is based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
30	Polynuclear aromatic hydrocarbons (PAHs) $\leq$ 0.000135 lb/hr This emission rate is based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 90 percent oxidation catalyst removal efficiency for natural gas. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
31	Methane $\leq$ 1.42 lb/hr , based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Methane: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methane: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
32	Nitrous oxide $\leq$ 0.142 lb/hr , based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Nitrous oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nitrous oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
33	Natural Gas Usage: <= 2,143,980 MMBtu/year [N.J.A.C. 7:27-22.16(a)]	Natural Gas Usage: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis). The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. The monitor range shall meet the requirements of 40 CFR Part 75, Appendix D. [N.J.A.C. 7:27-22.16(o)]	Natural Gas Usage: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.

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

**Emission Unit:** U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS3 Turbine No. 9 firing ultra low sulfur diesel, OS4 Turbine No. 10 firing ultra low sulfur diesel

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 10 %. Smoke emissions from stationary turbine engines no greater than 10% opacity, exclusive of visible condensed water vapor, for a period of more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	Opacity: Monitored by visual determination at the approved frequency, based on an instantaneous determination. Periodic Visual observations. Once every 100 hours of oil firing operation. Visual observations shall be conducted by certified smoke reader every 100 hours of oil firing operation using NJ Test Method 2.  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. [N.J.A.C. 7:27-22.16(o)]	Opacity: Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency Manual logging of Visual Observations in a permanently bound logbook or readily accessible computer memory. Once every 100 hours of ULSD fuel oil firing operation.  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 recording exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of operation, the reason for monitoring at the lesser frequency shall also be recorded. [N.J.A.C. 7:27-22.16(o)]	None.
2	Particulate Emissions <= 60 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
3	Sulfur Content in Fuel <= 15 ppmw (0.0015% by weight). Effective July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]	Sulfur Content in Fuel: Monitored by fuel sampling (e.g. oil) per delivery. The sulfur content in fuel shall be monitored and recorded in accordance with 40 CFR 75 Appendix D.2.2 and Table D-4. [N.J.A.C. 7:27-22.16(o)]	Other: The sulfur content in fuel shall be monitored and recorded in accordance with 40 CFR 75 Appendix D.2.2 and Table D-4. [N.J.A.C. 7:27-22.16(o)].	None.
4	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 Table 1B. [N.J.A.C. 7:27- 9.2(b)]	None.	None.	None.

U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generati..

OS3, OS4

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	NO <sub>x</sub> (Total) ≤ 1.6 lb/MW-hr. [N.J.A.C. 7:27-19.5(g)1]	NO <sub>x</sub> (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs each performed over a consecutive 60-minute period. Any NO <sub>x</sub> testing conducted pursuant to this section shall be conducted concurrently with CO testing. (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-19.15(a)2]	NO <sub>x</sub> (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
6	NO <sub>x</sub> (Total) ≤ 1.6 lb/MW-hr. NO <sub>x</sub> RACT emission limit applies during all periods of fuel oil combustion. [N.J.A.C. 7:27-19.5(g)]	NO <sub>x</sub> (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-19.15(a)1]	NO <sub>x</sub> (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
7	Maximum Gross Heat Input ≤ 533.5 MMBTU/hr (HHV) when firing Ultra Low Sulfur Distillate oil (ULSD) with a sulfur content of 15 ppm by weight or less. [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 continuously. [N.J.A.C. 7:27-22.16(o)]	None.
8	Fuel Oil Usage ≤ 2.687 MMgal/yr per turbine. [N.J.A.C. 7:27-22.16(a)]	Fuel Oil Usage: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 12 month period (rolling 1 month basis). The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [N.J.A.C. 7:27-22.16(o)]	Fuel Oil Usage: Recordkeeping by data acquisition system (DAS) / electronic data storage each month during operation. The gallons per any consecutive 12-month period shall be calculated by the sum of the gallons consumed during any one month added to the sum of the gallons consumed during the preceeding 11 months. The permittee shall select the time period for accounting, such as fiscal month, calendar month or production month. Once selected, the period must not be changed without prior approval from the Department. [N.J.A.C. 7:27-22.16(o)]	



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	Hours of Operation While Firing Fuel Oil ≤ 700 hr/yr per turbine. [N.J.A.C. 7:27-22.16(a)]	Hours of Operation While Firing Fuel Oil: Monitored by hour/time monitor daily, based on a consecutive 12 month period (rolling 1 month basis). The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [N.J.A.C. 7:27-22.16(o)]	Hours of Operation While Firing Fuel Oil: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. [N.J.A.C. 7:27-22.16(o)]	None.
10	NO <sub>x</sub> (Total) ≤ 1 lb/MW-hr. NO <sub>x</sub> RACT emission limit applies during operation on high electric demand days, regardless of fuel combusted, unless combusting gaseous fuel is not possible due to gas curtailment. [N.J.A.C. 7:27-19.5(g)(2), Table 7] "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 <a href="http://oasis.pjm.com/doc/projload.txt">http://oasis.pjm.com/doc/projload.txt</a> . [N.J.A.C. 7:27-19.5(g)2]	NO <sub>x</sub> (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-19.15(a)2]	NO <sub>x</sub> (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
11	NO <sub>x</sub> (Total) ≤ 10.4 lb/hr [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NO <sub>x</sub> (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NO <sub>x</sub> (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
12	NO <sub>x</sub> (Total) ≤ 5 ppmvd @ 15% O <sub>2</sub> [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NO <sub>x</sub> (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NO <sub>x</sub> (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. (Please see U4/OS Summary/CEMS Requirements for details). [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	NO <sub>x</sub> (Total) ≤ 5 ppmvd @ 15% O <sub>2</sub> [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NO <sub>x</sub> (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NO <sub>x</sub> (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
14	CO ≤ 6.31 lb/hr. [N.J.A.C. 7:27-21.16(o)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): 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) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
15	CO ≤ 6.31 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
16	CO ≤ 5 ppmvd @ 15% O <sub>2</sub> . [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 (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. (Please see U4/OS Summary/CEMS Requirements for details). [N.J.A.C. 7:27-22.16(o)]
17	CO ≤ 5 ppmvd @ 15% O <sub>2</sub> . [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
18	TSP <= 14 lb/hr. [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(a)]	TSP: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
19	PM-10 (Total) <= 14 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
20	PM-2.5 (Total) <= 14 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
21	VOC (Total) <= 3.25 lb/hr. This limit includes formaldehyde emissions [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	VOC (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
22	VOC (Total) <= 4.5 ppmvd @ 15% O <sub>2</sub> . This limit includes formaldehyde emissions [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	VOC (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
23	SO <sub>2</sub> <= 0.8 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, and sulfur content in ULSD of 15 ppmw. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	Ammonia $\leq$ 3.84 lb/hr. This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr(HHV) on ULSD, and on the SOTA limit of 5 ppmvd @ 15% O <sub>2</sub> . [N.J.A.C. 7:27-22.16(a)]	Ammonia: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Ammonia: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
25	Ammonia $\leq$ 5 ppm @ 15% O <sub>2</sub> . [N.J.A.C. 7:27-22.16(o)]	Ammonia: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three Department validated stack test runs (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Ammonia: Recordkeeping by stack test results every 5 years (based on completion date of the last stack test) (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (Please see STACK TESTING SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]
26	Sulfuric Acid Mist Emissions $\leq$ 0.613 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, and sulfur content in natural gas of 0.42 grains/100SCF, and a factor of 50% for conversion of SO <sub>2</sub> to SO <sub>3</sub> and 100% conversion of SO <sub>3</sub> to H <sub>2</sub> SO <sub>4</sub> . [N.J.A.C. 7:27-22.16(a)]	Sulfuric Acid Mist Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Sulfuric Acid Mist Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
27	Arsenic Emissions $\leq$ 0.00587 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Arsenic Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
28	Benzene $\leq$ 0.0044 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. and 85 percent oxidation catalyst removal efficiency for ULSD. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Benzene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
29	Beryllium Emissions $\leq 0.000165$ lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Beryllium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
30	Cadmium Emissions $\leq 0.00256$ lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Cadmium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
31	Formaldehyde $\leq 0.0224$ lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, and Emission Factor from US EPA AP-42 Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5., and 85 percent oxidation catalyst removal efficiency for ULSD. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
32	Manganese compounds $\leq 0.421$ lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Manganese compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
33	Methane $\leq 3.53$ lb/hr. This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and Emission Factor from Part 98, Sub C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Methane: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methane: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
34	Naphthalene $\leq$ 0.0028 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5, and 85 percent oxidation catalyst removal efficiency for ULSD. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
35	Nickel Emissions $\leq$ 0.00245 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
36	Nitrous oxide $\leq$ 0.712 lb/hr. This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and Emission Factor from Part 98, Sub C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Nitrous oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nitrous oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
37	Pb $\leq$ 0.00747 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr(HHV) on ULSD and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Pb: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Pb: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
38	Polynuclear aromatic hydrocarbons (PAHs) $\leq$ 0.0032 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS5 Turbine No. 9 Startup-NGas, OS6 Turbine No. 10 Startup-NGas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Start-up Period <= 30 minutes. Startup: The period from initiating the unit's combustion of fuel and operational ramp up to achievement of dispatched megawatt output, not to exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]	Start-up Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Start-up Period: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	NOx (Total) <= 14 lb/hr , based on a 3 hour rolling average based on a 1 hour block average when the three one-hour blocks include at least one startup [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. The limit shall apply when the three one-hour blocks include at least one startup. (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
3	CO <= 250 ppmvd @ 15% O2 during startup. [N.J.A.C. 7:27-16.9(c)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-16.23(a)1]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
4	VOC (Total) <= 50 ppmvd @ 15% O2. [N.J.A.C. 7:27-16.9(b)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during startup on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
5	SO2 <= 1.22 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the SO2 emission limits during startup on natural gas.[N.J.A.C. 7:27-21.16(o)].	None.
6	PM-2.5 (Total) <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM2.5 emission limits during startup on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.

U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generati..

OS5, OS6

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	PM-10 (Total) $\leq$ 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM10 emission limits during startup on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
8	The fire pump may not be operated for reasons of testing or maintenance during start up or shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	The emergency generator may not be operated for reasons of testing or maintenance during start up or shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	Acrolein $\leq$ 0.00118 lb/hr , an average heat input of 460.4 MMBtu/hr during start-up for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 613.8 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acrolein: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
11	Formaldehyde $\leq$ 0.131 lb/hr , an average heat input of 460.4 MMBtu/hr during start-up for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 613.8 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
12	Methane $\leq$ 1.4 lb/hr , based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Methane: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methane: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
13	Nitrous oxide $\leq$ 0.14 lb/hr , based on CT maximum heat input rate of 613.8 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Nitrous oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nitrous oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Polynuclear aromatic hydrocarbons (PAHs) $\leq 0.000405$ lb/hr , an average heat input of 460.4 MMBtu/hr during start-up for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 613.8 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

**BOP220002**

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

**Emission Unit:** U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS9 Turbine No. 9 firing natural gas-Low Load Black Start Operation, OS10 Turbine No. 10 firing natural gas-Low Load Black Start Operation

The requirements for this item are identical to those for: U1 OS17, OS18, OS19, OS20, OS21, OS22, OS23, OS24

BOP220002

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

**Emission Unit:** U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS11 Turbine No. 9 Shutdown-NGas, OS12 Turbine No. 10 Shutdown-NGas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Shutdown Period <= 30 minutes. Shutdown Period is the period from initiating the unit's operational shutdown process and ramp down to the cessation of fuel combustion, not to exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]	Shutdown Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Shutdown Period: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	NOx (Total) <= 14 lb/hr , based on a 3 hour rolling average based on a 1 hour block average when the three one-hour blocks include at least one shutdown [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. The limit shall apply when the three one-hour blocks include at least one shutdown. (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
3	CO <= 250 ppmvd @ 15% O2 during shutdown. [N.J.A.C. 7:27-16.9(b)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-16.23(a)1]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
4	VOC (Total) <= 50 ppmvd @ 15% O2. [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during shutdown on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
5	SO2 <= 1.22 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the SO2 emission limits during shutdown on natural gas.[N.J.A.C. 7:27-21.16(o)].	None.
6	PM-2.5 (Total) <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM2.5 emission limits during shutdown on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.

U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generati..

