



State of New Jersey

PHILIP D. MURPHY
Governor

TAHESHA L. WAY
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

AIR, ENERGY AND MATERIALS SUSTAINABILITY
Division of Air Quality and Radiation Protection
Bureau of Stationary Sources
401 E. State Street, 2nd floor, P.O. Box 420, Mail Code 401-02
Trenton, NJ 08625-0420

SHAWN M. LATOURETTE
Commissioner

Air Pollution Control Operating Permit Renewal

Permit Activity Number: BOP190002

Program Interest Number: 02488

Mailing Address	Plant Location
PETER VAN DEN HOUTEN POWER PLANT MANAGER PARKWAY GENERATION OPERATING LLC 10 VICTORIA TER Ridgefield, NJ 07657	BERGEN GENERATING STATION 10 Victoria Ter Ridgefield Bergen County

Initial Operating Permit Approval Date: June 24, 2005
Operating Permit Approval Date: DRAFT
Operating Permit Expiration Date: Approval Date + 5 years

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:

David J. Owen

Enclosure

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

Facility Name: BERGEN GENERATING STATION
Program Interest Number: 02488
Permit Activity Number: BOP190002

TABLE OF CONTENTS

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

Section A

Facility Name: BERGEN GENERATING STATION

Program Interest Number: 02488

Permit Activity Number: BOP190002

POLLUTANT EMISSIONS SUMMARY

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

Facility's Potential Emissions from all Significant Source Operations (tons per year)										
Source Categories	VOC (total)	NO _x	CO	SO ₂	TSP (total)	PM ₁₀ (total)	PM _{2.5} (total)	Pb	HAPs* (total)	CO ₂ e ²
Emission Units Summary	0.0	10.9	9.2	0.0	0	0	0	N/A	0.0	
Batch Process Summary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Group Summary	138	1,216	375	32	191	253	253	0.042	30.3	
Total Emissions	138	1227	384	32	191	253	253	0.042	30.3	3,359,188

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

Emissions from all Insignificant Source Operations and Non-Source Fugitive Emissions (tons per year)									
Source Categories	VOC (total)	NO _x	CO	SO ₂	TSP (total)	PM ₁₀ (total)	PM _{2.5} (total)	Pb	HAPs (total)
Insignificant Source Operations	3.13	3.38	2.05	BT	0.47	0.55	0.55	N/A	0.54
Non-Source Fugitive Emissions ³	2.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

VOC: Volatile Organic Compounds

NO_x: Nitrogen Oxides

CO: Carbon Monoxide

SO₂: Sulfur Dioxide

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

TSP: Total Suspended Particulates

Other: Any other air contaminant

regulated under the Federal CAA

PM₁₀: Particulates under 10 microns

PM_{2.5}: Particulates under 2.5 microns

Pb: Lead

HAPs: Hazardous Air Pollutants

CO₂e: Carbon Dioxide equivalent

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

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

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

² Total CO₂e emissions for the facility that includes all Significant Source Operations (emission units, batch process, group) and Insignificant Source Operations.

³ Non-Source Fugitive Emissions are defined at N.J.A.C. 7:27-22.1 and are included if the facility falls into one or more categories listed at N.J.A.C. 7:27-22.2(a)2.

Section A

Facility Name: PSEG BERGEN GENERATING STATION

Program Interest Number: 02488

Permit Activity Number: BOP190002

POLLUTANT EMISSIONS SUMMARY

Table 3: Summary of Hazardous Air Pollutants (HAP) Emissions from Significant Source Operations ⁴:

HAP	TPY
1,3-Butadiene	0.0426
1-Methylnaphthalene	0.00344
2-Methylnaphthalene	0.0055
Acetaldehyde	1.13
Acrolein	0.181
Arsenic	0.021
Benzene	0.446
Beryllium	0.0006
Cadmium	0.0091
7,12-Dimethylbenz(a)anthracene	1.3x10-6
Ethylbenzene	0.91
Formaldehyde	20.7
Lead	0.0417
Manganese	0.42
Mercury	0.0144
n-Hexane	1.45
Naphthalene	0.104
Nickel	0.0525
Polycyclic Aromatic Hydrocarbon	0.139
Polycyclic Organic Matter	0.139
Propylene Oxide	0.821
Total Dioxin and Furans	7.1E-6
Toluene	3.68

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

Other Air Contaminant	TPY
Ammonia	215
Methane	89.1
Nitrous Oxide	10.2
Sulfuric Acid	5.3

⁴ 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: BERGEN GENERATING STATION

Program Interest Number: 02488

Permit Activity Number: BOP190002

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: BERGEN GENERATING STATION

Program Interest Number: 02488

Permit Activity Number: BOP190002

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	---	10	---
D	FC	---	3
D	FC	---	9
D	GR103	---	ALL
D	GR104	---	ALL

Section D

Facility Name: BERGEN GENERATING STATION
Program Interest Number: 02488
Permit Activity Number: BOP190002

FACILITY SPECIFIC REQUIREMENTS AND INVENTORIES

FACILITY SPECIFIC REQUIREMENTS PAGE INDEX

<u>Subject Item and Name</u>	<u>Page Number</u>
-------------------------------------	---------------------------

Facility (FC):

FC	1
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Insignificant Sources (IS):

IS NJID	IS Description	
IS1	Insignificant Liquid Storage Tanks or Vessels	7
IS2	Commercial Fuel Burning Equipment < 1 MMBtu/hr and Non-Emergency Electric Generators < 37 kW	8
IS4	Non-applicable VOC (<0.02 psia) storage tanks with capacities >10,000 gallons	16
IS5	Surface/Parts cleaners < 6 SQFT, capacity <100 gallons	17

Groups (GR):

GR NJID	GR Designation	GR Description	
GR11	Unit 1,2 &CT	Unit 1 & 2 Combustion Turbines and Cooling Towers	18
GR12	Unit-1 NG	Unit1 Firing NG	30
GR13	Unit 1 DO	Unit 1 Firing DO	32
GR14	Unit 2 NG	Unit 2 Turbines Firing Natural Gas Only	36
GR15	Unit 2 DO	Unit 2 Turbines Firing Distillate Oil Only	37
GR16	Unit 2 NG/DF	Unit 2 Turbines Firing Natural Gas with Duct Burners	39
GR101	Unit 2 OpFlx	U1 Unit 2 Advanced Gas Path and OpFlex Advantage Peak Operation (OS53-OS54)	40
GR102	Unit 1 Upgrd	U1 Unit 1 CT Upgrade	47
GR103	RGGI	RGGI REQUIREMENTS	57
GR104	NJAC 7-27F	NJAC 7-27F -PACT Requirements	67
GR105	Unt1-TotHAPs	Worst Case Unit1 Total HAPS in lb/hr and tons/yr for four turbines	71
GR107	Unt2-TotHAPs	Worst Case Unit 2 Total HAPS in lb/hr and tons/yr for TWO turbines and DBs	86

Emission Units (U):

U NJID	U Designation	U Description	
U1	Units No.1&2	Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201	102
U3	Pump Floor H	Pump Floor Heater - Direct heat exchanger used for	233

		miscellaneous heating purposes	
U4	1TBay Heater	Turbine Bay Heater No. 1 - Direct heat exchanger used for miscellaneous heating purposes	235
U5	2TBay Heater	Turbine Bay Heater No. 2 - Direct heat exchanger used for miscellaneous heating purposes	237
U7	Cool Twr 1A	Counterflow, mechanical draft, parallel path wet/dry type cooling towers consisting of eight identical parallel cells	239
U8	Cool Twr 1B	Counterflow, mechanical draft, parallel path wet/dry type cooling towers consisting of eight identical parallel cells	241
U14	C Tower 2	Cooling Tower #2	243
U15	FGH	Fuel Gas Heaters	245

New Jersey Department of Environmental Protection
Reason for Application

Permit Being Modified

Permit Class: BOP **Number:** 240001

Description of Modifications: PSEG Fossil LLC is submitting the enclosed application to renew the Title V Operating Permit for the Bergen Generating Station. The Title V permit expires on June 23, 2020.

In accordance with N.J.A.C. 7:27-22.4(e), PSEG Fossil is submitting this renewal application at least 15 months prior to permit expiration, so that any deficiencies identified in the application can be addressed and the enclosed renewal application can qualify for an "application shield" pursuant to N.J.A.C. 7:27-22.7(b).

Please see the application package for more details.

The following changes are being made to the permit with this renewal:

1. Facility wide requirements (FC) section of the compliance plan updated.
2. Section B, General Provisions and Authority of the Permit Text updated.
3. Federal Requirements Summary were added to emission unit U15.
4. The renewal stack testing requirement for emission units U1 was changed to conduct renewal stack testing 5 years from the date of approval of the last stack test. Monitoring and recordkeeping requirements were revised accordingly.
5. Sulfur dioxide (SO₂) emissions were reduced from 118 tons/year to 32 tons/yr due to removal of the references to use low sulfur distillate oil as the facility no longer uses this oil and instead uses ultra-low sulfur distillate (ULSD) only. Short term SO₂ emissions were revised correspondingly.
6. Inclusion of HAPs above the new lower revised reporting thresholds in N.J.A.C. 7:27-17. These were 7,12-Dimethylbenz(a)anthracene, Acetaldehyde, Beryllium, Ethyl benzene, Naphthalene, Nickel, and Propylene Oxide. Two new groups GR105 and GR107 were created to include total HAPs for Unit1 turbines and Unit2 turbines respectively.
7. Change the names of U1 operating scenarios OS9-12 from Peak load/Power Augmentation (PAG) Mode to Diffusion PAG Mode and make this change throughout the permit.
8. For GR16, Reference # 2, Unit 2 turbines the calendar year heat input limit was deleted because it was the same as the 365-day rolling limit.
9. The startup, shutdown, fuel transfer, mechanical safety testing, or mode transfer requirements for the turbines were removed from OS Summary and added to newly created operating scenarios.
10. For GR101, Ref. #14, shakedown requirement was removed
11. U1 OS Summary, Ref. #68 related to PSEG Consent Decree was removed.
12. The monitoring requirements for U1, operating scenarios OS5-8 were replaced from stack testing to CEMs for NO_x and CO, because these operating scenarios were rarely used. The Monitoring, Recordkeeping, and Submittal/Action requirements were revised accordingly, to reflect the use of CEMs for compliance.
13. A requirement to define Fuel transfer period ≤ 45 mins was added to U1, OS29-32. Fuel transfer is redefined as that period during which the fuel is switched from natural gas to fuel oil and vice versa.
14. The requirements for Dry Low Nox were transferred from OS Summary for U1 combustion turbines to their individual control devices, CD2, CD4, CD6 and CD8.
15. The requirements for water Injection were transferred from U1 OS Summary to CD1, CD3, CD5 and CD7.
16. The requirements for oxidation catalysts were transferred from U1 OS Summary to

New Jersey Department of Environmental Protection
Reason for Application

CD14 and CD18.

17.The requirements for Selective Catalytic Reduction Systems (SCRs) were moved from U1 OS Summary to CD13, and CD17.

18.Methane, nitrous oxide and sulfuric acid emissions that were above the 0.05 pound per hour N.J.A.C 7:27-8 reporting thresholds were added to all applicable emission units.

19.The N.J.A.C. 7:27-19 RACT requirements that are no longer applicable were removed.

20.CEMs Summary Monitoring Requirements were updated to require recertification for continued use of existing CEMs.

21.N.J.A.C. 7:27-19 monitoring requirements were updated.

22.The applicable 40 CFR 63 requirements were added to heaters at U15.

23.Cooling Towers requirements were moved from U1 OS Summary to U7, U8 and U14.

24. Renew Acid Rain Permit

BOP190002

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

BOP190002

**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: http://www.state.nj.us/dep/online/ . The Compliance Certification forms are available by selecting Documents and Forms and then Periodic Compliance Certification. [N.J.A.C. 7:27-22]
14	Used Oil Combustion: No person shall combust used oil except as authorized pursuant to N.J.A.C. 7:27-20. [N.J.A.C. 7:27-20.2]	None.	None.	Comply with the requirement: Prior to occurrence of event (prior to burning used oil) either register with the Department pursuant to N.J.A.C. 7:27-20.3 or obtain a permit issued by the Department pursuant to N.J.A.C. 7:27-8 or 7:27-22, whichever is applicable. [N.J.A.C. 7:27-20.2(d)]
15	Prevention of Accidental Releases: Facilities producing, processing, handling or storing a chemical, listed in the tables of 40 CFR Part 68.130, and present in a process in a quantity greater than the listed Threshold Quantity, shall comply with all applicable provisions of 40 CFR 68. [40 CFR 68]	Other: Comply with 40 CFR 68. [40 CFR 68].	Other: Comply with 40 CFR 68. [40 CFR 68].	Other (provide description): Other. Comply with 40 CFR 68 as described in the Applicable Requirement. [40 CFR 68]

**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.

BOP190002

**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.

BOP190002

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

Subject Item: IS1 Insignificant Liquid Storage Tanks or Vessels

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Sulfur Content in Fuel <= 15 ppmw (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 showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by fuel certification receipts per delivery , manual logging of % Sulfur per delivery in a permanently bound log book or readily accessible computer memories. [N.J.A.C. 7:27-22.16(o)]	None.
2	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.
3	The vapor pressure of the liquid, excluding the vapor pressure of water, shall be less than 0.02 psia at the liquid's actual temperature or at 70 degrees F, whichever is higher. [N.J.A.C. 7:27-22.1]	None.	None.	None.
4	The tank's potential to emit each TXS and each HAP shall not exceed the de minimis reporting thresholds as specified in N.J.A.C. 7:27-22, Appendix, Table B. [N.J.A.C. 7:27-22.1]	None.	None.	None.

BOP190002

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

Subject Item: IS2 Commercial Fuel Burning Equipment < 1 MMBtu/hr and Non-Emergency Electric Generators < 37 kW