OS11, OS12

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	PM-10 (Total) $\leq$ 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM10 emission limits during shutdown on natural gas.[N.J.A.C. 7:27-22.16(o)].	None.
8	The fire pump may not be operated for reasons of testing or maintenance during shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	The emergency generator may not be operated for reasons of testing or maintenance during shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	Acrolein $\leq$ 0.00118 lb/hr , an average heat input of 460.4 MMBtu/hr during shutdown for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 613.8 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acrolein: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
11	Formaldehyde $\leq$ 0.131 lb/hr , an average heat input of 460.4 MMBtu/hr during shutdown for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 613.8 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
12	Methane $\leq$ 1.4 lb/hr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Methane: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methane: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
13	Nitrous oxide $\leq$ 0.14 lb/hr , based on CT maximum heat input rate of 643 MMBtu/hr (HHV) on natural gas, and US EPA AP-42 Emission Factor from Part 98, Sub. C, Table C-2. [N.J.A.C. 7:27-22.16(a)]	Nitrous oxide: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nitrous oxide: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Polynuclear aromatic hydrocarbons (PAHs) $\leq 0.000405$ lb/hr , an average heat input of 460.4 MMBtu/hr during shutdown for natural gas (1/2 hour at 1/2 load plus 1/2 hour at full load - 613.8 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS13 Turbine No. 9 Startup-ULSD, OS14 Turbine No. 10 Startup-ULSD

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Start-up Period <= 30 minutes. Startup: The period from initiating the unit's combustion of fuel and operational ramp up to achievement of dispatched megawatt output, not to exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]	Start-up Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Start-up Period: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	NOx (Total) <= 21 lb/hr , based on a 3 hour rolling average based on a 1 hour block average when the three one-hour blocks include at least one startup [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. The limit shall apply when the three one-hour blocks include at least one startup. (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
3	CO <= 250 ppmvd @ 15% O2 during startup. [N.J.A.C. 7:27-16.9(c)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-16.23(a)1]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
4	VOC (Total) <= 50 ppmvd @ 15% O2. [N.J.A.C. 7:27-16.9(b)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during startup on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.
5	SO2 <= 0.8 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the SO2 emission limits during startup on ULSD.[N.J.A.C. 7:27-21.16(o)].	None.
6	TSP <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during startup on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	PM-2.5 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM2.5 emission limits during startup on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.
8	PM-10 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM-10 emission limits during startup on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.
9	The fire pump may not be operated for reasons of testing or maintenance during start up or shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	The emergency generator may not be operated for reasons of testing or maintenance during start up or shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
11	Arsenic Emissions <= 0.00587 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Arsenic Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
12	Benzene <= 0.00954 lb/hr , an average heat input of 400.1 MMBtu/hr during start-up for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 533.5 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Benzene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
13	Beryllium Emissions <= 0.000165 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Beryllium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generati..

OS13, OS14

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Cadmium Emissions $\leq$ 0.00256 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Cadmium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
15	Formaldehyde $\leq$ 0.0485 lb/hr, an average heat input of 400.1 MMBtu/hr during start-up for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 533.5 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
16	Manganese compounds $\leq$ 0.421 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Manganese compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
17	Naphthalene $\leq$ 0.00607 lb/hr, an average heat input of 400.1 MMBtu/hr during start-up for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 533.5 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
18	Nickel Emissions $\leq$ 0.00245 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.



BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	Pb <= 0.00747 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Pb: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Pb: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
20	Polynuclear aromatic hydrocarbons (PAHs) <= 0.00694 lb/hr , an average heat input of 400.1 MMBtu/hr during start-up for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 533.5 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)

**Operating Scenario:** OS15 Turbine No. 9 Shutdown ULSD, OS16 Turbine No. 10 Shutdown ULSD

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Shutdown Period <= 30 minutes. Shutdown Period is the period from initiating the unit's operational shutdown process and ramp down to the cessation of fuel combustion, not to exceed 30 minutes. [N.J.A.C. 7:27-22.16(a)]	Shutdown Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(0)]	Shutdown Period: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	NOx (Total) <= 21 lb/hr , based on a 3 hour rolling average based on a 1 hour block average when the three one-hour blocks include at least one shutdown [N.J.A.C. 7:27-22.16(a)] and. [N.J.A.C. 7:27-18.3(b)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. The limit shall apply when the three one-hour blocks include at least one shutdown(Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
3	CO <= 250 ppmvd @ 15% O2 during shutdown. [N.J.A.C. 7:27-16.9(b)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [N.J.A.C. 7:27-16.23(a)1]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (Please see CEMS REQUIREMENTS SUMMARY at U4/OS Summary for details). [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. [N.J.A.C. 7:27-22.16(o)]
4	VOC (Total) <= 50 ppmvd @ 15% O2. [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during shutdown on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.
5	SO2 <= 0.8 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the SO2 emission limits during shutdown on ULSD.[N.J.A.C. 7:27-21.16(o)].	None.
6	TSP <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during shutdown on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.

U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generati..

OS15, OS16

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	PM-2.5 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM2.5 emission limits during shutdown on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.
8	PM-10 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM10 emission limits during shutdown on ULSD.[N.J.A.C. 7:27-22.16(o)].	None.
9	The fire pump may not be operated for reasons of testing or maintenance during shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	The emergency generator may not be operated for reasons of testing or maintenance during shut down of the turbines [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
11	Arsenic Emissions <= 0.00587 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Arsenic Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
12	Benzene <= 0.00954 lb/hr , an average heat input of 400.1 MMBtu/hr during shutdown for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 533.5 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Benzene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
13	Beryllium Emissions <= 0.000165 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Beryllium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Beryllium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

U4 2 Simple Cycle Stationary Gas Turbines (used for electric power generati..

OS15, OS16

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Cadmium Emissions $\leq$ 0.00256 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Cadmium Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Cadmium Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
15	Formaldehyde $\leq$ 0.0485 lb/hr , an average heat input of 400.1 MMBtu/hr during shutdown for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 533.5 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
16	Manganese compounds $\leq$ 0.421 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Manganese compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
17	Naphthalene $\leq$ 0.00607 lb/hr , an average heat input of 400.1 MMBtu/hr during shutdown for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 533.5 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Naphthalene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
18	Nickel Emissions $\leq$ 0.00245 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	Pb <= 0.00747 lb/hr This emission rate is based on CT maximum heat input rate of 533.5 MMBtu/hr (HHV) on ULSD, with hours of operation of 700 hrs/yr on ULSD, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Pb: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Pb: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.
20	Polynuclear aromatic hydrocarbons (PAHs) <= 0.00694 lb/hr , an average heat input of 400.1 MMBtu/hr during shutdown for ULSD (1/2 hour at 1/2 load plus 1/2 hour at full load - 533.5 MMBtu/hr, and US EPA AP-42 Emission Factor Guidance Document, Section 3.1, Table 3.1-3, or Table 3.1-4, or Table 3.1-5. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polynuclear aromatic hydrocarbons (PAHs): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. [N.J.A.C. 7:27-22.16(o)]	None.

BOP220002

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

**Emission Unit:** U6 Black Start Emergency Engine Operation

**Subject Item:** CD1301 SCR Black Start Engine

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The Selective Catalytic Reduction system shall be used to destroy Nitrogen Oxides (NOx) resulting from combustion in the black start generator, at the recommended manufacturer's operating flue gas flowrate range, such that NOx (Total) emissions as established for the black start generator in this permit are met. [N.J.A.C. 7:27-22.16(a)]	None.	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)].	None.
2	The SCRs ( CD1301) shall be operated at all times that the Black Start generator is operating. [N.J.A.C. 7:27-22.16(a)]	Monitored by hour/time monitor each hour during operation. The permittee shall record the time and duration of the operation of both the SCR and the black start generator. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. The permittee shall continuously record the time and duration of the operation of the black start generator and the selective catalytic reduction unit (SCR). [N.J.A.C. 7:27-22.16(o)]	None.
3	The SCR catalyst, CD1301, array(s) shall be maintained and replaced in accordance with the recommendations and schedules of the manufacturer and based on NOx emission levels indicated through stack testing. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	Temperature at Exit of Catalyst $\geq 572$ and Temperature at Exit of Catalyst $\leq 977$ degrees F . [N.J.A.C. 7:27-22.16(a)]	Temperature at Exit of Catalyst: Monitored by temperature instrument each hour during operation, based on an instantaneous determination. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. [N.J.A.C. 7:27-22.16(o)]	Temperature at Exit of Catalyst: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	None.
5	Selective Catalytic Reduction ( CD1301) : NOx Percentage Removal $\geq 50$ % for Ultra low sulfur diesel firing. [N.J.A.C. 7:27-22.16(a)]	None.	Other: The permittee shall keep SCR manufacturer's documentation, as-built performance guarantee and operation and maintenance manual on-site.[N.J.A.C. 7:27-22.16(o)].	None.

BOP220002

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

Emission Unit: U6 Black Start Emergency Engine Operation

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 IIII and [40 CFR 63.Subpart(ZZZZ)]	None.	None.	None.
2	TSP <= 0.02 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	PM-10 (Total) <= 0.02 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	VOC (Total) <= 0.02 tons/yr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.2(a)]	None.	None.	None.
5	NOx (Total) <= 0.43 tons/yr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.2(a)]	None.	None.	None.
6	CO <= 0.08 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
7	SO2 <= 0.001 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
8	Start-up Period <= 60 minutes for the emergency generator. [N.J.A.C. 7:27-22.16(a)]	Start-up Period: Monitored by hour/time monitor upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]	Start-up Period: 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)]	None.
9	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.
10	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.
11	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.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	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.
13	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.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	<p>The black start 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> <p>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,</p> <p>2. When there is power outage or the primary source of mechanical or thermal energy fails because of an emergency, or</p> <p>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>	<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> <p>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.</p> <p>2. For each time the emergency generator is specifically operated for testing or maintenance:</p> <ol style="list-style-type: none"> <li>The reason for its operation;</li> <li>The date(s) of operation and the start up and shut down time;</li> <li>The total operating time for testing or maintenance based on the generator's hour meter; and</li> <li>The name of the operator; and</li> </ol> <p>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> <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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	<p>This black start 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 <a href="http://airnow.gov/">http://airnow.gov/</a>, 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 <a href="http://www.state.nj.us/dep/aqpp/aqforecast">http://www.state.nj.us/dep/aqpp/aqforecast</a>; 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.
16	<p>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 &amp; Compliance Assistance, US EPA, Region 2, 290 Broadway, New York, NY 10007-1866 (NSPS Subpart A). [40 CFR 60.4(a)]</p>	None.	None.	<p>Submit a report: As per the approved schedule to EPA Region 2 as required by 40 CFR 60. [40 CFR 60.4(a)]</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	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)]
18	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.
19	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)]
20	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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	The owner or operator of a 2007 model year and later emergency generator with a displacement of < 10 liters per cylinder and a maximum engine power $\geq 37$ kW ( $\geq 50$ HP) and no greater than 3,000HP ( $\leq 2,237$ kW) 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 maximum engine power as follows: NMHC + NO <sub>x</sub> $\leq$ "4.8 " g/HP-hr, CO $\leq$ "2.6 " g/HP-hr, PM $\leq$ "0.15" g/HP-hr. [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.
22	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.
23	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.

BOP220002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	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.
25	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.
26	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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
27	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.
28	<p>The black start emergency generator may not be operated for reasons of testing or maintenance during start up or shut down of the turbines, except as noted below.</p> <p>The black start emergency generator may be operated concurrently with upto 10 combustion turbines (eight turbines at U1 and/or two turbines at U4) FOR BLACK START READINESS TEST and upto ten of the above10 combustion turbines for ACTUAL BLACK START OPERATION as per the requirements in this permit at GR2 for Black Start Readiness Test and Actual Black Start Operation of Turbines and Generators [N.J.A.C. 7:27-22.16(a)]</p>	Other: Monitored by manual logging of the parameter or storing data in a computer data system upon occurrence of the event[N.J.A.C. 7:27-22.16(0)].	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)]	None.

BOP220002

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

**Emission Unit:** U6 Black Start Emergency Engine Operation

**Operating Scenario:** OS1 Black Start Emergency Engine Operation

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. Smoke emissions from stationary internal combustion engines no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Particulate Emissions <= 7.82 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
3	Sulfur Content in Fuel <= 15 ppmw (0.0015% by weight). Effective July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]	Sulfur Content in Fuel: Monitored by fuel sampling (e.g. oil) per delivery. The sulfur content in fuel shall be monitored and recorded in accordance with 40 CFR 75 Appendix D.2.2 and Table D-4. [N.J.A.C. 7:27-22.16(o)]	Other: The sulfur content in fuel shall be monitored and recorded in accordance with 40 CFR 75 Appendix D.2.2 and Table D-4.[N.J.A.C. 7:27-22.16(o)].	None.
4	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 Table 1B. [N.J.A.C. 7:27- 9.2(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	<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 <a href="http://airnow.gov/">http://airnow.gov/</a>, 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 <a href="http://www.state.nj.us/dep/aqpp/aqforecast">http://www.state.nj.us/dep/aqpp/aqforecast</a>; and</p> <p>2. As a source of energy or power after the primary energy or power source has become operable again after emergency or after power disruption resulted from construction, repair, or maintenance activity. Operation of the emergency generator during construction, repair, or maintenance activity shall be limited to no more than 30 days of operation per calendar year. 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.



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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	<p>Each 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> <p>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,</p> <p>2. When there is power outage or the primary source of mechanical or thermal energy fails because of an emergency, or when the power disruption resulted from construction, repair, or maintenance activity (CRM) at the facility. Operation of the emergency generator under construction, repair, or maintenance activity is limited to 30 days in any calendar year; or</p> <p>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>	<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</p> <p>Record the following information:</p> <p>1. Once per month, the total operating time from the generator's hour meter, the fuel usage (gallons per month), and the monthly hours of operation for emergency use and during power disruption from CRM. Document if the emergency use was due to internal or external loss of primary source of energy, or due to a fire or flood. If internal loss at the facility, document the emergency and/or CRM that occurred, the damages to the primary source of energy and the amount of time needed for repairs.</p> <p>2. For each time the emergency generator is specifically operated for testing or maintenance:</p> <ul style="list-style-type: none"> <li>i. The reason for its operation;</li> <li>ii. The date(s) of operation and the start up and shut down time;</li> <li>iii. The total operating time for testing or maintenance based on the generator's hour meter; and</li> <li>iv. The name of the operator; and</li> </ul> <p>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> <p>The owner or operator of shall maintain the above records for at least 5 years after the record was made and shall make the records readily available to the Department or the EPA. [N.J.A.C. 7:27-22.16(o)] and . [N.J.A.C. 7:27-22.16(o)] and. [N.J.A.C. 7:27-19.11]</p>	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	<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 <a href="http://airnow.gov/">http://airnow.gov/</a>, as supplemented or amended and incorporated herein by reference, unless required in writing by a Federal or State law or regulation.</p> <p>Procedures for determining the air quality forecasts for New Jersey are available at the Department's air quality permitting web site at <a href="http://www.state.nj.us/dep/aqpp/aqforecast">http://www.state.nj.us/dep/aqpp/aqforecast</a>; and</p> <p>2. As a source of energy or power after the primary energy or power source has become operable again after emergency or after power disruption resulted from construction, repair, or maintenance activity. Operation of the emergency generator during construction, repair, or maintenance activity shall be limited to no more than 30 days of operation per calendar year. 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.</p> <p>[N.J.A.C. 7:27-19.2(d)]</p>	None.	None.	None.
8	Sulfur Content in Fuel <= 0.0015 % by weight. [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)]	showing fuel sulfur content. Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading / certificate of analysis per delivery. [N.J.A.C. 7:27-22.16(o)]	None.
9	Emergency generator fuel limited to ultra low sulfur distillate fuel oil (ULSD) [sulfur content <= 15 ppm by weight]. [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(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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	Hours of Operation While Firing Diesel <= 50 hr/yr for testing, maintenance, BLACK START READINESS TESTING AND BLACK START OPERATION as per the requirements in this permit at GR2 for Black Start Readiness Test and Actual Black Start Operation of Turbines and Generators. . The limit on the allowable hours for testing and maintenance in accordance with the documentation from the manufacturer, the vendor, or the insurance company associated with the engine. [N.J.A.C. 7:27-22.16(a)]	Hours of Operation While Firing Diesel: Monitored by hour/time monitor upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]	Hours of Operation While Firing Diesel: 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 in a logbook or computer data system, the following information: 1. For each time the emergency generator is specifically operated for testing or maintenance: 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. [N.J.A.C. 7:27-22.16(o)]	None.
11	Maximum Gross Heat Input <= 19.1 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep records showing maximum heat input rate for the emergency engine[N.J.A.C. 7:27-22.16(o)].	None.
12	NOx (Total) <= 17.1 lb/hr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	None.	None.	None.
13	CO <= 3.22 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
14	TSP <= 0.97 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
15	PM-2.5 (Total) <= 0.97 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
16	PM-10 (Total) <= 0.97 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
17	VOC (Total) <= 0.97 lb/hr. N.J.A.C. 7:27-22.16(a) and. [N.J.A.C. 7:27-18.3(b)1]	None.	None.	None.
18	Ammonia <= 10 ppmvd @ 15% O2. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

**BAYONNE ENERGY CTR (12863)**  
**BOP220002**

Date: 2/27/2025

**New Jersey Department of Environmental Protection**  
**Facility Profile (General)**

**Facility Name (AIMS):** Bayonne Energy Center

**Facility ID (AIMS):** 12863

**Street** BAYONNE ENERGY CTR  
**Address:** 401 HOOK RD  
BAYONNE  
BAYONNE, NJ 07002

**Mailing** SEEMA ROY  
**Address:** BAYONNE ENERGY CTR  
401 HOOK RD  
BAYONNE, NJ 07002

**County:** Hudson  
**Location** Existing generating facility site  
**Description:**

**State Plane Coordinates:**  
**X-Coordinate:** 604,757  
**Y-Coordinate:** 663,547  
**Units:** New Jersey State Plane 8  
  
**Datum:** NAD83  
**Source Org.:** DEP-GIS  
**Source Type:** GPS

**Industry:**  
**Primary SIC:**  
**Secondary SIC:**  
**NAICS:** 221112

**New Jersey Department of Environmental Protection**  
**Facility Profile (General)**

**Contact Type: Air Permit Information Contact**

**Organization:** Bayonne Energy Center

**Org. Type:** LLC

**Name:** Seema Roy

**NJ EIN:**

**Title:** HSE Manager

**Phone:** (201) 823-6822 x

**Mailing Address:** 401 Hook Road

**Fax:** (201) 823-6880 x

Bayonne

**Other:** ( ) - x

Bayonne, NJ 07002

**Type:**

**Email:** seema.roy@ethosenergy.com

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**Contact Type: Consultant**

**Organization:** TSI TURTLE SERVICES INC

**Org. Type:** Corporation

**Name:** Christopher Price

**NJ EIN:**

**Title:**

**Phone:** (201) 424-4019 x

**Mailing Address:** 6 W CHURCH ST

**Fax:** (732) 626-9036 x

Jamesburg

**Other:** ( ) - x

Jamesburg, NJ 08831

**Type:**

**Email:** eprice@tsiturtle.com

---

**Contact Type: On-Site Manager**

**Organization:** Bayonne Energy Center

**Org. Type:** LLC

**Name:** Jesse Banta

**NJ EIN:**

**Title:** Facility Manager

**Phone:** (201) 823-6806 x

**Mailing Address:** 401 Hook Road

**Fax:** ( ) - x

Bayonne

**Other:** ( ) - x

Bayonne, NJ 07002

**Type:**

**Email:** jesse.banta@ethosenergy.com

**New Jersey Department of Environmental Protection**  
**Facility Profile (General)**

**Contact Type: Operator**

**Organization:** Bayonne Energy Center

**Org. Type:** LLC

**Name:** Jesse Banta

**NJ EIN:**

**Title:** Facility Manager

**Phone:** (201) 823-6806 x

**Mailing Address:** 401 Hook Road  
Bayonne  
Bayonne, NJ 07002

**Fax:** ( ) - x

**Other:** ( ) - x

**Type:**

**Email:** jesse.banta@ethosenergy.com

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**Contact Type: Owner (Current Primary)**

**Organization:** Bayonne Energy Center

**Org. Type:** LLC

**Name:** Matt Lydon

**NJ EIN:**

**Title:** VP of Compliance

**Phone:** (912) 429-7184 x

**Mailing Address:** 832 Red Oak Lane  
Sayreville  
Sayreville, NJ 08872

**Fax:** ( ) - x

**Other:** ( ) - x

**Type:**

**Email:** matt.lydon@tigergenco.com

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**Contact Type: Responsible Official**

**Organization:** Bayonne Energy Center

**Org. Type:** LLC

**Name:** Matt Lydon

**NJ EIN:**

**Title:** VP of Compliance

**Phone:** (912) 429-7184 x

**Mailing Address:** 832 Red Oak Lane  
Sayreville  
Sayreville, NJ 08872

**Fax:** ( ) - x

**Other:** ( ) - x

**Type:**

**Email:** matt.lydon@tigergenco.com

**New Jersey Department of Environmental Protection**  
**Facility Profile (General)**

**Contact Type: Responsible Party**

**Organization:** Bayonne Energy Center

**Org. Type:** LLC

**Name:** Matt Lydon

**NJ EIN:**

**Title:** VP of Compliance

**Phone:** (912) 429-7184 x

**Mailing Address:** 832 Red Oak Lane  
Sayreville  
Sayreville, NJ 08872

**Fax:** ( ) - x

**Other:** ( ) - x

**Type:**

**Email:** matt.lydon@tigergenco.com

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**Contact Type: Title V Compliance Certification Contact**

**Organization:** Bayonne Energy Center

**Org. Type:** LLC

**Name:** Matt Lydon

**NJ EIN:**

**Title:** VP of Compliance

**Phone:** (912) 429-7184 x

**Mailing Address:** 832 Red Oak Lane  
Sayreville  
Sayreville, NJ 08872

**Fax:** ( ) - x

**Other:** ( ) - x

**Type:**

**Email:** matt.lydon@tigergenco.com

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

<b>Equip. NJID</b>	<b>Facility's Designation</b>	<b>Equipment Description</b>	<b>Equipment Type</b>	<b>Certificate Number</b>	<b>Install Date</b>	<b>Grand- Fathered</b>	<b>Last Mod. (Since 1968)</b>	<b>Equip. Set ID</b>
E1	Turbine 1	Simple Cycle Combustion Turbine	Combustion Turbine		7/1/2011	No	12/30/2023	
E2	Turbine 2	Simple Cycle Combustion Turbine	Combustion Turbine		7/1/2011	No		
E3	Turbine 3	Simple Cycle Combustion Turbine	Combustion Turbine		7/1/2011	No		
E4	Turbine 4	Simple Cycle Combustion Turbine	Combustion Turbine		7/1/2011	No		
E5	Turbine 5	Simple Cycle Combustion Turbine	Combustion Turbine		7/1/2011	No		
E6	Turbine 6	Simple Cycle Combustion Turbine	Combustion Turbine		7/1/2011	No		
E7	Turbine 7	Simple Cycle Combustion Turbine	Combustion Turbine		7/1/2011	No		
E8	Turbine 8	Simple Cycle Combustion Turbine	Combustion Turbine		7/1/2011	No		
E9	Em Gen	1.75 MW Emergency Generator	Emergency Generator		7/1/2011	No		
E10	Fire Pump	157 HP Fire Pump	Emergency Generator		7/1/2011	No		
E11	Turbine 9	Trent 60WLE simple cycle combustion turbine	Combustion Turbine		11/1/2016	No		
E12	Turbine 10	Trent 60WLE simple cycle combustion turbine	Combustion Turbine		11/1/2016	No		
E13	BS Em Gen	Black Start Emergency Generator Engine	Emergency Generator		1/1/2017	No		



12863 BAYONNE ENERGY CTR BOP220002 E1 (Combustion Turbine)  
Print Date: 2/27/2025

Make:	Siemens/Rolls-Royce		
Manufacturer:	Rolls Royce		
Model:	Trent 60 WLE		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	643.00		
Type of Turbine:	Industrial	Description:	
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	66.00	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:	SCR and Oxidative
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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No		
Comments:	<p>On natural gas the maximum heat input rate of the turbine was increased to 643 MMBTU/hr and increase in electrical output was from 64 MW to 66 MW in 2023.</p> <p>On Ultra low sulfur distillate oil the maximum heat input rate of the turbine is 538 MMBTU/hr(HHV).</p>		

12863 BAYONNE ENERGY CTR BOP220002 E2 (Combustion Turbine)  
Print Date: 2/27/2025

Make:			
Manufacturer:	Rolls Royce		
Model:	Trent 60 WLE		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	643.00		
Type of Turbine:	Industrial		
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	66.00	Units:	Megawatts
Is the combustion turbine using (check all that apply):			
A Dry Low NOx Combustor:	<input type="checkbox"/>		
Steam Injection:	<input type="checkbox"/>		
Water Injection:	<input checked="" type="checkbox"/>	Steam to Fuel Ratio:	
Other:	<input checked="" type="checkbox"/>	Water to Fuel Ratio:	
		Description:	SCR and Oxidative
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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No		
Comments:	<p>On natural gas the maximum heat input rate of the turbine was increased to 643 MMBTU/hr and increase in electrical output was from 64 MW to 66 MW in 2023.</p> <p>On Ultra low sulfur distillate oil the maximum heat input rate of the turbine is 538 MMBTU/hr(HHV).</p>		