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity: No visible emissions from the combustion of fuel in any stationary indirect heat exchanger except for a period of not longer than three minutes in any consecutive 30-minute period. [N.J.A.C. 7:27- 3.2(a)]	Other: Periodic visual inspections.[N.J.A.C. 7:27- 3.2(a)].	None.	None.
2	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 review of fuel delivery records per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by fuel certification receipts per delivery , manual logging of % Sulfur per delivery in a permanently bound log book or readily accessible computer memories. [N.J.A.C. 7:27-22.16(o)]	None.
3	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.
4	The owner or operator of a 2007 model year CI ICE with a displacement of < 10 liters per cylinder and a maximum engine power < 11 HP (< 8 kW) must comply with the certification emissions standards in 40 CFR 89.112 and smoke standards in 40 CFR 89.113 for the same year and maximum engine power as follows: NMHC + NOx <= 5.6 g/HP-hr, CO <= 6.0 g/HP-hr, PM <= 0.60 g/HP-hr. [Permit evaluators should convert units, as appropriate]. [40 CFR 60.4204(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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	The owner or operator of a 2007 model year CI ICE with a displacement of < 10 liters per cylinder and a maximum engine power $11 \leq \text{HP} < 25$ ($8 \leq \text{kW} < 19$) must comply with the certification emissions standards in 40 CFR 89.112 and smoke standards in 40 CFR 89.113 for the same year and maximum engine power as follows: NMHC + NO _x ≤ 5.6 g/HP-hr, CO ≤ 4.9 g/HP-hr, PM ≤ 0.60 g/HP-hr. [Permit evaluators should convert units, as appropriate]. [40 CFR 60.4204(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.
6	The owner or operator of a 2007 model year CI ICE with a displacement of < 10 liters per cylinder and a maximum engine power $25 \leq \text{HP} < 50$ ($19 \leq \text{kW} < 37$) must comply with the certification emissions standards in 40 CFR 89.112 and smoke standards in 40 CFR 89.113 for the same year and maximum engine power as follows: NMHC + NO _x ≤ 5.6 g/HP-hr, CO ≤ 4.1 g/HP-hr, PM ≤ 0.44 g/HP-hr. [Permit evaluators should convert units, as appropriate]. [40 CFR 60.4204(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.
7	The owner or operator of a 2008 model year and later CI ICE with a displacement of < 10 liters per cylinder and a maximum engine power less than 11 HP (< 11.8 kW) must comply with the certification emissions standards in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104 (interim provisions), 40 CFR 1039.105 (smoke standards), 40 CFR 1039.107, and 40 CFR 1039.115, for the same year and maximum engine power as follows: NMHC + NO _x ≤ 5.6 g/HP-hr, CO ≤ 6.0 g/HP-hr, PM ≤ 0.30 g/HP-hr. [Permit evaluators should convert units, as appropriate]. [40 CFR 60.4204(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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	The owner or operator of a 2008 model year and later CI ICE with a displacement of < 10 liters per cylinder and a maximum engine power $11 \leq \text{HP} < 25$ ($8 \leq \text{kW} < 19$) must comply with the certification emissions standards in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104 (interim provisions), 40 CFR 1039.105 (smoke standards), 40 CFR 1039.107, and 40 CFR 1039.115, for the same year and maximum engine power as follows: NMHC + NO _x ≤ 5.6 g/HP-hr, CO ≤ 4.9 g/HP-hr, PM ≤ 0.30 g/HP-hr. [Permit evaluators should convert units, as appropriate]. [40 CFR 60.4204(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.
9	The owner or operator of a 2008 through 2012 model year CI ICE with a displacement of < 10 liters per cylinder and a maximum engine power $25 \leq \text{HP} < 50$ ($19 \leq \text{kW} < 37$) must comply with the certification emissions standards in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104 (interim provisions), 40 CFR 1039.105 (smoke standards), 40 CFR 1039.107, and 40 CFR 1039.115, for the same year and maximum engine power as follows: NMHC + NO _x ≤ 5.6 g/HP-hr, CO ≤ 4.1 g/HP-hr, PM ≤ 0.22 g/HP-hr. [Permit evaluators should convert units, as appropriate]. [40 CFR 60.4204(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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	The owner or operator of a 2013 model year and later CI ICE with a displacement of < 10 liters per cylinder and a maximum engine power $25 \leq \text{HP} < 50$ ($19 \leq \text{kW} < 37$) must comply with the certification emissions standards in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104 (interim provisions), 40 CFR 1039.105 (smoke standards), 40 CFR 1039.107, and 40 CFR 1039.115, for the same year and maximum engine power as follows: NMHC + NO _x ≤ 3.5 g/HP-hr, CO ≤ 4.1 g/HP-hr, PM ≤ 0.02 g/HP-hr. [Permit evaluators should convert units, as appropriate]. [40 CFR 60.4204(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.
11	The owner or operator of a stationary non-emergency CI internal combustion engine which was modified or reconstructed after July 11, 2005 must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in 40 CFR 60.4204(a) through (d). [40 CFR 60.4204(e)]	Other: The owner or operator must demonstrate compliance by purchasing, or otherwise owning or operating, an engine certified to the emission standards in 40 CFR 60.4204(e) OR conducting an initial performance test to demonstrate compliance with the emission standards in 40 CFR 60.4204(e) according to the requirements specified in 40 CFR 60.4212 or 40 CFR 60.4213, as applicable. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction. [40 CFR 60.4211(e)].	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 OR The owner or operator must keep records, for the life of the equipment, of the initial performance test results. [40 CFR 60.4211(e)].	None.
12	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 over the entire life of the engine. [40 CFR 60.4206]	None.	Other: The owner or operator shall keep the 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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	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 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 fuel 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, or certificate of analysis. [N.J.A.C. 7:27:22.16(o)] or [N.J.A.C. 7:27- 8.13(a)]	Recordkeeping by invoices / bills of lading / certificate of analysis once per bulk fuel shipment. The owner or operator shall keep records of fuel used 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.
14	Owners and operators of a 2007 and later model year stationary CI internal combustion engines must follow the deadline for installing or importing CI ICE produced in the previous model year as specified in 40 CFR 60.4208(a) through (g), except for engines that have been modified or reconstructed, and except for engines that were removed from one existing location and reinstalled at a new location. [40 CFR 60.4208]	None.	None.	None.
15	Owners and operators of a stationary CI internal combustion engine equipped with a diesel particulate filter must install a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [40 CFR 60.4209(b)]	Monitored by pressure measurement device continuously. The backpressure monitor must alert the operator when the diesel particulate filter requires service. The service monitor should be mounted in a location that is clearly visible to the operator during operation. [40 CFR 60.4209(b)]	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. The owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached. [40 CFR 60.4214(c)]	None.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
16	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 (General Compliance Provisions), 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.
17	The owner or operator of a pre-2007 model year engine which was manufactured after April 1, 2006 that must comply with the emissions standards in 40 CFR 60.4204(a), must demonstrate compliance by purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, 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(b)(1)]	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(b)(1)].	None.
18	The owner or operator of a pre-2007 model year engine which was manufactured after April 1, 2006 that must comply with emissions standards in 40 CFR 60.4204(a), must demonstrate compliance by keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in Table 7 to Subpart IIII 40 CFR 60 and these methods must have been followed correctly. [40 CFR 60.4211(b)(2)]	None.	Other: The owner or operator must keep records, for the life of the equipment, of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in Table 7 to NSPS IIII and these methods must have been followed correctly. [40 CFR 60.4211(b)(2)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	The owner or operator of a pre-2007 model year engine which was manufactured after April 1, 2006 that must comply with emissions standards in 40 CFR 60.4204(a), must demonstrate compliance by keeping records of engine manufacturer data indicating compliance with the standards. [40 CFR 60.4211(b)(3)]	None.	Other: The owner or operator must keep records, for the life of the equipment, of engine manufacturer data indicating compliance with the applicable standards. [40 CFR 60.4211(b)(3)].	None.
20	The owner or operator of a pre-2007 model year engine which was manufactured after April 1, 2006 that must comply with emissions standards in 40 CFR 60.4204(a), must demonstrate compliance by keeping records of control device vendor data indicating compliance with the standards. [40 CFR 60.4211(b)(4)]	None.	Other: The owner or operator must keep records, for the life of the equipment, of control device vendor data indicating compliance with the standards. [40 CFR 60.4211(b)(4)].	None.
21	The owner or operator of a pre-2007 model year engine which was manufactured after April 1, 2006 that must comply with emissions standards in 40 CFR 60.4204(a), must demonstrate compliance by conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR 60.4212, as applicable. [40 CFR 60.4211(b)(5)]	Monitored by stack emission testing once initially. The owner or operator must conduct an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR 60.4212, as applicable. The performance test must be conducted according to the in-use testing procedures in 40 CFR 1039, subpart F. Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines may follow the testing procedures specified in 40 CFR 60.4213, as appropriate. [40 CFR 60.4212]	Other: The owner or operator must keep records, for the life of the equipment, of the initial performance test results. [40 CFR 60.4211(b)(5)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	The owner or operator of a 2007 model year and later stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder complying with the emission standards specified in 40 CFR 60.4204(b), must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4204(b) as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications. If the owner/operator does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or you change emission related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as prescribed in 40 CFR 60.4211(g). [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.

BOP190002

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

Subject Item: IS4 Non-applicable VOC (<0.02 psia) storage tanks with capacities >10,000 gallons

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The operating temperature shall not be greater than 350 degrees F. [N.J.A.C. 7:27-22.1]	None.	None.	None.
2	The vapor pressure of the liquid, excluding the vapor pressure of water, shall be less than 0.02 psia at the liquid's actual temperature or at 70 degrees F, whichever is higher. [N.J.A.C. 7:27-22.1]	None.	None.	None.
3	The tank shall have no visible emissions, exclusive of water vapor, to the outdoor atmosphere. [N.J.A.C. 7:27-22.1]	None.	None.	None.
4	The tank shall not emit any air contaminants which may cause an odor detectable outside the property boundaries of the facility. [N.J.A.C. 7:27-22.1]	None.	None.	None.
5	The tank's potential to emit each TXS and each HAP shall not exceed the de minimis reporting thresholds as specified in N.J.A.C. 7:27-22, Appendix, Table B. [N.J.A.C. 7:27-22.1]	None.	None.	None.
6	The percentage by weight of all HAPs collectively in the raw material stored in the tank shall be less than 1.0 percent. [N.J.A.C. 7:27-22.1]	None.	None.	None.
7	The owner or operator shall have readily available upon Department request a statement certified in accordance with N.J.A.C. 7:27-1.39, signed by the responsible official, as defined at N.J.A.C. 7:27-1.4, that: (1) specifies the contents of the tank; (2) affirms that the tank meets the applicable requirements of Ref. #1 to #6 above and (3) attests that the tank is in compliance with all other applicable State or federal air pollution requirements. [N.J.A.C. 7:27-22.1]	None.	None.	None.

BOP190002

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

Subject Item: IS5 Surface/Parts cleaners < 6 SQFT, capacity <100 gallons

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Surface Cleaner shall be covered by a lid that protects the VOC vapors from drafts and diffusion when tank is not in active use [N.J.A.C. 7:27-16.6(b)]	Other: Ensure that the surface cleaner is covered with a lid when cleaner is not in use.[N.J.A.C. 7:27-16.6(b)].	None.	None.
2	Solvent must contain less than 5% by weight of any combination of methylene chloride, perchloroethylene, 1,1,1-trichloroethane, carbon tetrachloride and chloroform. [40 CFR 63.460]	Other: Monitored by formulation data. At the time of filling, confirm by MSDS or bill of lading[40 CFR 63.460(a)].	Other: Recordkeeping by invoices/bills of lading at the approved frequency (per filling, showing materials being delivered).[N.J.A.C. 7:27-22.16(o)].	None.

BOP190002

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

Subject Item: GR11 Unit 1 & 2 Combustion Turbines and Cooling Towers

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	VOC (Total) <= 137.7 tons/yr. Annual emission limit for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	<p>VOC (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis) VOC (tons per month) = [MMBtu of natural gas burned per month in all Unit No. 1 four turbines per operating scenario (OS) x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of natural gas burned per month in all Unit No. 2 two turbines per OS x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of ULSD burned per month in all Unit No. 1 four turbines per OS x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [MMBtu of ULSD burned per month in all Unit No. 2 two turbines per OS x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [(lb/hr VOC x monthly hours of operation of cooling tower 1B) + (lb/hr VOC x monthly hours of operation of cooling tower 1A) + (lb/hr VOC x monthly hours of operation of cooling tower 2) x 1.0 ton/2000 lbs]].</p> <p>VOC tons/year = is computed by adding the VOC tons/month for a given month to the VOC in tons in the preceding 11 months. MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor shall be computed based on lbs/hr VOC allowable limit, divided by maximum heat input (at HHV) or most recent stack test result per module for Unit No. 1 and Unit No. 2, respectively, firing natural gas and ULSD for each operating scenario. [N.J.A.C. 7:27-22.16(o)]</p>	Other: Manual logging of parameter in a permanently bound log book or readily accessible computer memories each month during operation. Reports should show tons per month and sum to date.[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
2	NOx (Total) <= 1,216 tons/yr. Annual emission limit for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	<p>NOx (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis)</p> <p>NOx (tons per month) = [MMBtu of natural gas burned per month in all Unit No. 1 four turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of natural gas burned per month in all Unit No. 2 two turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of ULSD burned per month in all Unit No. 1 four turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [MMBtu of ULSD burned per month in all Unit No. 2 two turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs].</p> <p>NOx tons/year = is computed by adding the NOx tons/month for a given month to the NOx in tons in the preceding 11 months.</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor shall be computed based on lbs/hr NOx allowable limit divided by maximum heat input (at HHV) or most recent stack test result per module for Unit No. 1 and Unit No. 2, respectively, firing natural gas and ULSD for each operating scenario.</p> <p>Cumulative annual mass emissions derived from CEMs data may be used to demonstrate compliance with the maximum annual emission limits specified in this permit, provided the Department reviews and approves the calculation procedure. [N.J.A.C. 7:27-22.16(o)]</p>	Other: Manual logging of parameter in a permanently bound log book or readily accessible computer memories each month during operation. Reports should show tons per month and sum to date.[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
3	CO <= 374.6 tons/yr. Annual emission limit for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	<p>CO: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis) CO (tons per month)= [MMBtu of natural gas burned per month in all Unit No. 1 four turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of natural gas burned per month in all Unit No. 2 two turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of ULSD burned per month in all Unit No. 1 four turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [MMBtu of ULSD burned per month in all Unit No. 2 two turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs].</p> <p>CO tons/year = is computed by adding the CO tons/month for a given month to the CO in tons in the preceding 11 months.</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor shall be computed based on lbs/hr CO allowable limit divided by maximum heat input (at HHV) or most recent stack test result per module for Unit No. 1 and Unit No. 2, respectively, firing natural gas and ULSD for each operating scenario.</p> <p>Cumulative annual mass emissions derived from CEMS data may be used to demonstrate compliance with the maximum annual emission limits specified in this permit, provided the Department reviews and approves the calculation procedure. [N.J.A.C. 7:27-22.16(o)]</p>	Other: Manual logging of parameter in a permanently bound log book or readily accessible computer memories each month during operation. Reports should show tons per month and sum to date.[N.J.A.C. 7:27-22.16(e)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	SO ₂ ≤ 32 tons/yr. Annual emission limit for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	<p>SO₂: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis)</p> <p>SO₂ (tons per month)= [MMBtu of natural gas burned per month in all Unit No. 1 four turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of natural gas burned per month in all Unit No. 2 two turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of ULSD burned per month in all Unit No. 1 four turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [MMBtu of ULSD burned per month in all Unit No. 2 two turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs].</p> <p>SO₂ tons/year = is computed by adding the SO₂ tons/month for a given month to the SO₂ in tons in the preceding 11 months.</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor shall be computed based on lbs/hr SO₂ allowable limit divided by maximum heat input (at HHV) or most recent stack test result per module for Unit No. 1 and Unit No. 2, respectively, firing natural gas and ULSD for each operating scenario. [N.J.A.C. 7:27-22.16(e)]</p>	Other: Manual logging of parameter in a permanently bound log book or readily accessible computer memories each month during operation. Reports should show tons per month and sum to date.[N.J.A.C. 7:27-22.16(e)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	TSP <= 190.4 tons/yr. Annual emission limit for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	<p>TSP: Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis) TSP (tons per month)= [[MMBtu of natural gas burned per month in all Unit No. 1 four turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of natural gas burned per month in all Unit No. 2 two turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of ULSD burned per month in all Unit No. 1 four turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [MMBtu of ULSD burned per month in all Unit No. 2 two turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [[lb/hr TSP x monthly hours of operation of cooling tower 1B] + [lb/hr TSP x monthly hours of operation of cooling tower 1A] + [lb/hr TSP x monthly hours of operation of cooling tower 2]] x 1.0 ton/2000 lbs].</p> <p>TSP tons/year = is computed by adding the TSP tons/month for a given month to the TSP in tons in the preceding 11 months.</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor shall be computed based on lbs/hr TSP allowable limit divided by maximum heat input (at HHV) or most recent stack test result per module for Unit No. 1 and Unit No. 2, respectively, firing natural gas and ULSD for each operating scenario. [N.J.A.C. 7:27-22.16(e)]</p>	Other: Manual logging of parameter in a permanently bound log book or readily accessible computer memories each month during operation. Reports should show tons per month and sum to date.[N.J.A.C. 7:27-22.16(e)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	PM-10 (Total) <= 253.3 tons/yr. Annual emission limit for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	<p>PM-10 (Total): Monitored by calculations each month during operation, based on a consecutive 12 month period (rolling 1 month basis)</p> <p>PM10 (tons per month) = [[MMBtu of natural gas burned per month in all Unit No. 1 four turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of natural gas burned per month in all Unit No. 2 two turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of ULSD burned per month in all Unit No. 1 four turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [MMBtu of ULSD burned per month in all Unit No. 2 two turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [[lb/hr PM10 x monthly hours of operation of cooling tower 1B] + [lb/hr PM10 x monthly hours of operation of cooling tower 1A] + [lb/hr PM10 x monthly hours of operation of cooling tower 2] x 1.0 ton/2000 lbs]].</p> <p>PM10 tons/year = is computed by adding the PM10 tons/month for a given month to the PM10 in tons in the preceding 11 months.</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor shall be computed based on lbs/hr PM10 allowable limit divided by maximum heat input (at HHV) or most recent stack test result per module for Unit No. 1 and Unit No. 2, respectively, firing natural gas and ULSD for each operating scenario. [N.J.A.C. 7:27-22.16(o)]</p>	Other: Manual logging of parameter in a permanently bound log book or readily accessible computer memories each month during operation. Reports should show tons per month and sum to date.[N.J.A.C. 7:27-22.16(e)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	PM-2.5 (Total) <= 253.3 tons/yr. Annual emission limit for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [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>PM-2.5 (tons per month) = [[MMBtu of natural gas burned per month in all Unit No. 1 four turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of natural gas burned per month in all Unit No. 2 two turbines per operating scenario x lbs/MMBtu emission factor x 1.0 ton/2000lbs] + [MMBtu of ULSD burned per month in all Unit No. 1 four turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [MMBtu of ULSD burned per month in all Unit No. 2 two turbines per operating scenario x lb/MMBtu emission factor x 1.0 ton/2000 lbs] + [[lb/hr PM2.5 x monthly hours of operation of cooling tower 1B] + [lb/hr PM2.5x monthly hours of operation of cooling tower 1A]+ [lb/hr PM2.5 x monthly hours of operation of cooling tower 2] x 1.0 ton/2000 lbs]].</p> <p>PM2.5 tons/year = is computed by adding the PM2.5 tons/month for a given month to the PM2.5 in tons in the preceding 11 months.</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor shall be computed based on lbs/hr PM-2.5 allowable limit divided by maximum heat input (at HHV) or most recent stack test result for PM10 per module for Unit No. 1 and Unit No. 2, respectively, firing natural gas and ULSD for each operating scenario.</p> <p>[N.J.A.C. 7:27-22.16(o)]</p>	Other: Manual logging of parameter in a permanently bound log book or readily accessible computer memories each month during operation. Reports should show tons per month and sum to date.[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	Acetaldehyde <= 1.13 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	Acrolein <= 0.181 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
10	Arsenic compounds <= 0.021 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	Ammonia <= 215 tons/yr Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
12	Benzene <= 0.45 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	Beryllium Emissions <= 0.001 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Butadiene (1,3-) <= 0.043 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
15	Cadmium compounds <= 0.0091 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
16	Ethylbenzene <= 0.91 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
17	Formaldehyde <= 20.7 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
18	Hexane (n-) <= 1.45 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	Total Dioxins and Furans ≤ 0.000007 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2) [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
20	Methane ≤ 5.2 tons/yr Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
21	Lead compounds ≤ 0.042 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
22	Manganese compounds ≤ 0.42 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
23	Mercury compounds ≤ 0.0144 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
24	1-Methylnaphthalene ≤ 0.003 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2) [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
25	2-Methylnaphthalene<=0.0055 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2) [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
26	Naphthalene <= 0.104 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
27	Nickel Emissions <= 0.053 tons/yr Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
28	Polynuclear aromatic hydrocarbons (PAHs) <= 0.14 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
29	Polycyclic organic matter <= 0.14 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [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
30	Propylene oxide <= 0.821 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
31	Sulfuric Acid Mist Emissions <= 5.3 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
32	Toluene <= 3.68 tons/yr. Annual emission limit based on maximum annual fuel use. Annual emission limit is for six combined cycle stationary gas turbines (4 turbines of Unit 1, and 2 turbines of Unit 2 and Two Duct Burners for Unit 2). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
33	Maximum Gross Heat Input: Gross annual heat input for Units 1 & 2 (combined operation: total for six modules) is 7.28E13 Btu/any 365 days at high heat value (HHV). The heat input (BTU) per 365 consecutive days shall be calculated by the sum of the heat input (BTU) during any one day added to the sum of the heat input (BTU) during the preceding 364 days. However the maximum gross annual heat input for Units 1 & 2 (combined operation: total for six modules) based on maximum annual fuel use limit from preconstruction permit is 5.66E13 Btu/yr at HHV in any calendar year. [N.J.A.C. 7:27-22.16(a)]	Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis) and calculations. The Btu/yr limit shall be monitored by fuel flow/firing rate instrument continuously, based on one calendar year and calculations. [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.

BOP190002

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

Subject Item: GR12 Unit1 Firing NG

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Smoke emissions from stationary turbine engines no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. Opacity \leq 20 %. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Maximum annual gross heat input limit during Emergency Minimum Load (EML) for Unit 1 is 4.07E12 BTU/any period of consecutive 365 days @ high heat value. The heat input (BTU) per any 365 consecutive days period shall be calculated by the sum of the heat input (BTU) during any one day added to the sum of the heat input (BTU) during the preceding 364 days. [N.J.A.C. 7:27-22.16(a)]	Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis) and calculations. BTU/yr shall be based on actual annual fuel usage @ high heat value (HHV). The permittee shall install and operate a running gas use-totalizing meter on each turbine to monitor the consumption of natural gas, per turbine, in any 365 consecutive days period. The running gas meter shall be installed, operated, and calibrated according to manufacturer's recommendations. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Compliance shall be determined based on any 365 consecutive days period. Heat input per any 365 consecutive days period shall be calculated by the sum of the heat input calculated during any one day added to the sum of the heat input calculated during the preceding 364 days. CUFT of natural gas/day x high heating value (HHV) = BTU/day. Daily heat input shall be calculated as the sum of hourly values recorded for this day. This procedure will begin with the first day following the final issuance of the Operating permit. This accounting will not include heat input prior to the approval of the Operating Permit. Compliance with Btu/yr limit shall be determined based on one calendar year. [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
3	Maximum annual gross heat input limit for Unit 1 from preconstruction permit is 4.12E13 BTU/any period of consecutive 365 days for Unit 1 total @ high heat value (HHV). The heat input (BTU) per 365 consecutive days shall be calculated by the sum of the heat input (BTU) during any one day added to the sum of the heat input (BTU) during the preceding 364 days. [N.J.A.C. 7:27-22.16(a)]	Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis) and calculations. BTU/yr shall be based on actual annual fuel usage @ high heat value (HHV). The permittee shall install and operate a running gas use-totallizing meter on each turbine to monitor the consumption of natural gas, per turbine, in any 365 consecutive days period. The running gas meter shall be installed, operated, and calibrated according to manufacturer's recommendations. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Compliance with Btu/365 day limit shall be determined based on any 365 consecutive day period. Heat input per any 365 consecutive days period shall be calculated by the sum of the heat input calculated during any one day added to the sum of the heat input calculated during the preceding 364 days. CUFT of natural gas/day x high heating value (HHV) = BTU/day. Daily heat input shall be calculated as the sum of hourly values recorded for this day. This procedure will begin with the first day following the final issuance of the Operating permit. Compliance with Btu/yr limit shall be determined based on one calendar year. [N.J.A.C. 7:27-22.16(o)]	None.

BOP190002

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

Subject Item: GR13 Unit 1 Firing DO

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Opacity <= 20 %. No person shall cause, suffer, allow or permit smoke the shade or appearance of which is greater than 20 percent opacity, exclusive of visible condensed water vapor, to be emitted into the outdoor air from the combustion of fuel in any stationary internal combustion engine or any stationary turbine engine for a period of more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]</p>	<p>Other: Periodic Visual Observations. Once every 100 hours of oil firing operation. A certified observer shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. Submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Bureau of Technical Services, within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.[N.J.A.C. 7:27-22.16(o)].</p>	<p>Other: Manual logging of visual observations in a permanently bound logbook once every 100 hours of oil firing operation. The permittee shall record the date and time when visible emissions are observed during operation of the four (4) modules under the operating conditions soecified in this section. All records shall be kept on-site for at least five (5) years, and readily made available to the Department upon request.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.[N.J.A.C. 7:27-22.16(o)].</p>	<p>Submit an equipment protocol: As per the approved schedule , if actual distillate oil operation exceeds 500 hours, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Bureau of Technical Services, within 90 days of exceeding the 500 hour threshold.</p> <p>Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements. [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	Sulfur Content in Fuel <= 15 ppmw (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 showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by fuel certification receipts per delivery , manual logging of % Sulfur per delivery in a permanently bound log book or readily accessible computer memories. [N.J.A.C. 7:27-22.16(o)]	None.
3	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.
4	Sulfur Content in Fuel <= 0.0015 % sulfur by weight. Maximum allowable sulfur content in distillate fuel oil. Only ultra low sulfur distillate fuel oil (ULSD) with a maximum sulfur content of 0.0015% sulfur may be added to the distillate oil storage tank(s) in IS1 and/or IS4 supplying fuel oil to Emission Unit U1 (Unit No. 1&2) turbines . [N.J.A.C. 7:27-22.16(e)]	Sulfur Content in Fuel: Monitored by grab sampling once per bulk fuel shipment. [N.J.A.C. 7:27-22.16(e)]	Sulfur Content in Fuel: Recordkeeping by fuel certification receipts per delivery , manual logging of % sulfur per delivery in a permanently bound log book or readily accessible computer memories. [N.J.A.C. 7:27-22.16(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	Maximum annual gross heat input limit for Unit 1 is 3.03 E12 BTU/any period of consecutive 365 days for Unit 1 @ high heat value (HHV). The heat input (BTU) per 365 consecutive days period shall be calculated by the sum of the heat input (BTU) during any one day added to the sum of the heat input (BTU) during the preceding 364 days. [N.J.A.C. 7:27-22.16(a)]	Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis) and calculations. BTU/yr shall be based on actual annual fuel usage @ high heat value (HHV). The permittee shall install and operate a running low sulfur distillate fuel oil use-totalizing meter on each turbine to monitor the consumption of fuel, per turbine, in any 365 consecutive days period. The running fuel meter shall be installed, operated, and calibrated according to manufacturer's recommendations. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Compliance shall be determined based on a 365 consecutive days period. Heat input per 365 consecutive days shall be calculated by the sum of the heat input calculated during any one day added to the sum of the heat input calculated during the preceding 364 days. Gallons of distillate oil/day x high heating value (HHV) = BTU/day. Daily heat input shall be calculated as the sum of hourly values recorded for this day. This procedure will begin with the first day following the final issuance of the Operating permit. This accounting will not include heat input prior to the approval of the Operating Permit. Compliance with Btu/yr limit shall be determined based on one calendar year. [N.J.A.C. 7:27-22.16(o)]	None.
6	Hours of Operation <= 2,200 hours. The total number of operating hours of all of the four (4) combustion turbines E1, E2, E3, E4 of Unit No. 1 added together shall not exceed 2,200 hours per calendar year when operating on ULSD oil. [N.J.A.C. 7:27-22.16(e)]	Hours of Operation: Monitored by hour/time monitor continuously, based on an instantaneous determination. [N.J.A.C. 7:27-22.16(e)]	Other: Hours of Operation: Recordkeeping by strip chart, round chart or data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	Maximum Gross Heat Input: Maximum annual gross heat input limit during Emergency Minimum Load (EML) while firing ULSD oil for Unit 1 is 3.03E12 BTU/any period of consecutive 365 days for Unit 1 @ high heat value. The heat input (BTU) per 365 consecutive days period shall be calculated by the sum of the heat input (BTU) during any one day added to the sum of the heat input (BTU) during the preceding 364 days. [N.J.A.C. 7:27-22.16(a)]	Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis) and calculations. BTU/yr shall be based on actual annual fuel usage @ high heat value (HHV). The permittee shall install and operate a running fuel use-totalizing meter on each turbine to monitor the consumption of fuel, per turbine, in any 365 consecutive days period. The running fuel meter shall be installed, operated, and calibrated according to manufacturer's recommendations. [N.J.A.C. 7:27-22.16(o)]	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Compliance with Btu/365 day limit shall be determined based on any 365 consecutive day period. Heat input per any 365 consecutive days period shall be calculated by the sum of the heat input calculated during any one day added to the sum of the heat input calculated during the preceding 364 days. Gallons of distillate oil/day x high heating value (HHV) = BTU/day. Daily heat input shall be calculated as the sum of hourly values recorded for this day. This procedure will begin with the first day following the final issuance of the Operating permit. Compliance with Btu/yr limit shall be determined based on one calendar year. [N.J.A.C. 7:27-22.16(o)]	None.

BOP190002

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

Subject Item: GR14 Unit 2 Turbines Firing Natural Gas Only

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Smoke emissions from stationary turbine engines no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. Opacity \leq 20 %. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Maximum Gross Heat Input: Maximum annual gross heat input limit for Unit 2 is 3.16E13 BTU/any period of consecutive 365 days for Unit 2 total @ high heat value (HHV). The heat input (BTU) per 365 consecutive days period shall be calculated by the sum of the heat input (BTU) during any one day added to the sum of the heat input (BTU) during the preceding 364 days. [N.J.A.C. 7:27-22.16(a)]	Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis) and calculations. The permittee shall install and operate a running gas use-totallizing meter on each turbine to monitor the consumption of natural gas, per turbine, in any 365 consecutive days period. The running gas meter shall be installed, operated, and calibrated according to manufacturer's recommendations. [N.J.A.C. 7:27-22.16(o)]	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Compliance with Btu/365 day limit shall be determined based on any 365 consecutive day period. Heat input per any 365 consecutive days period shall be calculated by the sum of the heat input calculated during any one day added to the sum of the heat input calculated during the preceding 364 days. CUFT of natural gas/day x high heating value (HHV) = BTU/day. Daily heat input shall be calculated as the sum of hourly values recorded for this day. This procedure will begin with the first day following the final issuance of the Operating permit. Compliance with Btu/yr limit shall be determined based on one calendar year. [N.J.A.C. 7:27-22.16(o)]	None.

BOP190002

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

Subject Item: GR15 Unit 2 Turbines Firing Distillate Oil Only

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Opacity <= 20 %.</p> <p>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]</p>	<p>Other: Periodic Visual Observations. Once every 100 hours of oil firing operation. A certified observer shall conduct visual observations once every 100 hours of oil firing operation using NJ Test Method 2.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.</p> <p>Installation and operation of a continuous opacity monitor on a given turbine is required if actual distillate oil operation exceeds 500 hours in a calendar year. Submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Bureau of Technical Services, within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements.[N.J.A.C. 7:27-22.16(e)].</p>	<p>Other: Manual logging of visual observations in a permanently bound logbook once every 100 hours of oil firing operation. The permittee shall record the date and time when visible emissions are observed during operation of the four (4) modules under the operating conditions soecified in this section. All records shall be kept on-site for at least five (5) years, and readily made available to the Department upon request.</p> <p>Monitoring and recordkeeping may occur at a lesser frequency if circumstances prohibit conducting a visual determination (e.g., nighttime operation, weather conditions, unplanned dispatching, etc.) within the 100-hour timeframe. However, in no case shall the interval between visual determinations exceed 125 hours of oil firing operation. If the visual observation occurs at a lesser frequency than every 100 hours of oil firing operation, the reason for monitoring at the lesser frequency shall also be recorded.[N.J.A.C. 7:27-22.16(o)].</p>	<p>Other (provide description): As per the approved schedule , if actual distillate oil operation exceeds 500 hours, submit a monitoring protocol, pursuant to N.J.A.C.7:27-22.18(a), to the Bureau of Technical Services, within 90 days of exceeding the 500 hour threshold.</p> <p>Installation and operation of the monitor is required within 180 days of exceeding the 500-hour threshold. Refer to N.J.A.C.7:27-22.18 and 19 for other applicable requirements. [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	Sulfur Content in Fuel \leq 15 ppmw (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 showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by fuel certification receipts per delivery, manual logging of % Sulfur per delivery in a permanently bound log book or readily accessible computer memories. [N.J.A.C. 7:27-22.16(o)]	None.
3	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.
4	<p>Maximum Gross Heat Input: Maximum annual gross heat input limit based on maximum fuel use is 1.322E12 Btu/any consecutive 365 days period for the Unit 2 turbines. Fuel consumption per any 365 consecutive days period shall be calculated by the sum of the fuel consumed during any one day added to the sum of the fuel consumed during the preceding 364 days.</p> <p>However, the maximum annual gross heat input limit for the Unit 2 turbines, from preconstruction permit, shall not exceed 7.72E11 BTU/yr based on one calendar year @ high heat value. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis) and calculations. BTU/yr shall be based on actual annual fuel usage @ high heat value (HHV). The permittee shall install and operate a running distillate fuel oil use-totalizing meter on each turbine to monitor the consumption of fuel, per turbine, in any 365 consecutive days period. The running fuel meter shall be installed, operated, and calibrated according to manufacturer's recommendations.</p> <p>The Btu/yr limit shall be monitored by fuel flow/firing rate instrument continuously, based on one calendar year and calculations. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Compliance with Btu/365 day limit shall be determined based on any 365 consecutive day period. Heat input per any 365 consecutive days period shall be calculated by the sum of the heat input calculated during any one day added to the sum of the heat input calculated during the preceding 364 days. Gallons of distillate oil/day x high heating value (HHV) = BTU/day. Daily heat input shall be calculated as the sum of hourly values recorded for this day. This procedure will begin with the first day following the final issuance of the Operating permit.</p> <p>Compliance with Btu/yr limit shall be determined based on one calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	None.
5	Sulfur Content in Fuel \leq 0.0015 weight %. Only ultra low sulfur distillate fuel oil (ULSD) with a maximum sulfur content of 0.0015% sulfur may be added to the distillate oil storage tank supplying fuel oil to Emission Unit U1 (Unit No. 1&2) turbine. [N.J.A.C. 7:27-22.16(a)]	Sulfur Content in Fuel: Monitored by grab sampling once per bulk fuel shipment. [N.J.A.C. 7:27-22.16(e)]	Sulfur Content in Fuel: Recordkeeping by fuel certification receipts per delivery, manual logging of % sulfur per delivery in a permanently bound log book or readily accessible computer memories. [N.J.A.C. 7:27-22.16(e)]	None.

BOP190002

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

Subject Item: GR16 Unit 2 Turbines Firing Natural Gas with Duct Burners

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 % No person shall cause, suffer, allow or permit smoke the shade or appearance of which is greater than 20 percent opacity, exclusive of visible condensed water vapor, to be emitted into the outdoor air from the combustion of fuel in any stationary internal combustion engine or any stationary turbine engine for a period of more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Maximum Gross Heat Input: Maximum annual gross heat input limit for each Unit 2 duct burner from preconstruction permit is 9.57E12 BTU/any period of consecutive 365 days @ high heat value (HHV). The heat input (BTU) per 365 consecutive days shall be calculated by the sum of the heat input (BTU) during any one day added to the sum of the heat input (BTU) during the preceding 364 days. [N.J.A.C. 7:27-22.16(a)]	<p>Maximum Gross Heat Input: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis) and calculations. BTU/yr shall be based on actual annual fuel usage @ high heat value (HHV). The permittee shall install and operate a running gas use-totalizing meter on each turbine to monitor the consumption of natural gas, per turbine, in any 365 consecutive days period. The running gas meter shall be installed, operated, and calibrated according to manufacturer's recommendations.</p> <p>The Btu/yr limit shall be monitored by fuel flow/firing rate instrument continuously, based on one calendar year and calculations. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Compliance with Btu/365 day limit shall be determined based on any 365 consecutive day period. Heat input per any 365 consecutive days period shall be calculated by the sum of the heat input calculated during any one day added to the sum of the heat input calculated during the preceding 364 days. CUFT of natural gas/day x high heating value (HHV) = BTU/day. Daily heat input shall be calculated as the sum of hourly values recorded for this day. This procedure will begin with the first day following the final issuance of the Operating permit.</p> <p>Compliance with Btu/yr limit shall be determined based on one calendar year. [N.J.A.C. 7:27-22.16(o)]</p>	None.