12863 BAYONNE ENERGY CTR BOP220002 E3 (Combustion Turbine)  
Print Date: 2/27/2025

Make:			
Manufacturer:	Rolls Royce		
Model:	Trent 60 WLE		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	643.00		
Type of Turbine:	Industrial		
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	66.00	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:	SCR and Oxidative
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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No		
Comments:	<p>On natural gas the maximum heat input rate of the turbine was increased to 643 MMBTU/hr and increase in electrical output was from 64 MW to 66 MW in 2023.</p> <p>On Ultra low sulfur distillate oil the maximum heat input rate of the turbine is 538 MMBTU/hr(HHV).</p>		

12863 BAYONNE ENERGY CTR BOP220002 E4 (Combustion Turbine)  
Print Date: 2/27/2025

Make:			
Manufacturer:	Rolls Royce		
Model:	Trent 60 WLE		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	643.00		
Type of Turbine:	Industrial		
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	66.00	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:	SCR and Oxidative
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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No		
Comments:	<p>On natural gas the maximum heat input rate of the turbine was increased to 643 MMBTU/hr and increase in electrical output was from 64 MW to 66 MW in 2023.</p> <p>On Ultra low sulfur distillate oil the maximum heat input rate of the turbine is 538 MMBTU/hr(HHV).</p>		

12863 BAYONNE ENERGY CTR BOP220002 E5 (Combustion Turbine)  
Print Date: 2/27/2025

Make:			
Manufacturer:	Rolls Royce		
Model:	Trent 60 WLE		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	643.00		
Type of Turbine:	Industrial		
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	66.00	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:	SCR and Oxidative
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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No		
Comments:	<p>On natural gas the maximum heat input rate of the turbine was increased to 643 MMBTU/hr and increase in electrical output was from 64 MW to 66 MW in 2023.</p> <p>On Ultra low sulfur distillate oil the maximum heat input rate of the turbine is 538 MMBTU/hr(HHV).</p>		

12863 BAYONNE ENERGY CTR BOP220002 E6 (Combustion Turbine)  
Print Date: 2/27/2025

Make:			
Manufacturer:	Rolls Royce		
Model:	Trent 60 WLE		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	643.00		
Type of Turbine:	Industrial		
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	66.00	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:	SCR and Oxidative
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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No		
Comments:	<p>On natural gas the maximum heat input rate of the turbine was increased to 643 MMBTU/hr and increase in electrical output was from 64 MW to 66 MW in 2023.</p> <p>On Ultra low sulfur distillate oil the maximum heat input rate of the turbine is 538 MMBTU/hr(HHV).</p>		

12863 BAYONNE ENERGY CTR BOP220002 E7 (Combustion Turbine)  
Print Date: 2/27/2025

Make:			
Manufacturer:	Rolls Royce		
Model:	Trent 60 WLE		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	643.00		
Type of Turbine:	Industrial		
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	66.00	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:	SCR and Oxidative
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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No		
Comments:	<p>On natural gas the maximum heat input rate of the turbine was increased to 643 MMBTU/hr and increase in electrical output was from 64 MW to 66 MW in 2023.</p> <p>On Ultra low sulfur distillate oil the maximum heat input rate of the turbine is 538 MMBTU/hr(HHV).</p>		

12863 BAYONNE ENERGY CTR BOP220002 E8 (Combustion Turbine)  
Print Date: 2/27/2025

Make:			
Manufacturer:	Rolls Royce		
Model:	Trent 60 WLE		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	643.00		
Type of Turbine:	Industrial		
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	66.00	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:	SCR and Oxidative
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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No		
Comments:	<p>On natural gas the maximum heat input rate of the turbine was increased to 643 MMBTU/hr and increase in electrical output was from 64 MW to 66 MW in 2023.</p> <p>On Ultra low sulfur distillate oil the maximum heat input rate of the turbine is 538 MMBTU/hr(HHV).</p>		



12863 BAYONNE ENERGY CTR BOP220002 E9 (Emergency Generator)  
Print Date: 2/27/2025

Make:	<input type="text" value="Cumins"/>		
Manufacturer:	<input type="text" value="Cumins"/>		
Model:	<input type="text" value="Cumins inc. QSK60-G6 NR2"/>		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	<input type="text" value="16.83"/>		
Will the equipment be used in excess of 500 hours per year?	<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 checked="" type="radio"/> Yes <input type="radio"/> No
Comments:	<input type="text" value="Emergency Generator, 1.75 MW (2,554 hp)"/>		

12863 BAYONNE ENERGY CTR BOP220002 E10 (Emergency Generator)  
Print Date: 2/27/2025

Make:	<input type="text" value="Clarke"/>		
Manufacturer:	<input type="text" value="John Deere"/>		
Model:	<input type="text" value="JU4H-UFADW8"/>		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	<input type="text" value="1.39"/>		
Will the equipment be used in excess of 500 hours per year?	<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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No
Comments:	<input type="text" value="117 kW Fire Pump"/>		

## 12863 BAYONNE ENERGY CTR BOP220002 E11 (Combustion Turbine)

Print Date: 2/27/2025

Make:	Siemens/Rolls Royce		
Manufacturer:	Siemens/Rolls Royce		
Model:	Trent 60WLE		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	642.89		
Type of Turbine:	Industrial	Description:	
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	66.00	Units:	Megawatts
Is the combustion turbine using (check all that apply):			
A Dry Low NOx Combustor:	<input type="checkbox"/>		
Steam Injection:	<input type="checkbox"/>		
Water Injection:	<input checked="" type="checkbox"/>	Steam to Fuel Ratio:	
Other:	<input checked="" type="checkbox"/>	Water to Fuel Ratio:	1.35
		Description:	SCR and oxidatio
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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No		
Comments:	<p>Turbine 9 will be exhausted to an SCR to further control NOx emissions</p> <p>The maximum Heat Input rate for turbine when firing Natural gas at 59 degrees F and 100% load is 613.83 MMBtu/hr (HHV). The emissions on natural gas are based on 613.83 MMBtu/hr (HHV).</p> <p>The maximum Heat Input rate for turbine when firing ULSD at 59 degrees F and 100% load is 533.50 MMBtu/hr(HHV)</p>		

12863 BAYONNE ENERGY CTR BOP220002 E12 (Combustion Turbine)  
Print Date: 2/27/2025

Make:	Siemens/Rolls Royce		
Manufacturer:	Siemens/Rolls Royce		
Model:	Trent 60WLE		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	642.89		
Type of Turbine:	Industrial		
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	66.00	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:	1.35
Other:	<input checked="" type="checkbox"/>	Description:	SCR and oxidatio
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 checked="" 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 checked="" type="radio"/> Yes <input type="radio"/> No		
Comments:	<p>Turbine 9 will be exhausted to an SCR to further control NOx emissions</p> <p>The maximum Heat Input rate for turbine when firing Natural gas at 59 degrees F and 100% load is 613.83 MMBtu/hr (HHV). The emissions on natural gas are based on 613.83 MMBtu/hr (HHV).</p> <p>The maximum Heat Input rate for turbine when firing ULSD at 59 degrees F and 100% load is 533.50 MMBtu/hr(HHV)</p>		

12863 BAYONNE ENERGY CTR BOP220002 E13 (Emergency Generator)  
Print Date: 2/27/2025

Make:			
Manufacturer:	Cummins		
Model:	QSK60-G6		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	19.10		
Will the equipment be used in excess of 500 hours per year?	<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:	2,922 brake horsepower (bhp) engine paired with a 1,750 kW Cummins Model DQKB generator		

**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
CD101	Water 1	Water Injection Turbine 1	Other	7/1/2011	No		
CD102	SCR 1	Selective Catalytic Reduction Turbine 1	Selective Catalytic Reduction	7/1/2011	No		
CD103	Ox Cat 1	Oxidation Catalyst 1	Oxidizer (Catalytic)	7/1/2011	No		
CD201	Water 2	Water Injection Turbine 2	Other	7/1/2011	No		
CD202	SCR 2	Selective Catalytic Reduction Turbine 2	Selective Catalytic Reduction	7/1/2011	No		
CD203	Ox Cat 2	Oxidation Catalyst 2	Oxidizer (Catalytic)	7/1/2011	No		
CD301	Water 3	Water Injection Turbine 3	Other	7/1/2011	No		
CD302	SCR 3	Selective Catalytic Reduction Turbine 3	Selective Catalytic Reduction	7/1/2011	No		
CD303	Ox Cat 3	Oxidation Catalyst 3	Oxidizer (Catalytic)	7/1/2011	No		
CD401	Water 4	Water Injection Turbine 4	Other	7/1/2011	No		
CD402	SCR 4	Selective Catalytic Reduction Turbine 4	Selective Catalytic Reduction	7/1/2011	No		
CD403	Ox Cat 4	Oxidation Catalyst 4	Oxidizer (Catalytic)	7/1/2011	No		
CD501	Water 5	Water Injection Turbine 5	Other	7/1/2011	No		
CD502	SCR 5	Selective Catalytic Reduction Turbine 5	Selective Catalytic Reduction	7/1/2011	No		
CD503	Ox Cat 5	Oxidation Catalyst 5	Oxidizer (Catalytic)	7/1/2011	No		
CD601	Water 6	Water Injection Turbine 6	Other	7/1/2011	No		
CD602	SCR 6	Selective Catalytic Reduction Turbine 6	Selective Catalytic Reduction	7/1/2011	No		

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

<b>CD NJID</b>	<b>Facility's Designation</b>	<b>Description</b>	<b>CD Type</b>	<b>Install Date</b>	<b>Grand-Fathered</b>	<b>Last Mod. (Since 1968)</b>	<b>CD Set ID</b>
CD603	Ox Cat 6	Oxidation Catalyst 6	Oxidizer (Catalytic)	7/1/2011	No		
CD701	Water 7	Water Injection Turbine 7	Other	7/1/2011	No		
CD702	SCR 7	Selective Catalytic Reduction Turbine 7	Selective Catalytic Reduction	7/1/2011	No		
CD703	Ox Cat 7	Oxidation Catalyst 7	Oxidizer (Catalytic)	7/1/2011	No		
CD801	Water 8	Water Injection Turbine 8	Other	7/1/2011	No		
CD802	SCR 8	Selective Catalytic Reduction Turbine 8	Selective Catalytic Reduction	7/1/2011	No		
CD803	Ox Cat 8	Oxidation Catalyst 8	Oxidizer (Catalytic)	7/1/2011	No		
CD901	Water 9	Water Injection Turbine 9	Other	11/1/2016	No		
CD902	SCR 9	Selective Catalytic Reduction Turbine 9	Selective Catalytic Reduction	11/1/2016	No		
CD903	Ox Cat 9	Oxidation Catalyst Turbine 9	Oxidizer (Catalytic)	11/1/2016	No		
CD1001	Water 10	Water Injection Turbine 10	Other	11/1/2016	No		
CD1002	SCR 10	Selective Catalytic Reduction Turbine 10	Selective Catalytic Reduction	11/1/2016	No		
CD1003	Ox Cat 10	Oxidation Catalyst Turbine 10	Oxidizer (Catalytic)	11/1/2016	No		
CD1301	SCR13	SCR Black Start Engine	Selective Catalytic Reduction	1/1/2017	No		

12863 BAYONNE ENERGY CTR BOP220002 CD101 (Other)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Rolls Royce
Model:	Trent 60 WLE
Maximum Air Flow Rate to Control Device (acfm):	
Maximum Temperature of Vapor Stream to Control Device (°F):	
Minimum Temperature of Vapor Stream to Control Device (°F):	
Minimum Moisture Content of Vapor Stream to Control Device (%):	
Minimum Pressure Drop Across Control Device (in. H2O):	
Maximum Pressure Drop Across Control Device (in. H2O):	
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:	
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:	Water Injection; Part of Turbine Design



12863 BAYONNE ENERGY CTR BOP220002 CD102 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Haldor Topsoe DNX-920 (or equivalent)
Model:	
Minimum Temperature at Catalyst Bed (°F):	375
Maximum Temperature at Catalyst Bed (°F):	900
Minimum Temperature at Reagent Injection Point (°F):	400
Maximum Temperature at Reagent Injection Point (°F):	
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	5
Type of Catalyst:	Titanium dioxide, Tungsten trioxide, V2O5 mixture
Volume of Catalyst (ft³):	24.28
Form of Catalyst:	
Anticipated Life of Catalyst:	175000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
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:	
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

**12863 BAYONNE ENERGY CTR BOP220002 CD102 (Selective Catalytic Reduction)**  
**Print Date: 2/27/2025**

Comments:

The maximum concentration of ammonia in solution  
is 19% by weight

12863 BAYONNE ENERGY CTR BOP220002 CD103 (Oxidizer (Catalytic))  
Print Date: 2/27/2025

Make:	
Manufacturer:	Johnson Matthey (or equivalent)
Model:	
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	900
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	900
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	
Maximum Pressure Drop Across Catalyst (psi):	
Catalyst Material:	Stainless steel foil with propriety coating
Form of Catalyst:	
Description:	
Minimum Expected Life of Catalyst:	175000
Units:	hours
Volume of Catalyst (ft³):	5.48
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:	
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:	

12863 BAYONNE ENERGY CTR BOP220002 CD201 (Other)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Rolls Royce
Model:	Trent 60 WLE
Maximum Air Flow Rate to Control Device (acfm):	
Maximum Temperature of Vapor Stream to Control Device (°F):	
Minimum Temperature of Vapor Stream to Control Device (°F):	
Minimum Moisture Content of Vapor Stream to Control Device (%):	
Minimum Pressure Drop Across Control Device (in. H2O):	
Maximum Pressure Drop Across Control Device (in. H2O):	
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:	
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:	Water Injection; Part of Turbine Design

12863 BAYONNE ENERGY CTR BOP220002 CD202 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Haldor Topsoe DNX-920 (or equivalent)
Model:	
Minimum Temperature at Catalyst Bed (°F):	375
Maximum Temperature at Catalyst Bed (°F):	900
Minimum Temperature at Reagent Injection Point (°F):	400
Maximum Temperature at Reagent Injection Point (°F):	
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	5
Type of Catalyst:	Titanium dioxide, Tungsten trioxide, V2O5 mixture
Volume of Catalyst (ft³):	24.28
Form of Catalyst:	
Anticipated Life of Catalyst:	175000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
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:	
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

**12863 BAYONNE ENERGY CTR BOP220002 CD202 (Selective Catalytic Reduction)**  
**Print Date: 2/27/2025**

Comments:

The maximum concentration of ammonia in solution  
is 19% by weight

12863 BAYONNE ENERGY CTR BOP220002 CD203 (Oxidizer (Catalytic))  
Print Date: 2/27/2025

Make:	
Manufacturer:	Johnson Matthey (or equivalent)
Model:	
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	900
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	900
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	
Maximum Pressure Drop Across Catalyst (psi):	
Catalyst Material:	Stainless steel foil with propriety coating
Form of Catalyst:	
Description:	
Minimum Expected Life of Catalyst:	175000
Units:	hours
Volume of Catalyst (ft³):	5.48
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:	
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:	

12863 BAYONNE ENERGY CTR BOP220002 CD301 (Other)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Rolls Royce
Model:	Trent 60 WLE
Maximum Air Flow Rate to Control Device (acfm):	
Maximum Temperature of Vapor Stream to Control Device (°F):	
Minimum Temperature of Vapor Stream to Control Device (°F):	
Minimum Moisture Content of Vapor Stream to Control Device (%):	
Minimum Pressure Drop Across Control Device (in. H2O):	
Maximum Pressure Drop Across Control Device (in. H2O):	
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:	
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:	Water Injection; Part of Turbine Design



12863 BAYONNE ENERGY CTR BOP220002 CD302 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Haldor Topsoe DNX-920 (or equivalent)
Model:	
Minimum Temperature at Catalyst Bed (°F):	375
Maximum Temperature at Catalyst Bed (°F):	900
Minimum Temperature at Reagent Injection Point (°F):	400
Maximum Temperature at Reagent Injection Point (°F):	
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	5
Type of Catalyst:	Titanium dioxide, Tungsten trioxide, V2O5 mixture
Volume of Catalyst (ft³):	24.28
Form of Catalyst:	
Anticipated Life of Catalyst:	175000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
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:	
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

**12863 BAYONNE ENERGY CTR BOP220002 CD302 (Selective Catalytic Reduction)**  
**Print Date: 2/27/2025**

Comments:

The maximum concentration of ammonia in solution  
is 19% by weight

12863 BAYONNE ENERGY CTR BOP220002 CD303 (Oxidizer (Catalytic))  
Print Date: 2/27/2025

Make:	
Manufacturer:	Johnson Matthey (or equivalent)
Model:	
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	900
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	900
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	
Maximum Pressure Drop Across Catalyst (psi):	
Catalyst Material:	Stainless steel foil with propriety coating
Form of Catalyst:	
Description:	
Minimum Expected Life of Catalyst:	175000
Units:	hours
Volume of Catalyst (ft³):	5.48
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:	
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:	

12863 BAYONNE ENERGY CTR BOP220002 CD401 (Other)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Rolls Royce
Model:	Trent 60 WLE
Maximum Air Flow Rate to Control Device (acfm):	
Maximum Temperature of Vapor Stream to Control Device (°F):	
Minimum Temperature of Vapor Stream to Control Device (°F):	
Minimum Moisture Content of Vapor Stream to Control Device (%):	
Minimum Pressure Drop Across Control Device (in. H2O):	
Maximum Pressure Drop Across Control Device (in. H2O):	
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:	
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:	Water Injection; Part of Turbine Design

12863 BAYONNE ENERGY CTR BOP220002 CD402 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Haldor Topsoe DNX-920 (or equivalent)
Model:	
Minimum Temperature at Catalyst Bed (°F):	375
Maximum Temperature at Catalyst Bed (°F):	900
Minimum Temperature at Reagent Injection Point (°F):	400
Maximum Temperature at Reagent Injection Point (°F):	
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	5
Type of Catalyst:	Titanium dioxide, Tungsten trioxide, V2O5 mixture
Volume of Catalyst (ft³):	24.28
Form of Catalyst:	
Anticipated Life of Catalyst:	175000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
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:	
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

12863 BAYONNE ENERGY CTR BOP220002 CD402 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Comments:

The maximum concentration of ammonia in solution  
is 19% by weight

12863 BAYONNE ENERGY CTR BOP220002 CD403 (Oxidizer (Catalytic))  
Print Date: 2/27/2025

Make:	
Manufacturer:	Johnson Matthey (or equivalent)
Model:	
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	900
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	900
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	
Maximum Pressure Drop Across Catalyst (psi):	
Catalyst Material:	Stainless steel foil with propriety coating
Form of Catalyst:	
Description:	
Minimum Expected Life of Catalyst:	175000
Units:	hours
Volume of Catalyst (ft³):	5.48
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:	
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:	

12863 BAYONNE ENERGY CTR BOP220002 CD501 (Other)

Print Date: 2/27/2025

Make:	
Manufacturer:	Rolls Royce
Model:	Trent 60 WLE
Maximum Air Flow Rate to Control Device (acfm):	
Maximum Temperature of Vapor Stream to Control Device (°F):	
Minimum Temperature of Vapor Stream to Control Device (°F):	
Minimum Moisture Content of Vapor Stream to Control Device (%):	
Minimum Pressure Drop Across Control Device (in. H2O):	
Maximum Pressure Drop Across Control Device (in. H2O):	
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:	
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:	Water Injection; Part of Turbine Design



12863 BAYONNE ENERGY CTR BOP220002 CD502 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Haldor Topsoe DNX-920 (or equivalent)
Model:	
Minimum Temperature at Catalyst Bed (°F):	375
Maximum Temperature at Catalyst Bed (°F):	900
Minimum Temperature at Reagent Injection Point (°F):	400
Maximum Temperature at Reagent Injection Point (°F):	
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	5
Type of Catalyst:	Titanium dioxide, Tungsten trioxide, V2O5 mixture
Volume of Catalyst (ft³):	24.28
Form of Catalyst:	
Anticipated Life of Catalyst:	175000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
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:	
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

**12863 BAYONNE ENERGY CTR BOP220002 CD502 (Selective Catalytic Reduction)**  
**Print Date: 2/27/2025**

Comments:

The maximum concentration of ammonia in solution  
is 19% by weight

12863 BAYONNE ENERGY CTR BOP220002 CD503 (Oxidizer (Catalytic))  
Print Date: 2/27/2025

Make:	
Manufacturer:	Johnson Matthey (or equivalent)
Model:	
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	900
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	900
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	
Maximum Pressure Drop Across Catalyst (psi):	
Catalyst Material:	Stainless steel foil with propriety coating
Form of Catalyst:	
Description:	
Minimum Expected Life of Catalyst:	175000
Units:	hours
Volume of Catalyst (ft³):	5.48
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:	
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:	

12863 BAYONNE ENERGY CTR BOP220002 CD601 (Other)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Rolls Royce
Model:	Trent 60 WLE
Maximum Air Flow Rate to Control Device (acfm):	
Maximum Temperature of Vapor Stream to Control Device (°F):	
Minimum Temperature of Vapor Stream to Control Device (°F):	
Minimum Moisture Content of Vapor Stream to Control Device (%):	
Minimum Pressure Drop Across Control Device (in. H2O):	
Maximum Pressure Drop Across Control Device (in. H2O):	
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:	
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:	Water Injection; Part of Turbine Design

12863 BAYONNE ENERGY CTR BOP220002 CD602 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Haldor Topsoe DNX-920 (or equivalent)
Model:	
Minimum Temperature at Catalyst Bed (°F):	375
Maximum Temperature at Catalyst Bed (°F):	900
Minimum Temperature at Reagent Injection Point (°F):	400
Maximum Temperature at Reagent Injection Point (°F):	
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	5
Type of Catalyst:	Titanium dioxide, Tungsten trioxide, V2O5 mixture
Volume of Catalyst (ft³):	24.28
Form of Catalyst:	
Anticipated Life of Catalyst:	175000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
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:	
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

12863 BAYONNE ENERGY CTR BOP220002 CD602 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Comments:

The maximum concentration of ammonia in solution  
is 19% by weight

12863 BAYONNE ENERGY CTR BOP220002 CD603 (Oxidizer (Catalytic))  
Print Date: 2/27/2025

Make:	
Manufacturer:	Johnson Matthey (or equivalent)
Model:	
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	900
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	900
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	
Maximum Pressure Drop Across Catalyst (psi):	
Catalyst Material:	Stainless steel foil with propriety coating
Form of Catalyst:	
Description:	
Minimum Expected Life of Catalyst:	175000
Units:	hours
Volume of Catalyst (ft³):	5.48
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:	
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:	

12863 BAYONNE ENERGY CTR BOP220002 CD701 (Other)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Rolls Royce
Model:	Trent 60 WLE
Maximum Air Flow Rate to Control Device (acfm):	
Maximum Temperature of Vapor Stream to Control Device (°F):	
Minimum Temperature of Vapor Stream to Control Device (°F):	
Minimum Moisture Content of Vapor Stream to Control Device (%):	
Minimum Pressure Drop Across Control Device (in. H2O):	
Maximum Pressure Drop Across Control Device (in. H2O):	
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:	
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:	Water Injection; Part of Turbine Design



12863 BAYONNE ENERGY CTR BOP220002 CD702 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Haldor Topsoe DNX-920 (or equivalent)
Model:	
Minimum Temperature at Catalyst Bed (°F):	375
Maximum Temperature at Catalyst Bed (°F):	900
Minimum Temperature at Reagent Injection Point (°F):	400
Maximum Temperature at Reagent Injection Point (°F):	
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	5
Type of Catalyst:	Titanium dioxide, Tungsten trioxide, V2O5 mixture
Volume of Catalyst (ft³):	24.28
Form of Catalyst:	
Anticipated Life of Catalyst:	175000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
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:	
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

**12863 BAYONNE ENERGY CTR BOP220002 CD702 (Selective Catalytic Reduction)**  
**Print Date: 2/27/2025**

Comments:

The maximum concentration of ammonia in solution  
is 19% by weight

12863 BAYONNE ENERGY CTR BOP220002 CD703 (Oxidizer (Catalytic))  
Print Date: 2/27/2025

Make:	
Manufacturer:	Johnson Matthey (or equivalent)
Model:	
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	900
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	900
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	
Maximum Pressure Drop Across Catalyst (psi):	
Catalyst Material:	Stainless steel foil with propriety coating
Form of Catalyst:	
Description:	
Minimum Expected Life of Catalyst:	175000
Units:	hours
Volume of Catalyst (ft³):	5.48
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:	
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:	