BOP190002

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

Subject Item: GR101 U1 Unit 2 Advanced Gas Path and OpFlex Advantage Peak Operation (OS53-OS54)

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>This Group (GR101) contains conditions for operating scenario OS53 for Module 2101 and operating scenario OS54 for Module 2201.</p> <p>The conditions of this group (GR101) are applicable to each of the operating scenarios, OS53 and OS54, for Modules 2101 and 2201, respectively, each combusting natural gas and operating with OpFlex Peak Advantage software. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.
2	<p>This group is applicable to U1, Unit No. 2, Modules 2101 and 2201 only.</p> <p>The emission limits for all pollutants are as given in GR11 (U1 Unit 1 & 2 Combustion Turbines and Cooling Tower), GR14 (U1 Unit 2 Turbines Firing Natural Gas Only) when combusting natural gas without duct burners, GR16 (U1 Unit 2 Turbines Firing Natural Gas with Duct Burners) when combusting natural gas with duct burners. Additional details for stack testing and emission limits can be found in U1 OS37 and OS38 for natural gas without duct firing, and U1 OS41 and OS42 for natural gas with duct firing. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.
3	Hours of Operation <= 300 hr/yr , per module, while operating OpFlex Peak Advantage software. [N.J.A.C. 7:27-22.16(a)]	Hours of Operation: Monitored by hour/time monitor continuously, based on an instantaneous determination. [N.J.A.C. 7:27-22.16(o)]	Hours of Operation: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event or data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
4	The combustion turbines may only operate OpFlex Advantage Peak when firing natural gas. [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
5	VOC (Total): Commencing with the beginning of the first full calendar year after final permit approval (BOP130002) at Unit No. 2 (emission unit U1, Modules 2101 and 2201) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual VOC emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(a) [40 CFR 52.21(r)(6)(iii)]	VOC (Total): Monitored by calculations annually, based on one calendar year VOC (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs] MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D. Lbs/MMBtu emission factor shall be computed based on the most recent stack test results per module for Unit No. 2, firing natural gas. [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 annually. PSEG Fossil shall calculate and maintain a record of the actual annual VOC emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(a), &. [40 CFR 52.21(r)(6)(iii)]	Submit a report: As per the approved schedule as follows: If the future actual annual emissions of VOC, in tons per year, exceed the baseline actual emissions of 0.11 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 40 tons per year for ozone), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP130002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(a), &. [40 CFR 52.21(r)(6)]
6	NOx (Total): Commencing with the beginning of the first full calendar year after final permit approval (BOP130002) at Unit No. 2 (emission unit U1, Modules 2101 and 2201) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual NOx emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]	NOx (Total): Monitored by calculations annually, based on one calendar year NOx (tons per year) = [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs] MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D. Lbs/MMBtu emission factor shall be computed based on the most recent stack test results per module for Unit No. 2, firing natural gas Cumulative annual mass emissions derived from CEMs data may be used in lieu of the above described method, provided the Department reviews and approves the calculation procedure. [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 annually. PSEG Fossil shall calculate and maintain a record of the actual annual NOx emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(a), &. [40 CFR 52.21(r)(6)(iii)]	Submit a report: As per the approved schedule as follows: If the future actual annual emissions of NOx in tons per year, exceed the baseline actual emissions of 61.44 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 40 tons per year for NOx), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP130002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(a), &. [40 CFR 52.21(r)(6)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	CO: Commencing with the beginning of the first full calendar year after final permit approval (BOP130002) at Unit No. 2 (emission unit U1, Modules 2101 and 2201) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual CO emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]	CO: Monitored by calculations annually, based on one calendar year CO (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs] MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix Lbs/MMBtu emission factor shall be computed based on the most recent stack test results per module for Unit No. 2, firing natural gas. Cumulative annual mass emissions derived from CEMs data may be used in lieu of the above described method provided the Department reviews and approves the calculation procedure. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual CO emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(o), & [40 CFR 52.21(r)(6)(iii)]	Submit a report: As per the approved schedule as follows: If the future actual annual emissions of CO in tons per year, exceed the baseline actual emissions of 13.43 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 100 tons per year for CO), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP130002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(o), & [40 CFR 52.21(r)(6)]
8	SO2: Commencing with the beginning of the first full calendar year after final permit approval (BOP130002) at Unit No. 2 (emission unit U1, Modules 2101 and 2201) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual SO2 emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(a), & [N.J.A.C. 7:27-22.16(a)]	SO2: Monitored by calculations annually, based on one calendar year SO2 (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs] MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D. SO2 emission factor shall be 0.0006 lb/MMBtu. per 40 CFR Part 75. [N.J.A.C. 7:27-22.16(o)]	SO2: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual SO2 emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]	Submit a report: As per the approved schedule as follows: If the future actual annual emissions of SO2, in tons per year, exceed the baseline actual emissions of 6.10 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 40 tons per year for SO2), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP130002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(o), & [40 CFR 52.21(r)(6)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	TSP: Commencing with the beginning of the first full calendar year after final permit approval (BOP130002) at Unit No. 2 (emission unit U1, Modules 2101 and 2201) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual TSP(PM) emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]	TSP: Monitored by calculations annually, based on one calendar year TSP (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs] MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D. Lbs/MMBtu emission factor shall be based on most recent stack test results, per module for Unit No. 2, firing natural gas. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual TSP emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). [N.J.A.C. 7:27-22.16(o)], &. [40 CFR 52.21(r)(6)(iii)]	Submit a report: Upon occurrence of event as follows: If the future actual annual emissions of TSP (PM) in tons per year, exceed the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 25 tons per year for PM), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP130002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. [N.J.A.C. 7:27-22.16(o)], &. [40 CFR 52.21(r)(6)]
10	PM-10 (Total): Commencing with the beginning of the first full calendar year after final permit approval (BOP130002) at Unit No. 2 (emission unit U1, Modules 2101 and 2201) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual PM10 emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]	PM-10 (Total): Monitored by calculations annually, based on one calendar year PM10 (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs] MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D. Lbs/MMBtu emission factor shall be based on most recent stack test results, per module for Unit No. 2, firing natural gas. [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 annually. PSEG Fossil shall calculate and maintain a record of the actual annual PM10 emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). [N.J.A.C.7:27-22.16(a), &. [40 CFR 52.21(r)(6)(iii)]	Submit a report: As per the approved schedule as follows: If the future actual annual emissions of PM10, in tons per year, exceed the baseline actual emissions of 36.96 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 15 tons per year for PM10), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP130002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(a), &. [40 CFR 52.16(r)(6)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	<p>PM-2.5 (Total): Commencing with the beginning of the first full calendar year after final permit approval (BOP130002) at Unit No. 2 (emission unit U1, Modules 2101 and 2201) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual PM2.5 emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201).</p> <p>N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>PM-2.5 (Total): Monitored by calculations annually, based on one calendar year</p> <p>PM-2.5 (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs]</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor shall be based on most recent PM10 stack test results, per module for Unit No. 2, firing natural gas. [N.J.A.C. 7:27-22.16(o)]</p>	<p>PM-2.5 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual PM2.5 emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201).</p> <p>N.J.A.C.7:27-22.16(o), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: As per the approved schedule as follows:</p> <p>If the future actual annual emissions of PM2.5, in tons per year, exceed the baseline actual emissions of 36.96 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 10 tons per year for PM2.5) , and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP130002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year.</p> <p>N.J.A.C.7:27-22.16(o), & [40 CFR 52.21(r)(6)]</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	<p>Commencing with the beginning of the first full calendar year after final permit approval (BOP130002) at Unit No. 2 (emission unit U1, Modules 2101 and 2201) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual CO₂e emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201).</p> <p>N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>Monitored by calculations annually, based on one calendar year</p> <p>CO₂e (tons per year)= CO₂ (tpy)+CO₂e from Methane(tpy)+CO₂e from N₂O (tpy)</p> <p>CO₂ (tpy)= [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs]</p> <p>CO₂e from Methane (tpy) = [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs] * GWP of Methane</p> <p>CO₂e from N₂O (tpy) = [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs] * GWP of N₂O</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Global Warming Potential (GWP) shall be from 40CFR98 Table A-1.</p> <p>Lbs/MMBtu emission factor (EF) for CO₂ shall be calculated from 40 CFR 75 Appendix G, Eq. G-4</p> <p>Lbs/MMBtu emission factor (EF) for CH₄ and N₂O shall be calculated from the default emission factors in 40 CFR 98 Tables C-1 and C-2 as follows:</p> <p>EF(Lbs/MMBtu) = EF from 40 CFR 98 (kg/MMBtu)/2.205 (lbs/kg). [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 annually. PSEG Fossil shall calculate and maintain a record of the actual annual CO₂e emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201).</p> <p>N.J.A.C.7:27-22.16(o), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: As per the approved schedule as follows:</p> <p>If the future actual annual emissions of CO₂e, in tons per year, exceed the baseline actual emissions of 1,205,662 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 75,000 tons per year for CO₂e), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP130002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year.</p> <p>N.J.A.C.7:27-22.16(o), & [40 CFR 52.21(r)(6)]</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	Lead compounds: Commencing with the beginning of the first full calendar year after final permit approval (BOP130002) at Unit No. 2 (emission unit U1, Modules 2101 and 2201) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual Lead emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]	Lead compounds: Monitored by calculations annually, based on one calendar year Lead (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 2 two turbines per operating scenario * lbs/MMBtu emission factor * 1.0 ton/2000lbs] MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D. The emission factor shall be 0.0005 lb/MMscf per module for Unit No. 2, respectively, firing natural gas. Actual higher heating value of the fuel per calendar year shall be used to convert the emission factor in units of lb/MMscf to lb/MMBtu. . [N.J.A.C. 7:27-22.16(o)]	Lead compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual Lead emissions in tons per year from Unit 2 (U1, Modules 2101 and 2201) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 2 (MODULES 2101 and 2201). N.J.A.C.7:27-22.16(o), &. [40 CFR 52.21(r)(6)(iii)]	Submit a report: As per the approved schedule as follows: If the future actual annual emissions of Lead, in tons per year, exceed the baseline actual emissions of 0.000121 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 0.6 tons per year for lead), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP130002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(o), &. [40 CFR 52.21(r)(6)]

BOP190002

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

Subject Item: GR102 U1 Unit 1 CT Upgrade

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>This Group (GR102) contains conditions for operating scenario OS1 through OS32 for Equipment ID E1, E2, E3 and E4, Modules 1101, 1201, 1301, 1401.</p> <p>The conditions of this group (GR102) are applicable to each of the operating scenarios, OS1 through OS32 for Modules 1101, 1201, 1301, 1401, each combusting natural gas or distillate oil and operating with Siemens Si3D and CMF+. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	<p>VOC (Total): Commencing with the beginning of the first full calendar year after final permit approval (BOP160002) at Unit No. 1 (emission unit U1, Modules 1101, 1201, 1301 and 1401) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual VOC emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). N.J.A.C.7:27-22.16(a) [40 CFR 52.21(r)(6)(iii)]</p>	<p>VOC (Total): Monitored by calculations annually, based on one calendar year VOC (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for natural gas * 1.0 ton/2000lbs] + [MMBtu of distillate oil burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for distillate oil * 1.0 ton/2000lbs]</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor for natural gas shall be computed based on the most recent stack test results per module for Unit No. 1, firing natural gas, and Lbs/MMBtu emission factor for distillate oil on the most recent stack test results per module for Unit No. 1, firing distillate oil. [N.J.A.C. 7:27-22.16(o)]</p>	<p>VOC (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual VOC emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period for ten (10) years as per applicable requirement.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). [N.J.A.C. 7:27-22.16(o)], &. [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: As per the approved schedule as follows:</p> <p>If the future actual annual emissions of VOC, in tons per year, exceed the baseline actual emissions of 4.74 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 40 tons per year for ozone), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP160002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(a), &. [40 CFR 52.21(r)(6)]</p>

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>NOx (Total): Commencing with the beginning of the first full calendar year after final permit approval (BOP160002) at Unit No. 1 (emission unit U1, Modules 1101, 1201, 1301 and 1401) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual NOx emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>NOx (Total): Monitored by calculations annually, based on one calendar year NOx (tons per year) = [MMBtu of natural gas burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for natural gas * 1.0 ton/2000lbs] + [MMBtu of distillate oil burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for distillate oil * 1.0 ton/2000lbs]</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor for natural gas shall be computed based on the most recent stack test results per module for Unit No. 1, firing natural gas, and Lbs/MMBtu emission factor for distillate oil on the most recent stack test results per module for Unit No. 1, firing distillate oil.</p> <p>Cumulative annual mass emissions derived from CEMs data may be used in lieu of the above described method, provided the Department reviews and approves the calculation procedure. [N.J.A.C. 7:27-22.16(o)]</p>	<p>NOx (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual NOx emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period for ten (10) years as per applicable requirement.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). [N.J.A.C. 7:27-22.16(o)], & [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: As per the approved schedule as follows:</p> <p>If the future actual annual emissions of NOx in tons per year, exceed the baseline actual emissions of 427.45 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 40 tons per year for NOx), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP160002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)]</p>

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	<p>CO: Commencing with the beginning of the first full calendar year after final permit approval (BOP160002) at Unit No. 1 (emission unit U1, Modules 1101, 1201, 1301 and 1401) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual CO emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>CO: Monitored by calculations annually, based on one calendar year CO (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for natural gas * 1.0 ton/2000lbs] + [MMBtu of distillate oil burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for distillate oil * 1.0 ton/2000lbs]</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor for natural gas shall be computed based on the most recent stack test results per module for Unit No. 1, firing natural gas, and Lbs/MMBtu emission factor for distillate oil on the most recent stack test results per module for Unit No. 1, firing distillate oil.</p> <p>Cumulative annual mass emissions derived from CEMs data may be used in lieu of the above described method, provided the Department reviews and approves the calculation procedure. [N.J.A.C. 7:27-22.16(o)]</p>	<p>CO: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual CO emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period for ten (10) years as per applicable requirement.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). [N.J.A.C. 7:27-22.16(o)], & [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: As per the approved schedule as follows:</p> <p>If the future actual annual emissions of CO in tons per year, exceed the baseline actual emissions of 33.48 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 100 tons per year for CO), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP160002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(o), & [40 CFR 52.21(r)(6)]</p>

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	<p>SO2: Commencing with the beginning of the first full calendar year after final permit approval (BOP160002) at Unit No. 1 (emission unit U1, Modules 1101, 1201, 1301 and 1401) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual SO2 emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). N.J.A.C.7:27-22.16(a), & [N.J.A.C. 7:27-22.16(a)]</p>	<p>SO2: Monitored by calculations annually, based on one calendar year SO2 (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for natural gas * 1.0 ton/2000lbs] + [MMBtu of distillate oil burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for distillate oil * 1.0 ton/2000lbs]</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>SO2 emission factor shall be 0.0006 lb/MMBtu for natural gas per 40 CFR Part 75.</p> <p>SO2 emission factor shall be 0.0015 lb/MMBtu for distillate oil per 40 CFR Part 75. [N.J.A.C. 7:27-22.16(o)]</p>	<p>SO2: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual SO2 emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period for ten (10) years as per applicable requirement.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). [N.J.A.C. 7:27-22.16(o)], &. [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: As per the approved schedule as follows:</p> <p>If the future actual annual emissions of SO2, in tons per year, exceed the baseline actual emissions of 10.32 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 40 tons per year for SO2), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP160002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(o), &. [40 CFR 52.21(r)(6)]</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	<p>TSP: Commencing with the beginning of the first full calendar year after final permit approval (BOP160002) at Unit No. 1 (emission unit U1, Modules 1101, 1201, 1301 and 1401) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual TSP(PM) emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period. APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>TSP: Monitored by calculations annually, based on one calendar year TSP (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for natural gas * 1.0 ton/2000lbs] + [MMBtu of distillate oil burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for distillate oil * 1.0 ton/2000lbs]</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor for natural gas shall be computed based on the most recent stack test results per module for Unit No. 1, firing natural gas, and Lbs/MMBtu emission factor for distillate oil on the most recent stack test results per module for Unit No. 1, firing distillate oil. [N.J.A.C. 7:27-22.16(o)]</p>	<p>TSP: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual TSP emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period for ten (10) years as per applicable requirement.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). [N.J.A.C. 7:27-22.16(o)], & [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: Upon occurrence of event as follows:</p> <p>If the future actual annual emissions of TSP (PM) in tons per year, exceed the baseline actual emissions of 23.02 tons per year by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 25 tons per year for PM), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP160002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. [N.J.A.C. 7:27-22.16(o)], & [40 CFR 52.21(r)(6)]</p>

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	<p>PM-10 (Total): Commencing with the beginning of the first full calendar year after final permit approval (BOP160002) at Unit No. 1 (emission unit U1, Modules 1101, 1201, 1301 and 1401) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual PM10 emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>PM-10 (Total): Monitored by calculations annually, based on one calendar year PM10 (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for natural gas * 1.0 ton/2000lbs] + [MMBtu of distillate oil burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for distillate oil * 1.0 ton/2000lbs]</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor for natural gas shall be computed based on the most recent stack test results per module for Unit No. 1, firing natural gas, and Lbs/MMBtu emission factor for distillate oil on the most recent stack test results per module for Unit No. 1, firing distillate oil. [N.J.A.C. 7:27-22.16(o)]</p>	<p>PM-10 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual PM10 emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period for ten (10) years as per applicable requirement.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). [N.J.A.C. 7:27-22.16(o)], &. [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: As per the approved schedule as follows:</p> <p>If the future actual annual emissions of PM10, in tons per year, exceed the baseline actual emissions of 78.10 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 15 tons per year for PM10), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP160002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(a), &. [40 CFR 52.16(r)(6)]</p>

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	<p>PM-2.5 (Total): Commencing with the beginning of the first full calendar year after final permit approval (BOP160002) at Unit No. 1 (emission unit U1, Modules 1101, 1201, 1301 and 1401) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual PM2.5 emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>PM-2.5 (Total): Monitored by calculations annually, based on one calendar year PM-2.5 (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for natural gas * 1.0 ton/2000lbs] + [MMBtu of distillate oil burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for distillate oil * 1.0 ton/2000lbs]</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Lbs/MMBtu emission factor for natural gas shall be computed based on the most recent stack test results per module for Unit No. 1, firing natural gas, and Lbs/MMBtu emission factor for distillate oil on the most recent stack test results per module for Unit No. 1, firing distillate oil. [N.J.A.C. 7:27-22.16(o)]</p>	<p>PM-2.5 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual PM2.5 emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period for ten (10) years as per applicable requirement.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). [N.J.A.C. 7:27-22.16(o)], & [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: As per the approved schedule as follows:</p> <p>If the future actual annual emissions of PM2.5, in tons per year, exceed the baseline actual emissions of 78.10 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 10 tons per year for PM2.5), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP160002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(o), & [40 CFR 52.21(r)(6)]</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	<p>Greenhouse gases as CO₂e: Commencing with the beginning of the first full calendar year after final permit approval (BOP160002) at Unit No. 1 (emission unit U1, Modules 1101, 1201, 1301 and 1401) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual CO₂e emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>Greenhouse gases as CO₂e: Monitored by calculations annually, based on one calendar year CO₂e (tons per year)= CO₂ (tpy)+CO₂e from Methane(tpy)+CO₂e from N₂O (tpy)</p> <p>CO₂e (tpy)= [[CO₂ lb/MMBtu for natural gas + (Methane lb/MMBtu X GWP for methane for natural gas) + (Nitrous Oxide lb/MMBtu X GWP for Nitrous Oxide for natural gas)] X MMBtu of natural gas consumed per year /2,000 lb/ton] + [[CO₂ lb/MMBtu for distillate oil + (Methane lb/MMBtu X GWP for methane for distillate oil) + (Nitrous Oxide lb/MMBtu X GWP for Nitrous Oxide for distillate oil)] X MMBtu of distillate oil consumed per year) /2,000 lb/ton]</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>Global Warming Potential (GWP) shall be from 40CFR98 Table A-1.</p> <p>Lbs/MMBtu emission factors (EFs) for CO₂ for natural gas and distillate oil shall be calculated from 40 CFR 75 Appendix G Lbs/MMBtu emission factors (EFs) for CH₄ and N₂O shall be calculated from the default emission factors in 40 CFR 98 Tables C-1 and C-2 as follows: EF(Lbs/MMBtu) = EF from 40 CFR 98 (kg/MMBtu)/2.205 (lbs/kg). [N.J.A.C. 7:27-22.16(o)]</p>	<p>Greenhouse gases as CO₂e: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual CO₂e emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period for ten (10) years as per applicable requirement.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). [N.J.A.C. 7:27-22.16(o)], &. [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: As per the approved schedule as follows: If the future actual annual emissions of CO₂e, in tons per year, exceed the baseline actual emissions of 1,649,739 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 75,000 tons per year for CO₂e), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP160002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(o), &. [40 CFR 52.21(r)(6)]</p>

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	<p>Lead compounds: Commencing with the beginning of the first full calendar year after final permit approval (BOP160002) at Unit No. 1 (emission unit U1, Modules 1101, 1201, 1301 and 1401) and continuing for ten (10) calendar years thereafter, PSEG Fossil shall calculate and maintain a record of the actual annual Lead emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). N.J.A.C.7:27-22.16(a), & [40 CFR 52.21(r)(6)(iii)]</p>	<p>Lead compounds: Monitored by calculations annually, based on one calendar year Lead (tons per year)= [MMBtu of natural gas burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for natural gas * 1.0 ton/2000lbs] + [MMBtu of distillate oil burned per year in all Unit No. 1 turbines per operating scenario * lbs/MMBtu emission factor for distillate oil * 1.0 ton/2000lbs]</p> <p>MMBtu heat inputs shall be determined using the method prescribed in 40 CFR 75 Appendix D.</p> <p>The emission factor shall be 5.2E-07 lb/MMBtu per module for Unit No. 1, respectively, firing natural gas.</p> <p>The emission factor shall be 1.4eE-05 lb/MMBTU per module for Unit No. 1, respectively, firing distillate oil. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Lead compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. PSEG Fossil shall calculate and maintain a record of the actual annual Lead emissions in tons per year from Unit 1 (U1, Modules 1101, 1201, 1301 and 1401) in each calendar year period for ten (10) years as per applicable requirement.</p> <p>APPLICABLE ONLY TO U1 UNIT NO. 1 (MODULES 1101, 1201, 1301 and 1401). [N.J.A.C. 7:27-22.16(o)], &. [40 CFR 52.21(r)(6)(iii)]</p>	<p>Submit a report: As per the approved schedule as follows:</p> <p>If the future actual annual emissions of Lead, in tons per year, exceed the baseline actual emissions of 0.00341 tons per year, by the applicable PSD de minimis level for that regulated NSR pollutant (i.e., 0.6 tons per year for lead), and if such emissions differ from the preconstruction projections documented and maintained in the application for BOP160002, PSEG Fossil must submit a report as required under 40 CFR 52.21(r)(6)(v) to EPA Region 2 within 60 days after the end of such year. N.J.A.C.7:27-22.16(o), &. [40 CFR 52.21(r)(6)]</p>

BOP190002

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

Subject Item: GR103 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)]

BOP190002

**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.

BOP190002

**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"> - All emissions monitoring information, in accordance with N.J.A.C. 7:27C-8 and 40 CFR 75.57; - Copies of all reports, compliance certifications, and other submissions, and all records made or required under the CO2 Budget Trading Program; and - Copies of all documents used to complete an application for a new or modified operating permit that incorporates the requirements of the CO2 Budget Trading Program and any other submission under the CO2 Budget Trading Program or to demonstrate compliance with the requirements of the CO2 Budget Trading Program. <p>[N.J.A.C 7:27C-1.4(o)2, [N.J.A.C 7:27C-1.4(o)3 and. [N.J.A.C. 7:27C-1.4(o)4]</p>	None.

**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"> 1. Identification of the CO2 budget source and each CO2 budget unit at the source; 2. At the CO2 authorized account representative's option, the serial numbers of the CO2 allowances that are to be deducted from the CO2 budget source's compliance account under N.J.A.C. 7:27C-6.9 for the control period, including the serial numbers of any CO2 offset allowances that are to be deducted subject to the limitations of N.J.A.C. 7:27C-6.9(a)3; and 3. The compliance certification: <p>In the compliance certification report, the CO2 authorized account representative shall certify whether the CO2 budget source and each CO2 budget unit at the source for which the compliance certification is submitted was operated, during the calendar years covered by the report, in compliance with the requirements of the CO2 Budget Trading Program, based on reasonable inquiry of those persons with primary responsibility for operating the CO2 budget source and the CO2 budget units at the source in compliance with the CO2 Budget Trading Program. [N.J.A.C. 7:27C-4.1(b)] and. [N.J.A.C. 7:27C- 4.1]</p>

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

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

**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]

BOP190002

**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. An Output Monitoring Plan is only required for a CO2 budget unit that does not participate in a wholesale electricity market administered by PJM. [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)]

BOP190002

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

Subject Item: GR104 NJAC 7-27F -PACT Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>CO2 <= 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 <= 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 CO₂.</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 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
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 CO₂ 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"> 1. The EGU's permit authorizes fuel switching pursuant to N.J.A.C. 7:27-19; 2. The owner or operator is not practicably able to obtain a sufficient supply of natural gas; 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; 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 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)] 	<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"> 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; ii. A statement that the owner or operator is not practicably able to obtain a sufficient supply of natural gas; iii. The date and time at which the owner or operator first became practicably unable to obtain natural gas; and 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] 	None.

BOP190002

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

Subject Item: GR105 Worst Case Unit1 Total HAPS in lb/hr and tons/yr for four turbines

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Acetaldehyde <= 0.822 tons/yr. Maximum emissions for 4 combustion turbines. Calculated by using the following equation: Acetaldehyde (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Acetaldehyde (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT)/2000]</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	Acetaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
2	<p>Acrolein <= 0.131 tons/yr. Maximum emissions for 4 combustion turbines. Calculate by using following equation: Acrolein (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Acrolein (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT)/2000].</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines . [N.J.A.C. 7:27-22.16(a)]</p>	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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>Arsenic compounds \leq 0.0666 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: Arsenic (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Arsenic (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT) + (ULSD emission factor for Arsenic (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)] /2000]</p> <p>Emission factors used are from NJDEP 12/11/23 Memo for Natural Gas Fired Turbines, and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. . [N.J.A.C. 7:27-22.16(a)]</p>	Arsenic compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
4	<p>Benzene \leq 0.58 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: Benzene (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Benzene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT) + (ULSD emission factor for Benzene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)]/2000]</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. . [N.J.A.C. 7:27-22.16(a)]</p>	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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	<p>Butadiene (1,3-) <= 0.106 tons/yr. Maximum emissions for 4 combustion turbines. Calculated by using the following equation: Butadiene (1, 3-) (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Butadiene (1, 3-) (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT) + (ULSD emission factor for Butadiene (1, 3-) (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)]/2000]</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines.. [N.J.A.C. 7:27-22.16(a)]</p>	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): Recordkeeping by manual logging of parameter annually. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
6	<p>Cadmium compounds <= 0.0291 tons/yr. Maximum emissions for 4 combustion turbines. Calculated by using the following equation: Cadmium (tons per year) = [(Combustion Turbine (CT) (ULSD emission factor for Cadmium (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)]/2000]</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	Cadmium compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Cadmium compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	<p>Dioxins/Furans (Total) \leq 0.00000514 tons/yr. Maximum emissions for 4 combustion turbines. Calculated by using the following equation: Dioxins/Furans (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Dioxins/Furans (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT) /2000]</p> <p>Emission factors used are from EPRI. [N.J.A.C. 7:27-22.16(a)]</p>	Dioxins/Furans (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.
8	<p>Ethylbenzene \leq 0.657 tons/yr. Maximum emissions for 4 combustion turbines. Calculated by using the following equation: Ethylbenzene (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Ethylbenzene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CTs)] /2000]</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	Ethylbenzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Ethylbenzene: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [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
9	<p>Formaldehyde <= 16.3 tons/yr. Maximum emissions for 4 combustion turbines. Calculated by using the following equation: Formaldehyde (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Formaldehyde (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CTs) + (Combustion Turbine (CT) ULSD emission factor for Formaldehyde (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for four(4) CTs)] /2000] /2000]</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. Unless indicated as from EPRI. [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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.
10	<p>Beryllium Emissions <= 0.00188 tons/yr. Maximum emissions for 4 combustion turbines. Calculated by using the following equation: [(Combustion Turbine (CT) ULSD emission factor for Beryllium Emissions (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)] /2000]</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [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	<p>Pb <= 0.0955 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: $\text{Pb (tons per year)} = [(\text{Combustion Turbine (CT) Natural Gas (NG) emission factor for Pb (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT)} + (\text{CT ULSD emission factor for Pb (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)})] / 2000]$ Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
12	<p>Manganese compounds <= 0.786 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: $\text{Manganese (tons per year)} = [(\text{Combustion Turbine (CT) Natural Gas (NG) emission factor for Manganese (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT)} + (\text{CT ULSD emission factor for Manganese (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)})] / 2000]$ Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [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	<p>Mercury Emissions \leq 0.0159 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: $\text{Mercury (tons per year)} = [(\text{Combustion Turbine (CT) Natural Gas (NG) emission factor for Mercury (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT)} + (\text{CT ULSD emission factor for Mercury (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)})]/2000]$</p> <p>Emission factors used are from EPRI for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(o)]</p>	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.
14	<p>1-Methylnapthalene \leq 0.011 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: $\text{1-Methylnapthalene (tons per year)} = [(\text{Combustion Turbine (CT) ULSD emission factor for 1-Methylnapthalene (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two (2) CT)})]/2000]$ [N.J.A.C. 7:27-22.16(a)]</p>	Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	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
15	<p>Methylnaphthalene (2-) <= 0.00585 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: $2\text{-Methylnaphthalene (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT)} + (\text{CT ULSD emission factor for 2-Methylnaphthalene (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)}) / 2000]$</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	<p>Naphthalene <= 0.239 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: $\text{Naphthalene (tons per year)} = [(\text{Combustion Turbine (CT) Natural Gas (NG) emission factor for Naphthalene (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT)} + (\text{CT ULSD emission factor for Naphthalene (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)}) / 2000]$</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	<p>Nickel Emissions \leq 0.0585 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: Nickel (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Nickel (lb./MMBtu) x Sum of Heat Input (MMBTU/year of NG for four(4) CT) + (ULSD emission factor for Nickel (lb./MMBtu) x Sum of Heat Input (MMBTU/year of ULSD for 4 CT)]/2000]</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.
18	<p>Polynuclear aromatic hydrocarbons (PAHs) \leq 0.288 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: Polynuclear aromatic hydrocarbons (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Polynuclear aromatic hydrocarbons (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT) + (CT ULSD emission factor for Polynuclear aromatic hydrocarbons (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)]/2000]</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	<p>Polycyclic organic matter \leq 0.288 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: Polycyclic organic matter(tons per year) = $[(\text{Combustion Turbine (CT) Natural Gas (NG) emission factor for Polycyclic organic matter (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT)} + (\text{CT ULSD emission factor for Polycyclic organic matter (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 4 CT)})]/2000]$</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.
20	<p>Propylene oxide \leq 0.596 tons/yr. Maximum emissions for 4 combustion turbines.</p> <p>Calculated by using the following equation: Propylene oxide (tons per year) = $[(\text{Combustion Turbine (CT) Natural Gas (NG) emission factor for Propylene oxide (lb./MMBtu)} \times \text{Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four(4) CT)} / 2000]$</p> <p>Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]</p>	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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [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	Toluene <= 2.67 tons/yr. Maximum emissions for 4 combustion turbines. Calculated by using the following equation: Toluene (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Toluene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for four (4) CT) /2000] Emission factors used are from EPRI. [N.J.A.C. 7:27-22.16(a)]	Toluene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.
22	Acetaldehyde <= 0.242 lb/hr. Emission limit based maximum permitted heat input rate (HHV) of the Combustion Turbine on natural gas, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. Calculate by using the following equation: Acetaldehyde (lb/hr):[Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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	Acrolein <= 0.0388 lb/hr. Emission limit based maximum permitted heat input rate (HHV) of the Combustion Turbine at Unit 1 firing natural gas, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), for Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. Calculate by using the following equation: Acrolein (lb/hr):[Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [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.
24	Arsenic Emissions <= 0.0666 lb/hr. Emission limit based maximum permitted heat input rate (HHV) of the Combustion Turbine and emission factors used are from NJDEP 12/11/23 memo for Natural Gas Fired Turbines, and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Arsenic Emissions: Monitored by calculations once initially. Calculate by using the following equation: Arsenic (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
25	Benzene \leq 0.333 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine at unit 1 when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. Calculate by using the following equation: Benzene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [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.
26	Beryllium Emissions \leq 0.00188 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine at unit 1 when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Beryllium Emissions: Monitored by calculations once initially. Calculate by using the following equation: Beryllium (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [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.
27	Butadiene (1,3-) \leq 0.0969 lb/hr. Emission factors used are from AP-42 5th Edition, Table 3.1-3 (Dated 4/2000) for Natural Gas Fired Turbine and from AP-42 5th Edition, Table 3.1-4 and 3.1-5 (Dated 4/2000) for Oil-Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. Calculate by using the following equation: 1,3-Butadiene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) for Natural gas x (Emission Factor ((lb/MMBtu for Natural gas)) + [Maximum Heat Input per Engine (MMBtu/hr) for ULSD x (Emission Factor ((lb/MMBtu for ULSD) x 4 (turbines). [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Cadmium Emissions \leq 0.0291 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine at Unit 1 when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Cadmium Emissions: Monitored by calculations once initially. Calculate by using the following equation: Cadmium (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((4.8 E-06 lb/MMBtu)) x 4 (turbines). [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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.
29	Dioxins/Furans (Total) \leq 0.00000511 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. Calculate by using the following equation: Dioxins/Furans (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
30	Ethylbenzene <= 0.194 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. Calculate by using the following equation: Ethyl benzene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((3.2 E-05 lb/MMBtu)) x 4 (turbines). [N.J.A.C. 7:27-22.16(o)]	Ethylbenzene: 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 <= 4.3 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. Calculate by using the following equation: Formaldehyde (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor (2.8 E-04 lb/MMBtu)) x 4 (turbines). [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	Lead compounds <= 0.0848 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Lead compounds: Monitored by calculations once initially. Calculate by using the following equation: Lead (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((5.2 E-07 lb/MMBtu)) x 4 (turbines). [N.J.A.C. 7:27-22.16(o)]	Lead 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	Manganese compounds <= 0.624 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. Calculate by using the following equation: Manganese (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((7.9 E-06 lb/MMBtu)) x 4 (turbines). [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.
34	Mercury Emissions <= 0.00727 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. Calculate by using the following equation: Mercury Emissions (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [N.J.A.C. 7:27-22.16(o)]	Mercury 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.
35	1-Methylnapthalene <= 0.011 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor EPRI [N.J.A.C. 7:27-22.16(a)]	Monitored by calculations once initially. Calculate by using the following equation: 1-Methylnapthalene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [N.J.A.C. 7:27-22.16(o)]	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.

GR105 Worst Case Unit1 Total HAPS in lb/hr and tons/yr for four turbines

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
36	Methylnaphthalene (2-) \leq 0.00244 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factors used are from EPRI. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. Calculate by using the following equation: 2-Methylnaphthalene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Naphthalene \leq 0.212 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. Calculate by using the following equation: Naphthalene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [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.
38	Nickel Emissions \leq 0.0279 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. Calculate by using the following equation: Nickel (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [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.
39	Polycyclic organic matter \leq 0.242 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. Calculate by using the following equation: POM (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.
40	Polynuclear aromatic hydrocarbons (PAHs) \leq 0.242 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. Calculate by using the following equation: PAH (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
41	Propylene oxide <= 0.176 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Propylene oxide: Monitored by calculations once initially. Calculate by using the following equation: Propylene Oxide (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [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.
42	Toluene <= 0.788 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.6(a)]	Toluene: Monitored by calculations once initially. Calculate by using the following equation: Toluene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((lb/MMBtu)) x 4 (turbines). [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.