12863 BAYONNE ENERGY CTR BOP220002 CD801 (Other)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Rolls Royce
Model:	Trent 60 WLE
Maximum Air Flow Rate to Control Device (acfm):	
Maximum Temperature of Vapor Stream to Control Device (°F):	
Minimum Temperature of Vapor Stream to Control Device (°F):	
Minimum Moisture Content of Vapor Stream to Control Device (%):	
Minimum Pressure Drop Across Control Device (in. H2O):	
Maximum Pressure Drop Across Control Device (in. H2O):	
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:	
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:	Water Injection; Part of Turbine Design

12863 BAYONNE ENERGY CTR BOP220002 CD802 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Haldor Topsoe DNX-920 (or equivalent)
Model:	
Minimum Temperature at Catalyst Bed (°F):	375
Maximum Temperature at Catalyst Bed (°F):	900
Minimum Temperature at Reagent Injection Point (°F):	400
Maximum Temperature at Reagent Injection Point (°F):	
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	5
Type of Catalyst:	Titanium dioxide, Tungsten trioxide, V2O5 mixture
Volume of Catalyst (ft³):	24.28
Form of Catalyst:	
Anticipated Life of Catalyst:	175000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
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:	
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

**12863 BAYONNE ENERGY CTR BOP220002 CD802 (Selective Catalytic Reduction)**  
**Print Date: 2/27/2025**

Comments:

The maximum concentration of ammonia in solution  
is 19% by weight

12863 BAYONNE ENERGY CTR BOP220002 CD803 (Oxidizer (Catalytic))  
Print Date: 2/27/2025

Make:	
Manufacturer:	Johnson Matthey (or equivalent)
Model:	
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	900
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	900
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	
Maximum Pressure Drop Across Catalyst (psi):	
Catalyst Material:	Stainless steel foil with propriety coating
Form of Catalyst:	
Description:	
Minimum Expected Life of Catalyst:	175000
Units:	hours
Volume of Catalyst (ft³):	5.48
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:	
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:	

12863 BAYONNE ENERGY CTR BOP220002 CD901 (Other)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Siemens/Rolls Royce
Model:	Trent 60 WLE
Maximum Air Flow Rate to Control Device (acfm):	
Maximum Temperature of Vapor Stream to Control Device (°F):	
Minimum Temperature of Vapor Stream to Control Device (°F):	
Minimum Moisture Content of Vapor Stream to Control Device (%):	
Minimum Pressure Drop Across Control Device (in. H2O):	
Maximum Pressure Drop Across Control Device (in. H2O):	
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:	
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:	Water Injection is incorporated into the design of the Trent 60WLE CTG



12863 BAYONNE ENERGY CTR BOP220002 CD902 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Haldor Topsoe DNX-920 (or equivalent)
Model:	
Minimum Temperature at Catalyst Bed (°F):	375
Maximum Temperature at Catalyst Bed (°F):	900
Minimum Temperature at Reagent Injection Point (°F):	400
Maximum Temperature at Reagent Injection Point (°F):	
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	5
Type of Catalyst:	Titanium dioxide, Tungsten trioxide, V2O5 mixture
Volume of Catalyst (ft³):	24.28
Form of Catalyst:	
Anticipated Life of Catalyst:	175000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
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:	
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

**12863 BAYONNE ENERGY CTR BOP220002 CD902 (Selective Catalytic Reduction)**  
**Print Date: 2/27/2025**

Comments:

The maximum concentration of ammonia in solution  
is 19% by weight

12863 BAYONNE ENERGY CTR BOP220002 CD903 (Oxidizer (Catalytic))  
Print Date: 2/27/2025

Make:	
Manufacturer:	Johnson Matthey (or equivalent)
Model:	
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	900
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	900
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	
Maximum Pressure Drop Across Catalyst (psi):	
Catalyst Material:	Stainless steel foil with propriety coating
Form of Catalyst:	
Description:	
Minimum Expected Life of Catalyst:	175000
Units:	hours
Volume of Catalyst (ft³):	5.48
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:	
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:	

12863 BAYONNE ENERGY CTR BOP220002 CD1001 (Other)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Siemens/Rolls Royce
Model:	Trent 60 WLE
Maximum Air Flow Rate to Control Device (acfm):	
Maximum Temperature of Vapor Stream to Control Device (°F):	
Minimum Temperature of Vapor Stream to Control Device (°F):	
Minimum Moisture Content of Vapor Stream to Control Device (%):	
Minimum Pressure Drop Across Control Device (in. H2O):	
Maximum Pressure Drop Across Control Device (in. H2O):	
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:	
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:	Water Injection is incorporated into the design of the Trent 60WLE CTG

12863 BAYONNE ENERGY CTR BOP220002 CD1002 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Haldor Topsoe DNX-920 (or equivalent)
Model:	
Minimum Temperature at Catalyst Bed (°F):	375
Maximum Temperature at Catalyst Bed (°F):	900
Minimum Temperature at Reagent Injection Point (°F):	400
Maximum Temperature at Reagent Injection Point (°F):	
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	
Minimum Reagent Charge Rate (gpm):	
Maximum Reagent Charge Rate (gpm):	
Minimum Concentration of Reagent in Solution (% Volume):	
Minimum NOx to Reagent Mole Ratio:	
Maximum NOx to Reagent Mole Ratio:	
Maximum Anticipated Ammonia Slip (ppm):	5
Type of Catalyst:	Titanium dioxide, Tungsten trioxide, V2O5 mixture
Volume of Catalyst (ft³):	24.28
Form of Catalyst:	
Anticipated Life of Catalyst:	175000
Units:	hours
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
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:	
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

12863 BAYONNE ENERGY CTR BOP220002 CD1002 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Comments:

The maximum concentration of ammonia in solution  
is 19% by weight

12863 BAYONNE ENERGY CTR BOP220002 CD1003 (Oxidizer (Catalytic))  
Print Date: 2/27/2025

Make:	
Manufacturer:	Johnson Matthey (or equivalent)
Model:	
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	900
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	900
Minimum Residence Time (sec)	
Fuel Type:	
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	
Maximum Pressure Drop Across Catalyst (psi):	
Catalyst Material:	Stainless steel foil with propriety coating
Form of Catalyst:	
Description:	
Minimum Expected Life of Catalyst:	175000
Units:	hours
Volume of Catalyst (ft³):	5.48
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:	
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:	

12863 BAYONNE ENERGY CTR BOP220002 CD1301 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Make:	
Manufacturer:	Miratech
Model:	SP-EM56.120-16090020
Minimum Temperature at Catalyst Bed (°F):	572
Maximum Temperature at Catalyst Bed (°F):	977
Minimum Temperature at Reagent Injection Point (°F):	572
Maximum Temperature at Reagent Injection Point (°F):	977
Type of Reagent:	Urea
Description:	
Chemical Formula of Reagent:	CH4N2O
Minimum Reagent Charge Rate (gpm):	0.1
Maximum Reagent Charge Rate (gpm):	0.2
Minimum Concentration of Reagent in Solution (% Volume):	32
Minimum NOx to Reagent Mole Ratio:	0.5
Maximum NOx to Reagent Mole Ratio:	1
Maximum Anticipated Ammonia Slip (ppm):	10
Type of Catalyst:	
Volume of Catalyst (ft³):	40
Form of Catalyst:	
Anticipated Life of Catalyst:	5
Units:	Years
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	
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



12863 BAYONNE ENERGY CTR BOP220002 CD1301 (Selective Catalytic Reduction)  
Print Date: 2/27/2025

Comments:

**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	Turbine 1	Turbine 1 Emission Point	Round	132	151	90	800.0	708.0	800.0	755,655.0	698,978.0	849,848.0	Up	
PT2	Turbine 2	Turbine 2 Emission Point	Round	132	151	116	800.0	708.0	800.0	755,655.0	698,978.0	849,848.0	Up	
PT3	Turbine 3	Turbine 3 Emission Point	Round	132	151	117	800.0	708.0	800.0	755,655.0	698,978.0	849,848.0	Up	
PT4	Turbine 4	Turbine 4 Emission Point	Round	132	151	129	800.0	708.0	800.0	755,655.0	698,978.0	849,848.0	Up	
PT5	Turbine 5	Turbine 5 Emission Point	Round	132	151	130	800.0	708.0	800.0	755,655.0	698,978.0	849,848.0	Up	
PT6	Turbine 6	Turbine 6 Emission Point	Round	132	151	91	800.0	708.0	800.0	755,655.0	698,978.0	849,848.0	Up	
PT7	Turbine 7	Turbine 7 Emission Point	Round	132	151	91	800.0	708.0	800.0	755,655.0	698,978.0	849,848.0	Up	
PT8	Turbine 8	Turbine 8 Emission Point	Round	132	151	130	800.0	708.0	800.0	755,655.0	698,978.0	849,848.0	Up	
PT9	Em Gen	Emergency Generator Emission Point	Round	8	20	10	880.0	880.0	880.0	13,460.0	13,460.0	13,460.0	Up	
PT10	Fire Pump	Fire Pump Emission Point	Round	4	10	65	1,040.0	1,040.0	1,040.0	750.0	750.0	750.0	Up	
PT11	Turbine 9	Turbine 9 Emission Point	Round	132	154	102	801.0	606.0	869.0	764,364.0	489,216.0	799,336.0	Up	
PT12	Turbine 10	Turbine 10 Emission Point	Round	132	154	102	801.0	606.0	869.0	764,364.0	489,216.0	799,336.0	Up	
PT13	BS Em Engine	Black Start Engine Emission Point	Round	8	20	10	882.0	718.0	882.0	13,385.0	5,647.0	13,385.0	Up	

**BAYONNE ENERGY CTR (12863)**  
**BOP220002**

Date: 2/27/2025

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

**U 1 8 Turbines 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)**

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	Turb 1 - Gas	Turbine No. 1 firing natural gas	Normal - Steady State	E1	CD101 (P) CD102 (S) CD103 (T)	PT1		0.0	4,748.0		755,655.0	848,898.0	709.0	800.0
OS2	Turb 2 - Gas	Turbine No. 2 firing natural gas	Normal - Steady State	E2	CD201 (P) CD202 (S) CD203 (T)	PT2		0.0	4,748.0		755,655.0	848,898.0	709.0	800.0
OS3	Turb 3 - Gas	Turbine No. 3 firing natural gas	Normal - Steady State	E3	CD301 (P) CD302 (S) CD303 (T)	PT3		0.0	4,748.0		755,655.0	848,898.0	709.0	800.0
OS4	Turb 4 - Gas	Turbine No. 4 firing natural gas	Normal - Steady State	E4	CD401 (P) CD402 (S) CD403 (T)	PT4		0.0	4,748.0		755,655.0	848,898.0	709.0	800.0
OS5	Turb 5 - Gas	Turbine No. 5 firing natural gas	Normal - Steady State	E5	CD501 (P) CD502 (S) CD503 (T)	PT5		0.0	4,748.0		755,655.0	848,898.0	709.0	800.0
OS6	Turb 6 - Gas	Turbine No. 6 firing natural gas	Normal - Steady State	E6	CD601 (P) CD602 (S) CD603 (T)	PT6		0.0	4,748.0		755,655.0	848,898.0	709.0	800.0
OS7	Turb 7 - Gas	Turbine No. 7 firing natural gas	Normal - Steady State	E7	CD701 (P) CD702 (S) CD703 (T)	PT7		0.0	4,748.0		755,655.0	848,898.0	709.0	800.0
OS8	Turb 8 - Gas	Turbine No. 8 firing natural gas	Normal - Steady State	E8	CD801 (P) CD802 (S) CD803 (S)	PT8		0.0	4,748.0		755,655.0	848,898.0	709.0	800.0