BOP190002

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

Subject Item: GR107 Worst Case Unit 2 Total HAPS in lb/hr and tons/yr for TWO turbines and DBs

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Acetaldehyde <= 0.618 tons/yr. Maximum emissions for two (2) combustion turbines and two (2) duct burners. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. Calculate by using following equation: Acetaldehyde (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Acetaldehyde (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two(2) CT) + (CT ULSD emission factor for Acetaldehyde (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 2 CT) + DB natural gas emission factor for Acetaldehyde (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two (2) DB)/2000]. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
2	Acrolein <= 0.0988 tons/yr. Maximum emissions for two (2) combustion turbines and two (2) duct burners. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially Calculate by using following equation: Acrolein (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Acrolein (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two (2) CT)] /2000]. [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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	Arsenic compounds <= 0.00849 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Arsenic compounds: Monitored by calculations once initially Calculate by using following equation: Arsenic (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Arsenic (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two (2) CT) + (ULSD emission factor for Arsenic (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two (2) CT)+ (Duct burner (DB) Natural Gas emission factor for Arsenic (lb./MMBtu) x Sum of Heat Input (MMBTU/year of Natural Gas to two (2) DB)] /2000]. [N.J.A.C. 7:27-22.16(o)]	Arsenic compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
4	Benzene <= 0.231 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially Calculate by using following equation: Benzene (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Benzene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two (2) CT) + (CT ULSD emission factor for Benzene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 2 CT)+ (Duct burner (DB) Natural Gas emission factor for Benzene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)]/2000]. [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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	Beryllium Emissions <= 0.000258 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Beryllium Emissions: Monitored by calculations once initially Calculate by using following equation: Beryllium (tons per year) = [(CT ULSD emission factor for (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two(2) CT)+ (Duct burner (DB) Natural Gas emission factor for Beryllium (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)]/2000]. [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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.
6	Butadiene (1,3-) <= 0.019 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially Calculate by using following equation: Butadiene (1, 3-) (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Butadiene (1, 3-) (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two(2) CT) + (CT ULSD emission factor for Butadiene (1, 3-) (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 2 CT)]/2000]. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): Recordkeeping by manual logging of parameter annually. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
7	Cadmium compounds <= 0.0037 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Cadmium compounds: Monitored by calculations once initially Calculate by using following equation: Cadmium (tons per year) = [(Combustion Turbine (CT) (ULSD emission factor for Cadmium (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two (2) CT)+ (Duct burner (DB) Natural Gas emission factor for Cadmium (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)]/2000]. [N.J.A.C. 7:27-22.16(o)]	Cadmium compounds: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	Dioxins/Furans (Total) <= 0.00000386 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially Calculate by using following equation: Dioxins/Furans (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Dioxins/Furans (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two(2) CT) /2000]. [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.
9	Ethylbenzene <= 0.494 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Calculate by using following equation: Ethylbenzene (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Ethylbenzene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two (2) CT)] /2000] Ethylbenzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(a)]	None.	None.
10	Formaldehyde <= 11.3 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially Calculate by using following equation: Formaldehyde (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Formaldehyde (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two(2) CT) + (CT ULSD emission factor for Formaldehyde (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two(2) CT)+ (Duct burner (DB) Natural Gas emission factor for Formaldehyde (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)]/2000]. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	Hexane (n-) <= 2.89 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Hexane (n-): Monitored by calculations once initially Calculate by using following equation: Hexane (n-) (tons per year) = [(Duct burner (DB) Natural Gas emission factor for Hexane (n-) (lb./MMBtu) x Sum of Heat Input (MMBTU/year of Natural Gas to two(2) DBs) /2000] . [N.J.A.C. 7:27-22.16(o)]	Hexane (n-): Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
12	Pb <= 0.0196 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Pb: Monitored by calculations once initially Calculate by using following equation: Pb (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Pb(lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two(2) CT) + (CT ULSD emission factor for Pb (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two(2) CT)+ (Duct burner (DB) Natural Gas emission factor for Pb (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)]/2000]. [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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
13	Manganese compounds <= 0.202 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially Calculate by using following equation: Manganese (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Manganese (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two(2) CT) + (CT ULSD emission factor for Manganese (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two (2) CT)+ (Duct burner (DB) Natural Gas emission factor for Manganese (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)] /2000]. [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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [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	Mercury Emissions <= 0.00784 tons/yr. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially Calculate by using following equation: Mercury (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Mercury (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two (2) CT) + (CT ULSD emission factor for Mercury (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two (2) CT)+(Duct burner (DB) Natural Gas emission factor for Mercury(lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)]/2000]. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.
15	1-Methylnaphthalene <= 0.0014 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Calculate by using following equation: 1-Methylnaphthalene (tons per year) = [(Combustion Turbine (CT) ULSD emission factor for 1-Methylnaphthalene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for 2 CT)]/2000] Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	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	Methylnaphthalene (2-) <= 0.00291 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially Calculate by using following equation: 2-Methylnaphthalene (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for 2-Methylnaphthalene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two (2) CT) + (CT ULSD emission factor for 2-Methylnaphthalene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two (2) CT)+(Duct burner (DB) Natural Gas emission factor for 2-Methylnaphthalene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)] /2000]. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	Naphthalene <= 0.0481 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially Calculate by using following equation: Naphthalene (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Naphthalene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two(2) CT) + (CT ULSD emission factor for Naphthalene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two(2) CT)+ (Duct burner (DB) Natural Gas emission factor for Naphthalene(lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)]/2000]. [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 <= 0.0299 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially Calculate by using following equation: Nickel (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Nickel (lb./MMBtu) x Sum of Heat Input (MMBTU/year of NG for two (2) CT) + (ULSD emission factor for Nickel (lb./MMBtu) x Sum of Heat Input (MMBTU/year of ULSD for two(2) CT)+ (Duct burner (DB) Natural Gas emission factor for Nickle (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)]/2000]. [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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	Polynuclear aromatic hydrocarbons (PAHs) <= 0.0659 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially Calculate by using following equation: Polynuclear aromatic hydrocarbons (PAH) (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Polynuclear aromatic hydrocarbons (lb./MMBTU) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two(2) CT) + (CT ULSD emission factor for Polynuclear aromatic hydrocarbons (lb./MMBTU) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two (2) CT)+ (Duct burner (DB) Natural Gas emission factor for PAH (lb./MMBTU) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)]/2000]. [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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
20	Polycyclic organic matter <= 0.0659 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially Calculate by using following equation: Polycyclic organic matter (POM)(tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Polycyclic organic matter (lb./MMBTU) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two(2) CT) + (CT ULSD emission factor for Polycyclic organic matter (lb./MMBTU) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two (2) CT)+ (Duct burner (DB) Natural Gas emission factor for POM (lb./MMBTU) x Sum of Maximum Permitted Heat Input (MMBTU/year of Natural Gas to two(2) DB)]/2000]. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: Recordkeeping by manual logging of parameter annually. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	Propylene oxide <= 0.448 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Propylene oxide: Monitored by calculations once initially Calculate by using following equation: Propylene oxide (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Propylene oxide (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two(2) CT)] /2000]. [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. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
22	Toluene <= 2.01 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Toluene: Monitored by calculations once initially Calculate by using following equation: Toluene (tons per year) = [(Combustion Turbine (CT) Natural Gas (NG) emission factor for Toluene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of NG for two (2) CT) /2000]. [N.J.A.C. 7:27-22.16(o)]	Toluene: 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	Acetaldehyde <= 0.19 lb/hr for two turbines and duct burners. Emission limit based maximum permitted heat input rate (HHV) of the Combustion Turbine on natural gas, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially . [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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	Acrolein <= 0.0305 lb/hr for two turbines and two duct burners. Emission limit based maximum permitted heat input rate (HHV) of the Combustion Turbine at Unit 2 on natural gas, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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
25	Arsenic Emissions \leq 0.0539 lb/hr for two turbines and two duct burners. Emission limit based maximum permitted heat input rate (HHV) Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
26	Benzene \leq 0.27 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
27	Beryllium Emissions \leq 0.00152 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines; and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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.
28	Butadiene (1,3-) \leq 0.0784 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
29	Cadmium Emissions \leq 0.0235 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines; and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from NJDEP 12/11/23 memo. [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)]	None.	None.
30	Dioxins/Furans (Total) \leq 0.00000119 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.
31	Ethylbenzene \leq 0.152 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Ethylbenzene: 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 3.44 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines; maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines; and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
33	Hexane (n-) <= 1.39 lb/hr for two turbines and two duct burners. . Emission limit based maximum permitted heat input rate (HHV) of the Duct Burners at Unit 2 firing natural gas, and Emission factors used are from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [N.J.A.C. 7:27-22.16(a)]	Hexane (n-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Hexane (n-): 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	Lead compounds <= 0.0686 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines; maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines; and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [N.J.A.C. 7:27-22.16(a)]	Lead compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Lead 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.
35	Manganese compounds <= 0.504 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines; maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines; and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. . [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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
36	Mercury Emissions ≤ 0.00588 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI; maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines; and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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.
37	1-Methylnaphthalene ≤ 0.00887 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI. [N.J.A.C. 7:27-22.16(a)]	Calculate by using following equation: 1-Methylnaphthalene (tons per year) = [(Combustion Turbine (CT) ULSD emission factor for 1-Methylnaphthalene (lb./MMBtu) x Sum of Maximum Permitted Heat Input (MMBTU/year of ULSD for two (2) CT)]/2000] Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	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	Methylnaphthalene (2-) ≤ 0.00197 lb/hr. Maximum emissions for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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
39	Naphthalene \leq 0.172 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines; maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines; and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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.
40	Nickel Emissions \leq 0.0225 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines; maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines; and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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
41	Polycyclic organic matter \leq 0.196 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines; maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines; and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.
42	Polynuclear aromatic hydrocarbons (PAHs) \leq 0.196 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines; maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines; and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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.
43	Propylene oxide \leq 0.138 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
44	Toluene \leq 0.621 lb/hr for two turbines and two duct burners. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI and maximum heat input rate (HHV) of the Duct Burner when firing NG, and Emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [N.J.A.C. 7:27-22.6(a)]	Toluene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Subject Item: CD1 Water Injection on Unit No.1, Module 1101, CD3 Water Injection on Unit No. 1, Module 1201, CD5 Water Injection on Unit No. 1, Module 1301, CD7 Water Injection on Unit No. 1, Module 1401

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The permittee shall operate the Water Injection Systems, during all periods that the gas turbine is firing ULSD oil (E1, E2, E3, E4, E13, and E14) or natural gas in power augmentation mode (E1, E2, E3, and E4 only), to control NO2/NOx emissions from the gas turbine, except during start-up, shutdown, mechanical safety testing, or mode transfer periods. [N.J.A.C. 7:27-22.16(e)]	Monitored by other method (provide description) upon occurrence of event, based on an instantaneous determination. The permittee shall monitor the time-periods when the Water Injection System is operating, except during start-up, shutdown, mechanical safety testing, or mode transfer periods. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by manual logging of parameter at the approved frequency in a permanently bound log book or readily accessible computer memories. The permittee shall record the date and time when Water Injection System is operating. [N.J.A.C. 7:27-22.16(e)]	None.
2	Water-to-Fuel Ratio \leq 1.38 lb (pounds) of water per pound of fuel oil (ULSD) manufacturer's recommended ratio. This ratio is only required when the continuous emission monitoring system is not operating. The limit shall not apply during the time valid data is collected by NOx CEM. This condition applies to the following equipment in this emission unit:E1,E2,E3 & E4. [N.J.A.C. 7:27-22.16(e)]	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(e)]	Water-to-Fuel Ratio: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
3	Water-to-Fuel Ratio \leq 2 lb (pounds) of water per pound of natural gas (for natural gas during power augmentation). This ratio is only required when the continuous emission monitoring system is not operating. The limit shall not apply during the time valid data is collected by NOx CEM. This condition applies to the following equipment in this emission unit:E1,E2,E3 & E4. [N.J.A.C. 7:27-22.16(e)]	Water-to-Fuel Ratio: Monitored by water-to-fuel monitoring device continuously, based on no averaging period. 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(e)]	Water-to-Fuel Ratio: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Subject Item: CD2 Dry Low NOx on Module No. 1101, CD4 Dry Low NOx Combustors on Unit No. 1, Module 1201, CD6 Dry Low NOx Combustors on Unit No. 1, Module 1301, CD8 Dry Low NOx Combustors on Unit No. 1, Module 1401

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The permittee shall operate and maintain Dry Low NOx Burners on the gas turbine as per manufacturer's requirements. This condition applies to E1, E2, E3, E4, E13, & E14: Module No. 1101, 1201, 1301, 1401, 2101, & 2201. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency in a permanently bound log book or readily accessible computer memories. The permittee shall maintain Dry Low NOx Burner manufacturer's specifications, and operation and maintenance manual (O&M) on-site. [N.J.A.C. 7:27-22.16(e)]	None.
2	Dry Low NOx combustors, shall be used and operated at all times that the combustion turbines are combusting natural gas except during power augmentation operation (E1, E2, E3, and E4 only) and start-up, shutdown, mechanical safety testing, or mode transfer periods. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by manual logging of parameter at the approved frequency in a permanently bound log book or readily accessible computer memories. All records of use shall be maintained on-site. [N.J.A.C. 7:27-22.16(e)]	None.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Subject Item: CD13 Selective Catalyst Unit 2 Module 2101, CD17 Selective Catalyst Unit 2 Module 2201

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Temperature upstream of SCR System \geq 550 degrees Fahrenheit, except during startups shutdowns, mechanical safety testing or mode transfer periods. The permittee shall not be considered in violation for any deviation from this requirement if corresponding NOx emissions from the gas turbine are in compliance with applicable emission limits as established in this permit. This condition applies to E13 and E14: Unit No. 2, Module Nos. 2101 and 2201. [N.J.A.C. 7:27-22.16(e)]	Monitored by temperature instrument continuously, based on a 1 hour block average. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current/voltage output. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by strip chart, round chart or data acquisition (DAS) system / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
2	The SCR shall be operated at all times that the turbine is operating, except during start-up, shutdown, mechanical safety testing or mode transfer periods. This condition applies to E13 and E14: Unit No. 2, Module Nos. 2101 and 2201. [N.J.A.C. 7:27-22.16(e)]	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(e)]	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(e)]	None.
3	NOx Control Efficiency \geq 70 % for Selective Catalytic Reduction (SCR) (design value). [N.J.A.C. 7:27-22.16(e)]	NOx Control Efficiency: Monitored by documentation of construction once initially. [N.J.A.C. 7:27-22.16(o)]	NOx Control Efficiency: Recordkeeping by manual logging of parameter at the approved frequency. The permittee shall use a Hitachi or equivalent SCR system for controlling NOx emissions. 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(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	Ammonia Flow Rate to SCR \geq 15 gal/hr. The permittee shall use a 25% (v/v) minimum concentration of aqueous ammonia in the SCR unit for reducing NOx emissions at the stack. The permittee shall not be considered in violation for any deviation from this requirement if corresponding NOx emissions from the gas turbine are in compliance with applicable emission limits as defined in this permit. [N.J.A.C. 7:27-22.16(e)]	Ammonia Flow Rate to SCR: Monitored by material feed/flow monitoring continuously, based on a 1 hour block average. [N.J.A.C. 7:27-22.16(e)]	Ammonia Flow Rate to SCR: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
5	The SCR shall be operated at all times that the turbine is operating, except during start-up, shutdown, mechanical safety testing or mode transfer periods. [N.J.A.C. 7:27-22.16(e)]	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(e)]	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(e)]	None.
6	The SCR catalyst 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(e)]	Other: Monitored by documentation of construction.[N.J.A.C. 7:27-22.16(e)].	Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency. The permittee shall maintain the following catalyst maintenance and replacement records on-site. [N.J.A.C. 7:27-22.16(e)]	None.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Subject Item: CD14 Oxidation Catalyst Unit 2 Module 2101, CD18 Selective Catalyst Unit 2 Module 2201