**BAYONNE ENERGY CTR (12863)**  
**BOP220002**

Date: 2/27/2025

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

**U 1 8 Turbines 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)**

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.
OS9	Turb 1 - Oil	Turbine No. 1 firing ultra low sulfur diesel fuel	Normal - Steady State	E1	CD101 (P) CD102 (S) CD103 (T)	PT1		0.0	720.0		698,978.0	760,221.0	708.0	800.0
OS10	Turb 2 - Oil	Turbine No. 2 firing ultra low sulfur diesel fuel	Normal - Steady State	E2	CD201 (P) CD202 (S) CD203 (T)	PT2		0.0	720.0		698,978.0	760,221.0	708.0	800.0
OS11	Turb 3 - Oil	Turbine No. 3 firing ultra low sulfur diesel fuel	Normal - Steady State	E3	CD301 (P) CD302 (S) CD303 (T)	PT3		0.0	720.0		698,978.0	760,221.0	708.0	800.0
OS12	Turb 4 - Oil	Turbine No. 4 firing ultra low sulfur diesel fuel	Normal - Steady State	E4	CD401 (P) CD402 (S) CD403 (T)	PT4		0.0	720.0		698,978.0	760,221.0	708.0	800.0
OS13	Turb 5 - Oil	Turbine No. 5 firing ultra low sulfur diesel fuel	Normal - Steady State	E5	CD501 (P) CD502 (S) CD503 (T)	PT5		0.0	720.0		698,978.0	760,221.0	708.0	800.0
OS14	Turb 6 - Oil	Turbine No. 6 firing ultra low sulfur diesel fuel	Normal - Steady State	E6	CD601 (P) CD602 (S) CD603 (T)	PT6		0.0	720.0		698,978.0	760,221.0	708.0	800.0
OS15	Turb 7 - Oil	Turbine No. 7 firing ultra low sulfur diesel fuel	Normal - Steady State	E7	CD701 (P) CD702 (S) CD703 (T)	PT7		0.0	720.0		698,978.0	760,221.0	708.0	800.0
OS16	Turb 8 - Oil	Turbine No. 8 firing ultra low sulfur diesel fuel	Normal - Steady State	E8	CD801 (P) CD802 (S) CD803 (T)	PT8		0.0	720.0		698,978.0	760,221.0	708.0	800.0

**BAYONNE ENERGY CTR (12863)**  
**BOP220002**

Date: 2/27/2025

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

**U 1 8 Turbines 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)**

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.
OS17	Turb 1-LL-NG	Turbine No. 1 firing natural gas-Low Load Black Start Operation	Startup	E1	CD103 (P)	PT1		0.0	6.0		225,000.0	232,000.0	600.0	762.0
OS18	Turb 2-LL-NG	Turbine No. 2 firing natural gas-Low Load Black Start Operation	Startup	E2	CD203 (P)	PT2		0.0	6.0		225,000.0	232,000.0	600.0	762.0
OS19	Turb 3-LL-NG	Turbine No. 3 firing natural gas-Low Load Black Start Operation	Startup	E3	CD303 (P)	PT3		0.0	6.0		225,000.0	232,000.0	600.0	762.0
OS20	Turb 4-LL-NG	Turbine No. 4 firing natural gas-Low Load Black Start Operation	Startup	E4	CD403 (P)	PT4		0.0	6.0		225,000.0	232,000.0	600.0	762.0
OS21	Turb 5-LL-NG	Turbine No. 5 firing natural gas-Low Load Black Start Operation	Startup	E5	CD503 (P)	PT5		0.0	6.0		225,000.0	232,000.0	600.0	762.0
OS22	Turb 6-LL-NG	Turbine No. 6 firing natural gas-Low Load Black Start Operation	Startup	E6	CD603 (P)	PT6		0.0	6.0		225,000.0	232,000.0	600.0	762.0
OS23	Turb 7-LL-NG	Turbine No. 7 firing natural gas-Low Load Black Start Operation	Startup	E7	CD703 (P)	PT7		0.0	6.0		225,000.0	232,000.0	600.0	762.0
OS24	Turb 8-LL-NG	Turbine No. 8 firing natural gas-Low Load Black Start Operation	Startup	E8	CD803 (P)	PT8		0.0	6.0					
OS25	Turb 1-SUG	Turbine No. 1 Startup-Gas	Startup	E1		PT1								
OS26	Turb 2-SUG	Turbine No. 2 Startup-Gas	Startup	E2		PT2								
OS27	Turb 3-SUG	Turbine No. 3 Startup-Gas	Startup	E3		PT3								
OS28	Turb 4-SUG	Turbine No. 4 Startup-Gas	Startup	E4		PT4								
OS29	Turb 5-SUG	Turbine No. 5 Startup-Gas	Startup	E5		PT5								
OS30	Turb 6-SUG	Turbine No. 6 Startup-Gas	Startup	E6		PT6								

**BAYONNE ENERGY CTR (12863)**  
**BOP220002**

Date: 2/27/2025

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

**U 1 8 Turbines 8 Simple Cycle Stationary Gas Turbines (used for electric power generation)**

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.
OS31	Turb 7-SUG	Turbine No. 7 Startup-Gas	Startup	E7		PT7								
OS32	Turb 8-SUG	Turbine No. 8 Startup-Gas	Startup	E8		PT8								
OS33	Turb 1-SDG	Turbine No. 1 Shutdown-Gas	Shutdown	E1		PT1								
OS34	Turb 2-SDG	Turbine No. 2 Shutdown-Gas	Shutdown	E2		PT2								
OS35	Turb 3-SDG	Turbine No. 3 Shutdown-Gas	Shutdown	E3		PT3								
OS36	Turb 4-SDG	Turbine No. 4 Shutdown-Gas	Shutdown	E4		PT4								
OS37	Turb 5-SDG	Turbine No. 5 Shutdown-Gas	Shutdown	E5		PT5								
OS38	Turb 6-SDG	Turbine No. 6 Shutdown-Gas	Shutdown	E6		PT6								
OS39	Turb 7-SDG	Turbine No. 7 Shutdown-Gas	Shutdown	E7		PT7								
OS40	Turb 8-SDG	Turbine No. 8 Shutdown-Gas	Shutdown	E8		PT8								
OS41	Turb 1-SUO	Turbine No. 1 Startup-ULSD	Startup	E1		PT1								
OS42	Turb 2-SUO	Turbine No. 2 Startup-ULSD	Startup	E2		PT2								
OS43	Turb 3-SUO	Turbine No. 3 Startup-ULSD	Startup	E3		PT3								
OS44	Turb 4-SUO	Turbine No. 4 Startup-ULSD	Startup	E4		PT4								
OS45	Turb 5-SUO	Turbine No. 5 Startup-ULSD	Startup	E5		PT5								
OS46	Turb 6-SUO	Turbine No. 6 Startup-ULSD	Startup	E6		PT6								

**BAYONNE ENERGY CTR (12863)**  
**BOP220002**

Date: 2/27/2025

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

**U 1   8 Turbines   8 Simple Cycle Stationary Gas Turbines (used for electric power generation)**

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.
OS47	Turb 7-SUO	Turbine No. 7 Startup-ULSD	Startup	E7		PT7								
OS48	Turb 8-SUO	Turbine No. 8 Startup-ULSD	Startup	E8		PT8								
OS49	Turb 1-SDO	Turbine No. 1 Shutdown-ULSD	Shutdown	E1		PT1								
OS50	Turb 2-SDO	Turbine No. 2 Shutdown-ULSD	Shutdown	E2		PT2								
OS51	Turb 3-SDO	Turbine No. 3 Shutdown-ULSD	Shutdown	E3		PT3								
OS52	Turb 4-SDO	Turbine No. 4 Shutdown-ULSD	Shutdown	E4		PT4								
OS53	Turb 5-SDO	Turbine No. 5 Shutdown-ULSD	Shutdown	E5		PT5								
OS54	Turb 6-SDO	Turbine No. 6 Shutdown-ULSD	Shutdown	E6		PT6								
OS55	Turb 7-SDO	Turbine No. 7 Shutdown-ULSD	Shutdown	E7		PT7								
OS56	Turb 8-SDO	Turbine No. 8 Shutdown-ULSD	Shutdown	E8		PT8								

**BAYONNE ENERGY CTR (12863)**  
**BOP220002**

Date: 2/27/2025

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

**U 2 Em Gen 1.75 MW Emergency Generator**

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	Em Gen	1.75 MW Emergency Generator firing diesel fuel	Normal - Steady State	E9		PT9		0.0	300.0		13,460.0	13,460.0	880.0	880.0

**U 3 Fire Pump 157 HP Fire Pump**

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	Fire Pump	157 HP Fire Pump Combusting Diesel Fuel	Normal - Steady State	E10		PT10		0.0	300.0		750.0	750.0	1,040.0	1,040.0

**U 4 2 Turbines 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)**

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	Turb 9 - Gas	Turbine No. 9 firing natural gas	Normal - Steady State	E11	CD901 (P) CD902 (S) CD903 (T)	PT11		0.0			489,216.0	799,336.0	606.0	869.0



**BAYONNE ENERGY CTR (12863)**  
**BOP220002**

Date: 2/27/2025

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

**U 4 2 Turbines 2 Simple Cycle Stationary Gas Turbines (used for electric power generation)**

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.
OS2	Turb 10-Gas	Turbine No. 10 firing natural gas	Normal - Steady State	E12	CD1001 (P) CD1002 (S) CD1003 (T)	PT12		0.0			489,216.0	799,336.0	606.0	869.0
OS3	Turb 9 - Oil	Turbine No. 9 firing ultra low sulfur diesel	Normal - Steady State	E11	CD901 (P) CD902 (S) CD903 (T)	PT11								
OS4	Turb 10-Oil	Turbine No. 10 firing ultra low sulfur diesel	Normal - Steady State	E12	CD1001 (P) CD1002 (S) CD1003 (T)	PT12								
OS5	Turb 9-SUG	Turbine No. 9 Startup-NGas	Startup	E11		PT11								
OS6	Turb 10-SUG	Turbine No. 10 Startup-NGas	Startup	E12		PT12								
OS7	Turb 9-ShkDn	Turbine No. 9 Shake Down		E11	CD901 (P) CD902 (P) CD903 (P)	PT11								
OS8	Turb10-ShkDn	Turbine No. 10 Shake Down		E12	CD1001 (P) CD1002 (P) CD1003 (P)	PT12								
OS9	Turb 9-LL-NG	Turbine No. 9 firing natural gas-Low Load Black Start Operation	Startup	E11	CD903 (P)	PT11		0.0	6.0		225,000.0	232,000.0	600.0	762.0
OS10	Turb10-LL-NG	Turbine No. 10 firing natural gas-Low Load Black Start Operation	Startup	E12	CD1003 (P)	PT12		0.0	6.0		225,000.0	232,000.0	600.0	762.0
OS11	Turb 9-SDG	Turbine No. 9 Shutdown-NGas	Shutdown	E11		PT11								

**BAYONNE ENERGY CTR (12863)**  
**BOP220002**

Date: 2/27/2025

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

**U 4   2 Turbines   2 Simple Cycle Stationary Gas Turbines (used for electric power generation)**

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.
OS12	Turb 10-SDG	Turbine No. 10 Shutdown-NGas	Shutdown	E12		PT12								
OS13	Turb 9-SUO	Turbine No. 9 Startup-ULSD	Startup	E11		PT11								
OS14	Turb 10-SUO	Turbine No. 10 Startup-ULSD	Startup	E12		PT12								
OS15	Turb 9-SDO	Turbine No. 9 Shutdown ULSD	Shutdown	E11		PT11								
OS16	Turb 10-SDO	Turbine No. 10 Shutdown ULSD	Shutdown	E12		PT12								

**U 6   BS Em Engine   Black Start Emergency Engine Operation**

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	BS Em Engine	Black Start Emergency Engine Operation	Startup	E13	CD1301 (P)	PT13	2-02-001-02	0.0	50.0		13,040.0	13,040.0	850.0	850.0

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

**Group NJID:** GR1 Facility PTE

**Members:**

Type	ID	OS	Step
U	U 1	OS0 Summary	
U	U 2	OS0 Summary	
U	U 3	OS0 Summary	
U	U 4	OS0 Summary	
U	U 6	OS0 Summary	

**Formal Reason(s) for Group/Cap:**

☒ Other

**Other (explain):** Group1 PTE Totals from 8 U1 turbines, U2 Emergency Generator, U3 Fire Pump, two U4 turbines & U6 EG.