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The oxidation catalyst (CD14) array(s) shall be maintained and replaced in accordance with the recommendations and schedules of the manufacturer, based on usage rate. This condition applies to E13 & E14: Unit No. 2, Module No. 2101 & 2201. [N.J.A.C. 7:27-22.16(e)]	Other: Monitored by documentation of construction.[N.J.A.C. 7:27-22.16(e)].	Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency. The permittee shall maintain the following catalyst maintenance and replacement records on-site. [N.J.A.C. 7:27-22.16(e)]	None.
2	Temperature at Exit of Catalyst \geq 550 degrees F Except during startup/shutdown, mechanical safety testing or fuel transfer periods. The permittee shall not be considered in violation for any deviation from this requirement if corresponding CO emissions from the gas turbine are in compliance with applicable emission limits as established in this permit. This condition applies to oxidation catalysts on E13 & E14: Unit No. 2, Module No. 2101 & 2201. [N.J.A.C. 7:27-22.16(e)]	Temperature at Exit of Catalyst: Monitored by temperature instrument continuously, based on a 1 hour block average. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current/voltage output. [N.J.A.C. 7:27-22.16(e)]	Temperature at Exit of Catalyst: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously upon occurrence of event. [N.J.A.C. 7:27-22.16(e)]	None.
3	The oxidation catalysts, referred by CD14 OxCat2101 and CD18 OxCat2201 shall be operated at all times that the turbine is operating except during start-up, shutdown, mechanical safety testing, and mode transfer periods. This condition applies to oxidation catalysts on E13 & E14: Unit No. 2, Module No. 2101 & 2201. [N.J.A.C. 7:27-22.16(e)]	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(e)]	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(e)]	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201
Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Summary of Applicable Federal Regulations: 40 CFR 60 Subpart A 40 CFR 60 Subpart GG 40 CFR 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>STACK TESTING SUMMARY: The permittee shall conduct a stack test no later than every five years (See General Provisions) from last stack test for U1 Unit 1 turbines (E1, E2, E3, and E4) and U1 Unit 2 turbines (E13 and E14) using an approved protocol to demonstrate compliance with NOx and CO emissions for natural gas firing as specified in the compliance plan for OS1 thru OS12, OS37, OS38, and OS41 through OS44.</p> <p>Stack testing shall be conducted for NOx, CO, VOC, TSP, PM-2.5 and PM-10 emissions as specified in the compliance plan for OS13 thru OS20, OS39, OS40, OS45 and OS46, within 180 calendar days after a turbine (E1, E2, E3, E4, E13 or E14) reaches 300 operating hours on ultra low sulfur distillate oil (ULSD) with 0.0015% sulfur by weight or less) in a given calendar year for the first time during the 5 year permit term. Each turbine shall be tested a maximum of once per term when firing oil. The permittee shall provide EMS with the turbine load performance curve with the protocol.</p> <p>The duct burner shall be in operation during stack testing.</p> <p>Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Other: Monitoring as required under the applicable operating scenario(s).</p> <p>The permittee may propose, in the stack testing protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and 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 in applicable requirement.[N.J.A.C. 7:27-22.16(o)].</p>	<p>Other: Recordkeeping as required under the applicable operating scenario(s).[N.J.A.C. 7:27-22.16(o)].</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 09-01, PO Box 420, Trenton, NJ 08625 no later than 12 months prior to the completion of the five year period since last stack test for natural gas burning. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert.</p> <p>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 300 operating hours on ULSD oil in a given calendar year. Within 30 days of protocol approval, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. 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. The test results shall report lb/hr, lb/hr corrected to ISO conditions and lb/MW-hr(for NOx only), lb/MMBTU(HHV) and ppm_{dv}@15% O₂ (For VOC, CO & NOx only). For the purpose of determining compliance with NSPS Subpart GG, loads shall be corrected to ISO conditions. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]</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>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>	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]
4	The owner or operator shall develop a QA/QC plan for each CEMS/COMS required by this permit prepared in accordance with the NJDEP Technical Manual 1005 posted on the BoSS webpage at https://dep.nj.gov/boss/ [N.J.A.C. 7:27-22.16(a)]	Other: The QA/QC coordinator shall be responsible for reviewing the QA/QC plan on an annual basis. [N.J.A.C. 7:27-22.16(o)].	Other: Maintain readily accessible records of the QA/QC plan including QA data and quarterly reports. [N.J.A.C. 7:27-22.16(o)].	None.
5	The permittee shall submit an Excess Emission Monitoring Performance Report to the Department for review and approval [N.J.A.C. 7:27-22.16(e)]	None.	None.	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 to the Department for review and approval. [N.J.A.C. 7:27-22.16(a)]
6	Carbon monoxide <= 250 ppm @ 15% O2. [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage each quarter hour during operation. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	VOC (Total) <= 50 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	None.	None.	None.
8	The owner or operator of a stationary combustion turbine that has a maximum gross heat input rate of 25 million BTU per hour or more and associated duct burner (if a duct burner is installed) shall ensure that the adjustment of the combustion process is carried out according to the manufacturer's recommended procedures and maintenance schedules as set forth at N.J.A.C. 7:27-19.16(g). [N.J.A.C. 7:27-22.16(a)], [N.J.A.C. 7:27-16.9(f)] and [N.J.A.C. 7:27-19.e]	Other: Monitored by continuous emission monitoring (CEMS) or by periodic emission monitoring upon performing combustion adjustment. If not using a certified CEMS, monitoring shall be performed in accordance with the specific procedures for combustion adjustment monitoring specified in NJDEP Technical Manual 1005.[N.J.A.C. 7:27-19.16(g)].	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event The permittee shall record the following information for each adjustment in a log book or computer data system: 1. The date and times the adjustment began and ended; 2. The name, title, and affiliation of the person who performed the procedure and adjustment; 3. The type of procedure and maintenance performed; 4. The concentration of NO _x , CO, and O ₂ measured before and after the adjustment was made; and 5. The type and amount of fuel use over the 12 months prior to the adjustment. The records shall be kept for a minimum of 5 years and be readily accessible to the Department upon request. [N.J.A.C. 7:27-19.16(h)]	None.
9	The Permittee of the adjusted equipment or source operation shall ensure that the operating parameter settings are established and recorded after the combustion process is adjusted and that the adjusted equipment or source operation is maintained to operate consistent with the annual adjustment. [N.J.A.C. 7:27-19.16(e)]	Other: Monitor and maintain the operating parameter settings that are established after the combustion process is adjusted in order to operate consistent with the annual adjustment.[N.J.A.C. 7:27-22.16(o)].	Other: The owner or operator shall record the operating parameter settings that are established after the combustion process is adjusted. [N.J.A.C. 7:27-19.16(e)].[N.J.A.C. 7:27-19.16(e)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
10	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)]. [N.J.A.C. 7:27-19.16(f)]	None.	None.	None.
11	NOx (Total) <= 1.3 lb/MW-hr. NOx RACT emission limit applies during all periods of natural gas combustion. [N.J.A.C. 7:27-19.5(d)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. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
12	NOx (Total) <= 2 lb/MW-hr. NOx RACT emission limit applies during all periods of fuel oil (Ultra low sulfur distillate oil) combustion. [N.J.A.C. 7:27-19.5(d)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. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
13	Combustion turbine fuel limited to natural gas and/or ultra low sulfur distillate oil (ULSD) with a sulfur content of 0.0015% by weight or less. [N.J.A.C. 7:27-22.16(o)]	Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by fuel certification receipts per delivery, manual logging of % sulfur per delivery in a permanently bound log book or readily accessible computer memories. [N.J.A.C. 7:27-22.16(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Each gas turbine is authorized to be equipped with an inlet Air Fogging System to, at the permittee's discretion, introduce atomized demineralized water to cool and humidify the gas turbine inlet air. [N.J.A.C. 7:27-22.16(e)]	Other: Monitored by material feed/flow monitoring upon occurrence of event, based on an instantaneous determination.[N.J.A.C. 7:27-22.16(e)].	Other: Recordkeeping by manual logging of parameter in a permanently bound log book or readily accessible computer memories. The permittee shall record the time and date when the air fogging system was used and relevant process operating parameters associated with the use of the air fogging system.[N.J.A.C. 7:27-22.16(e)].	None.
15	Ammonia Slip <= 10 ppmdv. This condition applies to Unit #2, modules 2101 and 2201. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
16	All requests, reports, applications, submittals, and other communications to the Administrator pursuant to Part 60 shall be submitted in duplicate to the Regional Office of US Environmental Protection Agency. Submit information to: Director, Division of Enforcement & Compliance Assistance, US EPA, Region 2, 290 Broadway, New York, NY 10007-1866. [40 CFR 60.4(a)]	None.	None.	Submit a report: As per the approved schedule to EPA Region 2 as required by 40 CFR 60. [40 CFR 60.4(a)]
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. [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	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)]

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

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

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	The owner or operator shall 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. The report shall be postmarked by the 30th day following the end of each six-month period. The report shall be submitted to the EPA Region 2 Administrator and the appropriate Regional Enforcement Office of NJDEP and be in the format as specified at 40 CFR 60.7(c) and 40 CFR 60.7(d). [40 CFR 60.7(c)]
22	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.
23	Performance tests shall be conducted under conditions the Administrator specifies to the plant operator based on representative performance of the 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 be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	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). [N.J.A.C. 7:27- 8]
25	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.
26	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.
27	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.
28	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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
29	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)]	Other: 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[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)]
30	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). (See Applicable Requirement for PT1).[40 CFR 60.13(d)].	None.
31	Except for breakdowns, repairs, and calibrations checks, and zero and span adjustments, all continuous monitoring systems measuring emissions except opacity shall be in continuous operation. They shall complete a minimum of one cycle of operation (sampling, analyzing and data recording) for each successive 15-minute period. [40 CFR 60.13(e)(2)]	Other: See Applicable Requirement.[40 CFR 60.13(e)(2)].	Other: See Applicable Requirement.[40 CFR 60.13(e)(2)].	None.
32	All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring system contained in the applicable Performance Specifications of Appendix B of 40 CFR 60 shall be used. [40 CFR 60.13(f)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
33	The owner or operator shall reduce all continuous monitoring systems (other than opacity) data to 1-hour averages which shall be computed from four or more data points equally spaced over each 1-hour period. Data recorder during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages. [40 CFR 60.13(h)]	None.	Other: See Applicable Requirement.[40 CFR 60.13(h)].	None.
34	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.
35	The permittee shall operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. This system shall be accurate to within +/-5.0%. [40 CFR 60.334(a)]	Other: Water-to-fuel ratio monitor. Continuously.[40 CFR 60.334(a)].	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. All water to fuel ratio records shall be kept on-site for at least five (5) years and readily made available to the Department upon request. [40 CFR 60.334(a)]	None.
36	Sulfur Content in Fuel <= 0.8 % by weight. No owner or operator subject to the provisions of this subpart shall burn any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)]	<p>Sulfur Content in Fuel: Monitored by other method (provide description) at the approved frequency. For fuel oil: Pursuant to 40 CFR 60.334(i)(1), the Permittee shall monitor the sulfur content of fuel oil using one of the total sulfur sampling options and associated sampling frequency described in 40 CFR 60.334(i)(1).</p> <p>Test methods and procedures shall be consistent with the requirements of 40 CFR Part 60.335.</p> <p>A minimum of three fuel samples shall be collected during the performance test in accordance with 40 CFR 60.335(b)(10). [40 CFR 60.335]</p>	Other: The permittee shall keep a record of each analysis of fuel sulfur content [40 CFR 60.334(j)(2)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
37	Sulfur Content in Fuel <= 0.8 % by weight. No owner or operator subject to the provisions of this subpart shall burn any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)]	Sulfur Content in Fuel: Monitored by other method (provide description) at the approved frequency. For gaseous fuel that is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u): Monitored by current, valid purchase contract, tariff sheet or transportation contract for gaseous fuel specifying that the maximum total Sulfur content of the fuel is 20.0 grains/100 scf or less. [40 CFR 60.334 (h)(3)(i)] and. [40 CFR 60.335]	Other: Maintain current, valid tariff sheet for the gaseous fuel specifying that the maximum sulfur content of the fuel is 20.0 grains/100 scf or less. [40 CFR 60.334(h)(3)(i)].	None.
38	The owner or operator may, as alternative to operating the continuous monitoring system described in 40 CFR 60.334(a), install, certify, maintain, operate, and quality-assure a continuous monitoring system (CEMS) consisting of NOx and O2 monitors. As an alternative, a CO2 monitor may be used to adjust the measured NOx concentrations. Each CEMS must be installed and certified according to PS 2 and 3 of 40 CFR Part 60 Appendix B. If the owner or operator has installed a NOx CEMS to meet the requirements 40 CFR Part 75 and is continuing to meet the ongoing requirements of 40 CFR Part 75, the CEMS may be used to meet the requirements of this section. If CEMS in conformance with 40 CFR Part 75 is used, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report. [40 CFR 60.334(b)]	Monitored by continuous emission monitor continuously. [40 CFR 60.334]	None.	None.
39	The owner or operator of a turbine that does not use steam or water injection may, for purposes of determining excess emissions, use a CEMS that meets the requirements of 40 CFR 60.334(b), or use an alternative procedure of continuously monitoring compliance with the applicable NOx limit if such procedure was previously approved by the Administrator. [40 CFR 60.334(c)]	Monitored by other method (provide description) continuously. [40 CFR 60.334]	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
40	The owner or operator of a turbine on which the steam or water to fuel ratio or other parameters are being continuously monitored shall develop and keep on -site a parameter monitoring plan which explains the procedure used to document proper operation of the NOx emission controls. [40 CFR 60.334(g)]	None.	Recordkeeping by other recordkeeping method (provide description) once initially. The parameter monitoring plan shall include information required by 40 CFR 60.334(g). [40 CFR 60.334(g)]	None.
41	The owner or operator shall monitor the total sulfur content of the fuel being fired in the turbine if the fuel fired in the turbine does not meet the definition of natural gas as provided in 40 CFR 60.331(u). The owner or operator shall use the methods specified in 40 CFR 60.335(b)10. The analyses may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.334(h)(1)]	Monitored by grab sampling at the approved frequency. Sulfur content values shall be determined on each occasion that fuel is transferred to the storage tank from any other source. If a custom fuel monitoring schedule has previously been approved, the owner or operator may continue monitoring on this schedule without submitting a special petition to the Administrator. [40 CFR 60.334(i)]	Recordkeeping by certified lab analysis results at the approved frequency. The owner or operator shall record the results of each analysis for fuel sulfur content. [40 CFR 60.334(i)]	None.
42	The owner or operator shall monitor the total sulfur content of the fuel being fired in the turbine if the fuel fired in the turbine does not meet the definition of natural gas as provided in 40 CFR 60.331(u). The owner or operator shall use the methods specified in 40 CFR 60.335(b)10. The analyses may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.334(h)(1)]	Monitored by grab sampling daily. The sulfur content value of the fuel shall be determined and recorded once per unit operating day, or as specified in 40 CFR 60.334(i)(3)(i) and (ii), or as specified in a custom schedule approved by the Administrator. If a custom fuel monitoring schedule has previously been approved, the owner or operator may continue monitoring on this schedule without submitting a special petition to the Administrator. [40 CFR 60.334(i)]	Recordkeeping by certified lab analysis results daily. The owner or operator shall record the results of each analysis for fuel sulfur content. [40 CFR 60.334(i)]	None.
43	The owner or operator shall monitor nitrogen content of the fuel being fired in the turbine if the owner or operator claims an allowance for fuel bound nitrogen. The owner or operator shall use the methods specified in 40 CFR 60.335(b)9 or an approved alternative. The analyses may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.334(h)(2)]	Monitored by other method (provide description) daily. Any applicable nitrogen content value of the gaseous fuel or fuel oil shall be determined and recorded once per unit operating day. If a custom fuel monitoring schedule has previously been approved, the owner or operator may continue monitoring on this schedule without submitting a special petition to the Administrator. [40 CFR 60.334(i)]	Recordkeeping by certified lab analysis results daily. The owner or operator shall record the results of each analysis for fuel nitrogen content. [40 CFR 60.334(i)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
44	The owner or operator may elect not to monitor nitrogen content of the fuel being fired in the turbine if the owner or operator does not claim an allowance for fuel bound nitrogen. [40 CFR 60.334(h)(2)]	None.	None.	Demonstrate compliance: Once initially. [40 CFR 60.334(h)(2)]
45	The owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u) regardless of whether an existing custom schedule approved by the Administrator. [40 CFR 60.334(h)(3)]	None.	None.	Demonstrate compliance: Once initially. The owner or operator shall submit the required determination to the Administrator using the sources of information described in 40 CFR 60.334(h)(3)(i) or (ii) showing the maximum total sulfur content. [40 CFR 60.334(h)(3)]
46	The owner or operator shall submit reports of excess emissions and monitor downtime for Nitrogen oxides. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions and monitor downtime that shall be reported are defined in 40 CFR 60.334(j)(1)(i) or (iii) as follows: any unit operating hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined by the performance test (40 CFR 60.8) to demonstrate compliance with the NO _x concentration limit specified in 60.332, or, any unit operating hour during which the 4-hour rolling average NO _x concentration exceeds the applicable NO _x emission limit specified in 60.332. Any unit operating hour in which no water or steam is injected shall also be considered an excess emissions. [40 CFR 60.334(j)(1)]	None.	None.	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every quarter beginning on the 30th of the 3rd month following initial performance tests. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load. Pursuant to 40 CFR 60.334(j)5, all reports shall be postmarked by the 30th day following the end of each calendar quarter. [40 CFR 60.334(j)(1)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
47	The owner or operator shall submit reports of excess emissions and monitor downtime for Nitrogen content in fuel. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions and monitor downtime that shall be reported are defined in 40 CFR 60.334(j)(1)(ii)(A) and (B) as follows: any period during which the fuel bound nitrogen of the fuel is greater than the maximum nitrogen content allowed using the performance test required by 40 CFR 60.8. [40 CFR 60.334(j)(1)(ii)]	None.	None.	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every quarter beginning on the 30th of the 3rd month following initial performance tests. Pursuant to 40 CFR 60.334(j)5, all reports shall be postmarked by the 30th day following the end of each calendar quarter. [40 CFR 60.334(j)(1)(ii)]
48	The owner or operator shall submit reports of excess emissions and monitor downtime for Sulfur dioxide. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions and monitor downtime that shall be reported are defined in 40 CFR 60.334(j)(2). [40 CFR 60.334(j)(2)]	None.	None.	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every quarter beginning on the 30th of the 3rd month following initial performance tests. Pursuant to 40 CFR 60.334(j)5, all reports shall be postmarked by the 30th day following the end of each calendar quarter. [40 CFR 60.334(j)(2)]
49	The owner or operator shall report to the Administrator each period during which an exemption provided in 40 CFR Part 60.332(f) is in effect. [40 CFR 60.334(j)(3)]	None.	None.	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every quarter beginning on the 30th of the 3rd month following initial performance tests. The report shall contain for each period, the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time the air pollution control system was reactivated shall be reported. Pursuant to 40 CFR 60.334(j)5, all reports shall be postmarked by the 30th day following the end of each calendar quarter. [40 CFR 60.334(j)(3)]

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
50	The owner or operator shall include in the report required by 40 CFR Part 60.7(c), each period during which an exemption provided in 40 CFR Part 60.332(k) is in effect. [40 CFR 60.334(j)(4)]	None.	None.	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every quarter beginning on the 30th of the 3rd month following initial performance tests. The report shall contain for each period, the type, reasons, and duration of the firing of the emergency fuel. Pursuant to 40 CFR 60.334(j)5, all reports shall be postmarked by the 30th day following the end of each calendar quarter. [40 CFR 60.334(j)(4)]
51	Comply with the requirements contained in the attached Acid Rain Permit. [40 CFR 72]	Other: Comply with the requirements contained in the attached Acid Rain Permit. See Appendix III.[40 CFR 72].	Other: Comply with the requirements contained in the attached Acid Rain Permit. See Appendix III.[40 CFR 72].	Other (provide description): Upon occurrence of event , comply with the requirements contained in the attached Acid Rain Permit. See Appendix III. [40 CFR 72]
52	The permittee shall comply with applicable 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 applicable requirement[40 CFR 97].	Other: As per the applicable requirement[40 CFR 97].	Other (provide description): Other. As per the applicable requirement. [40 CFR 97]