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

**Operating Circumstances:**

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

**Group NJID:** GR2 GR2 Blk Str

**Members:**

Type	ID	OS	Step
U	U 1	OS17 Turb 1-LL-NG	
U	U 1	OS18 Turb 2-LL-NG	
U	U 1	OS19 Turb 3-LL-NG	
U	U 1	OS20 Turb 4-LL-NG	
U	U 1	OS21 Turb 5-LL-NG	
U	U 1	OS22 Turb 6-LL-NG	
U	U 1	OS23 Turb 7-LL-NG	
U	U 1	OS24 Turb 8-LL-NG	
U	U 2	OS1 Em Gen	
U	U 4	OS10 Turb10-LL-NG	
U	U 4	OS9 Turb 9-LL-NG	
U	U 6	OS1 BS Em Engine	

**Formal Reason(s) for Group/Cap:**

☒ Other

**Other (explain):** Black Start Readiness Testing of upto10 turbines E1,E2,E3,E4,E5, E6, E7, E8, E11, E12  
& 2 EGs E9,E13

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

**Operating Circumstances:**

Date: 2/27/2025

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

**Group NJID:** GR3 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 for Turbines

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

**Operating Circumstances:**

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

**Group NJID:** GR4 NJAC 7:27F

**Members:**

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

**Formal Reason(s) for Group/Cap:**

☒ Other

**Other (explain):** NJ PACT NJAC 7:27F RULE REQUIREMENTS Applicable to Combustion Turbines

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

**Operating Circumstances:**



## State of New Jersey

Department of Environmental Protection

Air Quality, Energy and Sustainability

Division of Air Quality

Bureau of Stationary Sources

401 E. State Street, 2nd Floor, P.O. Box 420, Mail Code

401-02

Trenton, NJ 08625-0420

PHILIP D. MURPHY

*Governor*

CATHERINE R. MCCABE

*Commissioner*

SHEILA Y. OLIVER

*Lt. Governor*

## PHASE II ACID RAIN PERMIT

**Issued to:** Bayonne Energy Center  
401 Hook Road  
Bayonne, NJ 07002

**Owned by:** Bayonne Energy Center, LLC  
TigerGenCo, LLC  
1585 Broadway  
New York, NY 10036

**Operated by:** Bayonne Energy Center, LLC  
Ethos Energy Group  
401 Hook Road  
Bayonne, NJ 07002

**ORIS Code:** 56964

**Effective:** To coincide with the Operating Permit Dates (expires September 23, 2024)

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 this facility shall comply with all of the requirements established in this permit.

Approved by:

A handwritten signature in black ink, appearing to read "David J. Owen". The signature is written in a cursive, flowing style with a large initial "D".

---

David J. Owen  
Supervisor,  
Air Quality Permitting Element



## 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 Department is currently reviewing the Operating Permit application filed by the applicant, and expects to issue a permit decision on their application in the near future. The procedures for incorporating this Acid Rain permit into the Operating Permit shall be consistent with the state requirements at N.J.A.C. 7:27-22.29, 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.

BAYONNE ENERGY CENTER	NJ	56964
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)
GT1	Yes
GT2	Yes
GT3	Yes
GT4	Yes
GT5	Yes
GT6	Yes
GT7	Yes
GT8	Yes
GT9	Yes
GT10	Yes
	Yes

**STEP 3**

**Read the standard requirements.**

**Permit 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).
- (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.



**BAYONNE ENERGY CENTER**  
Facility (Source) Name (from STEP 1)

Acid Rain - Page 3

**STEP 3, Cont'd.**

**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;
  - (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.

**BAYONNE ENERGY CENTER**

Facility (Source) Name (from STEP 1)

Acid Rain - Page 4

**STEP 3, Cont'd.****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 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****Certification**

**Read the  
certification  
statement, sign,  
and date.**

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 <b>Ellen Allman</b>	
Signature 	Date <b>6/28/18</b>

## **ATTACHMENT**

**Cross-State Air Pollution Rule (CSAPR) for the CSAPR NO<sub>x</sub> Annual Trading Program requirements, CSAPR NO<sub>x</sub> Ozone Season Trading Program, and CSAPR SO<sub>2</sub> Trading Program**

## **Transport Rule (TR) Trading Program Title V Requirements**

### **TR NO<sub>x</sub> 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<sub>x</sub> Annual source and each TR NO<sub>x</sub> 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<sub>x</sub> Annual allowances under 40 CFR 97.411(a)(2) and (b) and 97.412 and to determine compliance with the TR NO<sub>x</sub> 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<sub>x</sub> emissions requirements.**

- (1) TR NO<sub>x</sub> 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<sub>x</sub> Annual source and each TR NO<sub>x</sub> Annual unit at the source shall hold, in the source's compliance account, TR NO<sub>x</sub> 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<sub>x</sub> emissions for such control period from all TR NO<sub>x</sub> Annual units at the source.
  - (ii). If total NO<sub>x</sub> emissions during a control period in a given year from the TR NO<sub>x</sub> Annual units at a TR NO<sub>x</sub> Annual source are in excess of the TR NO<sub>x</sub> Annual emissions limitation set forth in paragraph (c)(1)(i) above, then:
    - (A). The owners and operators of the source and each TR NO<sub>x</sub> Annual unit at the source shall hold the TR NO<sub>x</sub> Annual allowances required for deduction under 40 CFR 97.424(d); and
    - (B). The owners and operators of the source and each TR NO<sub>x</sub> 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 AAAAAA and the Clean Air Act.

(2) TR NO<sub>x</sub> Annual assurance provisions.

- (i). If total NO<sub>x</sub> emissions during a control period in a given year from all TR NO<sub>x</sub> Annual units at TR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> emissions exceeds the respective common designated representative's assurance level; and (B) The amount by which total NO<sub>x</sub> emissions from all TR NO<sub>x</sub> Annual units at TR NO<sub>x</sub> Annual sources in the state for such control period exceed the state assurance level.
- (ii). The owners and operators shall hold the TR NO<sub>x</sub> 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<sub>x</sub> emissions from all TR NO<sub>x</sub> Annual units at TR NO<sub>x</sub> Annual sources in the State during a control period in a given year exceed the state assurance level if such total NO<sub>x</sub> emissions exceed the sum, for such control period, of the state NO<sub>x</sub> 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<sub>x</sub> emissions from all TR NO<sub>x</sub> Annual units at TR NO<sub>x</sub> 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<sub>x</sub> emissions from the TR NO<sub>x</sub> Annual units at TR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> Annual allowance that was allocated for such control period or a control period in a prior year.
  - (ii). A TR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> Annual allowance is a limited authorization to emit one ton of NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> Annual source and each TR NO<sub>x</sub> 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<sub>x</sub> 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 AAAAAA.
  - (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<sub>x</sub> Annual Trading Program.
- (2) The designated representative of a TR NO<sub>x</sub> Annual source and each TR NO<sub>x</sub> Annual unit at the source shall make all submissions required under the TR NO<sub>x</sub> 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<sub>x</sub> Annual Trading Program that applies to a TR NO<sub>x</sub> Annual source or the designated representative of a TR NO<sub>x</sub> Annual source shall also apply to the owners and operators of such source and of the TR NO<sub>x</sub> Annual units at the source.
- (2) Any provision of the TR NO<sub>x</sub> Annual Trading Program that applies to a TR NO<sub>x</sub> Annual unit or the designated representative of a TR NO<sub>x</sub> Annual unit shall also apply to the owners and operators of such unit.

**(g) Effect on other authorities.**

No provision of the TR NO<sub>x</sub> 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<sub>x</sub> Annual source or TR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> Ozone Season source and each TR NO<sub>x</sub> 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<sub>x</sub> Ozone Season allowances under 40 CFR 97.511(a)(2) and (b) and 97.512 and to determine compliance with the TR NO<sub>x</sub> 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<sub>x</sub> emissions requirements.**

- (1) TR NO<sub>x</sub> 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<sub>x</sub> Ozone Season source and each TR NO<sub>x</sub> Ozone Season unit at the source shall hold, in the source's compliance account, TR NO<sub>x</sub> 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<sub>x</sub> emissions for such control period from all TR NO<sub>x</sub> Ozone Season units at the source.
  - (ii). If total NO<sub>x</sub> emissions during a control period in a given year from the TR NO<sub>x</sub> Ozone Season units at a TR NO<sub>x</sub> Ozone Season source are in excess of the TR NO<sub>x</sub> 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<sub>x</sub> Ozone Season unit at the source shall hold the TR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> Ozone Season assurance provisions.
  - (i). If total NO<sub>x</sub> emissions during a control period in a given year from all TR NO<sub>x</sub> Ozone Season units at TR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> emissions exceeds the respective common designated representative's assurance level; and
  - (B). The amount by which total NO<sub>x</sub> emissions from all TR NO<sub>x</sub> Ozone Season units at TR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> emissions from all TR NO<sub>x</sub> Ozone Season units at TR NO<sub>x</sub> Ozone Season sources in the state during a control period in a given year exceed the state assurance level if such total NO<sub>x</sub> emissions exceed the sum, for such control period, of the State NO<sub>x</sub> 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<sub>x</sub> emissions from all TR NO<sub>x</sub> Ozone Season units at TR NO<sub>x</sub> 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<sub>x</sub> emissions from the TR NO<sub>x</sub> Ozone Season units at TR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> Ozone Season allowance that was allocated for such control period or a control period in a prior year.
  - (ii). A TR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> Ozone Season allowance is a limited authorization to emit one ton of NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> Ozone Season source and each TR NO<sub>x</sub> 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<sub>x</sub> 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 BBBBBB.
  - (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<sub>x</sub> Ozone Season Trading Program.
- (2) The designated representative of a TR NO<sub>x</sub> Ozone Season source and each TR NO<sub>x</sub> Ozone Season unit at the source shall make all submissions required under the TR NO<sub>x</sub> 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<sub>x</sub> Ozone Season Trading Program that applies to a TR NO<sub>x</sub> Ozone Season source or the designated representative of a TR NO<sub>x</sub> Ozone Season source shall also apply to the owners and operators of such source and of the TR NO<sub>x</sub> Ozone Season units at the source.
- (2) Any provision of the TR NO<sub>x</sub> Ozone Season Trading Program that applies to a TR NO<sub>x</sub> Ozone Season unit or the designated representative of a TR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> Ozone Season source or TR NO<sub>x</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> Group 1 source and each TR SO<sub>2</sub> 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 SO<sub>2</sub> Group 1 allowances under 40 CFR 97.611(a)(2) and (b) and 97.612 and to determine compliance with the TR SO<sub>2</sub> 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) SO<sub>2</sub> emissions requirements.**

- (1) TR SO<sub>2</sub> 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 SO<sub>2</sub> Group 1 source and each TR SO<sub>2</sub> Group 1 unit at the source shall hold, in the source's compliance account, TR SO<sub>2</sub> 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 SO<sub>2</sub> emissions for such control period from all TR SO<sub>2</sub> Group 1 units at the source.
  - (ii). If total SO<sub>2</sub> emissions during a control period in a given year from the TR SO<sub>2</sub> Group 1 units at a TR SO<sub>2</sub> Group 1 source are in excess of the TR SO<sub>2</sub> Group 1 emissions limitation set forth in paragraph (c)(1)(i) above, then:
    - (A). The owners and operators of the source and each TR SO<sub>2</sub> Group 1 unit at the source shall hold the TR SO<sub>2</sub> Group 1 allowances required for deduction under 40 CFR 97.624(d); and
    - (B). The owners and operators of the source and each TR SO<sub>2</sub> 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 SO<sub>2</sub> Group 1 assurance provisions.
  - (i). If total SO<sub>2</sub> emissions during a control period in a given year from all TR SO<sub>2</sub> Group 1 units at TR SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> emissions exceeds the respective common designated representative's assurance level; and
  - (B). The amount by which total SO<sub>2</sub> emissions from all TR SO<sub>2</sub> Group 1 units at TR SO<sub>2</sub> Group 1 sources in the state for such control period exceed the state assurance level.
- (ii). The owners and operators shall hold the TR SO<sub>2</sub> 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 SO<sub>2</sub> emissions from all TR SO<sub>2</sub> Group 1 units at TR SO<sub>2</sub> Group 1 sources in the state during a control period in a given year exceed the state assurance level if such total SO<sub>2</sub> emissions exceed the sum, for such control period, of the state SO<sub>2</sub> 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 SO<sub>2</sub> emissions from all TR SO<sub>2</sub> Group 1 units at TR SO<sub>2</sub> 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 SO<sub>2</sub> emissions from the TR SO<sub>2</sub> Group 1 units at TR SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> Group 1 allowance that was allocated for such control period or a control period in a prior year.
- (ii). A TR SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> Group 1 allowance is a limited authorization to emit one ton of SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> Group 1 source and each TR SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> Group 1 Trading Program.
- (2) The designated representative of a TR SO<sub>2</sub> Group 1 source and each TR SO<sub>2</sub> Group 1 unit at the source shall make all submissions required under the TR SO<sub>2</sub> 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 SO<sub>2</sub> Group 1 Trading Program that applies to a TR SO<sub>2</sub> Group 1 source or the designated representative of a TR SO<sub>2</sub> Group 1 source shall also apply to the owners and operators of such source and of the TR SO<sub>2</sub> Group 1 units at the source.
- (2) Any provision of the TR SO<sub>2</sub> Group 1 Trading Program that applies to a TR SO<sub>2</sub> Group 1 unit or the designated representative of a TR SO<sub>2</sub> Group 1 unit shall also apply to the owners and operators of such unit.

**(g) Effect on other authorities.**

No provision of the TR SO<sub>2</sub> 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 SO<sub>2</sub> Group 1 source or TR SO<sub>2</sub> 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.