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS1 Unit No. 1 Module 1101 - Turbine firing natural gas, pre-mix operation with or without water injection, OS2 Unit No. 1 Module 1201 - Turbine firing natural gas, pre-mix operation with or without water injection, OS3 Unit No. 1 Module 1301 - Turbine firing natural gas, pre-mix operation with or without water injection, OS4 Unit No. 1 Module 1401 - Turbine firing natural gas, pre-mix operation with or without water injection

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP <= 151.48 lb/hr. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	VOC (Total) <= 6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
3	VOC (Total) <= 3.5 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
4	NO _x (Total) <= 58.7 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three 1-hour tests. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
5	NO _x (Total) <= 0.045 lb/MMBTU at the High Heat Value (HHV). [N.J.A.C. 7:27-22.16(e)]	NO _x (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. The lb NO _x -NO ₂ /MMBTU shall be computed as follows: lb NO _x -NO ₂ /hr divided by actual heat input (MMBTU/hr) at HHV during stack testing, or as approved by EMS. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (See U1 OS Summary for stack testing details). [N.J.A.C. 7:27-22.16(e)]
6	NO _x (Total) <= 12 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct B

OS1, OS2, OS3, OS4

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	NO _x (Total) <= 12 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NO _x (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. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]
8	CO <= 21 lb/hr. [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
9	CO <= 7 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three 1-hour tests (See U1 OS Summary for stack testing 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) (See U1 OS Summary for stack testing details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]
10	CO <= 7 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27- 8.13(h)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
11	SO ₂ <= 1.25 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
12	TSP <= 6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	PM-2.5 (Total) <= 7.6 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
14	PM-10 (Total) <= 7.6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
15	Sulfuric Acid Mist Emissions <= 0.21 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	Maximum gross heat input from preconstruction permit is 1514.8 MMBTU/Hr per module, at HHV when firing natural gas, that accounts for Diffusion power augmentation mode with water injection. [N.J.A.C. 7:27-22.16(e)]	None.	Other: Keep records showing maximum heat input rate for each turbine[N.J.A.C. 7:27-22.16(o)].	None.
17	NOx (Total) <= 109 ppmvd @ 15% O ₂ . No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	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)]
18	NOx (Total) <= 109 ppmvd @ 15% O ₂ . No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(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 1-hour tests. See STACK TESTING SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334(o)]	NOx (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). See STACK TESTING SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
19	Acetaldehyde <= 0.0606 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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	Acrolein <= 0.00969 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
21	Benzene <= 0.0182 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	Butadiene (1,3-) <= 0.000651 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Dioxins/Furans (Total) <= 3.79E-7 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.
24	Ethylbenzene <= 0.0485 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. [None]	Ethylbenzene: 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	Formaldehyde <= 1.08 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [None]	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.
26	Pb <= 0.000785 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
27	Manganese compounds <= 0.012 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
28	Mercury Emissions \leq 0.000636 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Methane \leq 3.34 lb/hr. Emissions based on maximum heat input rate of the turbine in (MMBtu/hr, HHV) and emissions factors from 40 CFR 98, Subpart C. [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.
30	Methylnaphthalene (2-) \leq 0.000251 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI, Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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 0.00197 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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	Nickel Emissions \leq 0.00226 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
33	Nitrous oxide \leq 0.333 lb/hr. Emissions based on maximum heat input rate of the turbine in (MMBtu/hr, HHV) and emissions factors from 40 CFR 98, Subpart C. [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.
34	Polycyclic organic matter \leq 0.00333 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
35	Polynuclear aromatic hydrocarbons (PAHs) <= 0.00333 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
36	Propylene oxide <= 0.0439 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
37	Toluene <= 0.197 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.6(a)]	Toluene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS5 Unit No. 1 Module 1101 - Turbine firing natural gas, minimum load, OS6 Unit No. 1 Module 1201 - Turbine firing natural gas, minimum load, OS7 Unit No. 1 Module 1301 - Turbine firing natural gas, minimum load, OS8 Unit No. 1 Module 1401 - Turbine firing natural gas, minimum load

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP <= 0.1 lb/MMBTU. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	VOC (Total) <= 6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
3	VOC (Total) <= 3.5 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
4	NO _x (Total) <= 58.7 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]
5	NO _x (Total) <= 12 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. CEMs: For Submittal Requirements, See U1 OS Summary, Ref. #3. [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 _x (Total) ≤ 12 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average (See CEMS REQUIREMENTS at U1 OS Summary). [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously (See CEMS REQUIREMENTS at U1 OS Summary). [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every quarter (three months) beginning on the first of the month of the first full quarter following the effective date of the approved permit. Quarters shall begin on January 1, April 1, July 1, and October 1 of each year (See CEMS REQUIREMENTS at U1 OS Summary). [N.J.A.C. 7:27-22.16(o)]
7	CO ≤ 61.5 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
8	CO ≤ 30 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. CEMS: For Submittal Requirements, See U1 OS Summary, Ref. #3. [N.J.A.C. 7:27-22.16(o)]
9	CO ≤ 0.053 lb/MMBTU at the High Heat Value (HHV). [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
10	SO ₂ ≤ 1.25 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	TSP ≤ 6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct B

OS5, OS6, OS7, OS8

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	PM-10 (Total) <= 7.6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	PM-2.5 (Total) <= 7.6 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
14	The permittee shall not operate more than one (1) turbine at minimum load, at any time, firing natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
15	NOx (Total) <= 109 ppmvd @ 15% O ₂ . No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] &. [40 CFR 60.334]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] &. [40 CFR 60.334]	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)]
16	Sulfuric Acid Mist Emissions <= 0.21 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
17	Acetaldehyde <= 0.0606 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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	Acrolein <= 0.00969 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
19	Benzene <= 0.0182 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
20	Butadiene (1,3-) <= 0.00651 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Dioxins/Furans (Total) <= 0.000000379 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.
22	Ethylbenzene <= 0.0485 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Ethylbenzene: 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	Formaldehyde <= 1.08 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
24	Lead compounds <= 0.000785 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Lead compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Lead 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.
25	Manganese compounds <= 0.012 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	Mercury Emissions \leq 0.000636 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Methane \leq 3.34 lb/hr. Emissions based on maximum heat input rate of the turbine in (MMBtu/hr, HHV) and emissions factors from 40 CFR 98, Subpart C. [N.J.A.C. 7:27-22.16(o)]	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.
28	Methylnaphthalene (2-) \leq 0.000251 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI, Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Naphthalene \leq 0.00197 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
30	Nickel Emissions \leq 0.00226 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
31	Nitrous oxide \leq 0.334 lb/hr. Emissions based on maximum heat input rate of the turbine in (MMBtu/hr, HHV) and emissions factors from 40 CFR 98, Subpart C. [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.
32	Polycyclic organic matter \leq 0.00333 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
33	Polynuclear aromatic hydrocarbons (PAHs) <= 0.00333 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
34	Propylene oxide <= 0.0439 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
35	Toluene <= 0.197 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.6(a)]	Toluene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.

BOP190002

New Jersey Department of Environmental Protection Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS9 Unit No. 1 Module 1101 - Turbine firing natural gas, Diffusion power augmentation mode with water injection, OS10 Unit No. 1 Module 1201 - Turbine firing natural gas, Diffusion power augmentation mode with water injection, OS11 Unit No. 1 Module 1301 - Turbine firing natural gas, Diffusion power augmentation mode with water injection, OS12 Unit No. 1 Module 1401 - Turbine firing natural gas, Diffusion power augmentation mode with water injection

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP <= 151.48 lb/hr. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	VOC (Total) <= 7 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
3	NOx (Total) <= 269 lb/hr. [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
4	NOx (Total) <= 0.1 lb/MMBTU. When the combustion turbine is operated in Diffusion power augmentation mode with water injection, the daily average nitrogen oxides emission limits shall not exceed 0.1 lbs of NOx per million Btu (HHV). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal (See U1 OS Summary for CEMS details). [N.J.A.C. 7:27-22.16(o)]
5	NOx (Total) <= 0.178 lb/MMBTU. [N.J.A.C. 7:27-22.16(e)]	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 1-hour tests. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (See U1 OS Summary for stack testing details). [N.J.A.C. 7:27-22.16(e)]

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	NO _x (Total) ≤ 48 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
7	NO _x (Total) ≤ 48 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NO _x (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. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit a stack test report: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	CO ≤ 23.8 lb/hr. [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
9	CO ≤ 7 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
10	CO ≤ 7 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing every 5 years (based on completion date of the last stack test), based on the average of three 1-hour tests. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
11	Sulfuric Acid Mist Emissions ≤ 0.27 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
12	SO ₂ ≤ 1.63 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct B

OS9, OS10, OS11, OS12

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	TSP <= 6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
14	PM-10 (Total) <= 9.9 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
15	PM-2.5 (Total) <= 9.9 lb/hr. [N.J.A.C. 7:27-21.16(a)]	None.	None.	None.
16	Maximum gross heat input from preconstruction permit is 1514.8 MMBTU/Hr per module, at HHV, corresponding to 100% output and an ambient temperature of less than 94 degrees Fahrenheit, when firing natural gas, that accounts for Diffusion power augmentation mode with water injection. [N.J.A.C. 7:27-22.16(e)]	None.	Other: Keep records showing maximum heat input rate for the turbine[[N.J.A.C. 7:27-22.16(o)].	None.
17	NOx (Total) <= 109 ppmvd @ 15% O ₂ . No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average [N.J.A.C. 7:27-22.16(o)] &. [40 CFR 60.334]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously [N.J.A.C. 7:27-22.16(o)] &. [40 CFR 60.334]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Semi-annually beginning on the 30th day of the 6th month following initial performance tests. The report shall be postmarked by the 30th day following the end of each six-month period. The report shall be submitted to the EPA Region 2 Administrator and the appropriate Regional Enforcement Office of NJDEP and be in the format as specified at 40 CFR 60.7(c) and 40 CFR 60.7(d). [40 CFR 60.7(c)]
18	NOx (Total) <= 109 ppmvd @ 15% O ₂ . No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): 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. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)] &. [40 CFR 60.334]	NOx (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)] &. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [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	Hours of Operation <= 400 hr/yr. The total number of operating hours of all of the four (4) combustion turbines E1, E2, E3, E4 of Unit No. 1 added together shall not exceed 400 hours per calendar year when operating in Diffusion power augmentation (PAG) mode firing natural gas. [N.J.A.C. 7:27-22.16(a)]	Hours of Operation: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Hours of Operation: Recordkeeping by manual logging of parameter or storing data in a computer data system continuously. [N.J.A.C. 7:27-22.16(o)]	None.
20	Maximum gross annual heat input limit during Diffusion Power Augmentation (DPAG) Mode is 1.21E12 BTU/any period of consecutive 3 days for Unit 1 combined @ high heat value (HHV). The heat input (BTU) per 365 consecutive days shall be calculated by the sum of the heat input (BTU) during any one day added to the sum of the heat input during the preceding 364 days. However the maximum gross annual heat input during Diffusion Power Augmentation (DPAG) Mode for Unit 1, from preconstruction permit, shall not exceed 6.04E11 Btu/yr at HHV in any calendar year. [N.J.A.C. 7:27-22.16(a)]	BTU/yr shall be based on actual annual fuel usage @ high heat value (HHV). The permittee shall install and operate arunning gas use-totallizing meter on each turbine to monitor the consumption of natural gas, per turbine, in any 365 consecutive days period. The running gas meter shall be installed, operated, and calibrated according to manufacturer's recommendations. Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis). [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously Compliance with Btu/365 day limit shall be determined based on any 365 consecutive day period. Heat input per any 365 consecutive days period shall be calculated by the sum of the heat input calculated during any one day added to the sum of the heat input calculated during the preceding 364 days. CUFT of natural gas/day x high heating value (HHV) = BTU/day. Daily heat input shall be calculated as the sum of hourly values recorded for this day. This procedure will begin with the first day following the final issuance of the Operating permit. Compliance with Btu/yr limit shall be determined based on one calendar year. [N.J.A.C. 7:27-22.16(o)]	None.
21	Acetaldehyde <= 0.0606 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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.
22	Acrolein <= 0.00969 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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
23	Benzene \leq 0.0182 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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	Butadiene (1,3-) \leq 0.000651 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Dioxins/Furans (Total) \leq 0.000000379 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.
26	Ethylbenzene \leq 0.0485 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Ethylbenzene: 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	Formaldehyde \leq 1.08 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
28	Lead compounds \leq 0.000785 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Lead compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Lead 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.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
29	Manganese compounds \leq 0.012 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
30	Mercury Emissions \leq 0.000636 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Methane \leq 3.34 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from 40 CFR 98, Subpart C. [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	Methylnaphthalene (2-) \leq 0.000251 lb/hr. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Naphthalene \leq 0.00197 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
34	Nickel Emissions \leq 0.00226 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
35	Nitrous oxide \leq 0.334 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from 40 CFR 98, Subpart C. [N.J.A.C. 7:27-22.6(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
36	Polycyclic organic matter \leq 0.00333 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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 0.00333 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
38	Propylene oxide \leq 0.0439 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS13 Unit No. 1 Module 1101 - Turbine firing low sulfur distillate oil, diffusion mode with water injection., OS14 Unit No. 1 Module 1201 - Turbine firing low sulfur distillate oil, diffusion mode with water injection., OS15 Unit No. 1 Module 1301 - Turbine firing low sulfur distillate oil, diffusion mode with water injection., OS16 Unit No. 1 Module 1401 - Turbine firing low sulfur distillate oil, diffusion mode with water injection.

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP <= 11 lb/hr. [N.J.A.C. 7:27-22.16(e)]	TSP: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
2	PM-10 (Total) <= 16 lb/hr. [N.J.A.C. 7:27-22.16(e)]	PM-10 (Total): Monitored by stack emission testing at the approved frequency, based on each of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
3	PM-2.5 (Total) <= 16 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
4	VOC (Total) <= 7 lb/hr. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
5	VOC (Total) <= 3.5 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	CO <= 22.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
7	CO <= 22.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
8	CO <= 7 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
9	CO <= 7 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
10	NO _x (Total) <= 225 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	NOx (Total) <= 42 ppmvd @ 15% O2. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
12	NOx (Total) <= 42 ppmvd @ 15% O2. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
13	SO2 <= 2.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
14	Sulfuric Acid Mist Emissions <= 0.4 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
15	NOx (Total) <= 0.163 lb/MMBTU. The pounds of Nitrogen Oxides (NOx) as Nitrogen Dioxide (NO2), emitted per million British Thermal Units (MMBTU) combusted (lbs/MMBTU) shall not exceed 0.163, at the high heat value, and 10 degrees Fahrenheit, firing ultra low sulfur distillate oil. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The lb NOx- NO2/MMBTU shall be computed as follows: lb NOx-NO2/hr divided by actual heat input (MMBTU/hr) at HHV during stack testing, or as approved by EMS. (See STACK TESTING SUMMARY at U1 OS Summary). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results at the approved frequency. The permittee shall record the lb NOx-NO2/MMBTU as measured through stack testing, and as specified in the conditions of this permit. (See U1 OS Summary for stack testing details). The permittee shall record the ambient temperature, pressure, relative humidity and throughput of the gas turbine during the stack testing. The lb NOx- NO2/MMBTU shall be computed as follows: lb NOx-NO2/hr divided by actual heat input (MMBTU/hr) at HHV during stack testing, or as approved by EMS. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
16	Maximum Gross Heat Input <= 1,514.7 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(e)]	None.	Other: Keep records showing maximum heat input rate for the turbine[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	NOx (Total) <= 102 ppmvd @ 15% O ₂ . No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	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)]
18	NOx (Total) <= 102 ppmvd @ 15% O ₂ . No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs (See STACK TESTING SUMMARY at U1 OS Summary) [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	NOx (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
19	Arsenic compounds <= 0.0167 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Arsenic compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic 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.
20	Benzene <= 0.0833 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
21	Beryllium Emissions <= 0.00047 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	Butadiene (1,3-) <= 0.0242 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Cadmium Emissions <= 0.00727 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
24	Formaldehyde <= 0.424 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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 no recordkeeping method required once initially. [N.J.A.C. 7:27-22.16(o)]	None.
25	Pb <= 0.0212 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
26	Manganese Emissions <= 0.156 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
27	Methylnaphthalene (2-) \leq 0.00061 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	1-Methylnaphthalene \leq 0.00274 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines [N.J.A.C. 7:27-22.16(a)]	1-Methylnaphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(a)]	1-Methylnaphthalene: 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	Mercury Emissions \leq 0.00182 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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 \leq 0.0379 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [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 0.053 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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(a)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
32	Nickel Emissions \leq 0.00697 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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(a)]	None.
33	Nitrous oxide \leq 2 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [N.J.A.C. 7:27-22.16(o)]	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.
34	Polynuclear aromatic hydrocarbons (PAHs) \leq 0.0606 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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	Polycyclic organic matter \leq 0.0606 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS17 Unit No. 1 Module 1101 - Turbine firing low sulfur distillate oil, minimum load, OS18 Unit No. 1 Module 1201 - Turbine firing low sulfur distillate oil, minimum load, OS19 Unit No. 1 Module 1301 - Turbine firing low sulfur distillate oil, minimum load, OS20 Unit No. 1 Module 1401 - Turbine firing low sulfur distillate oil, minimum load

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions <= 151.47 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
2	NOx (Total) <= 225 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
3	NOx (Total) <= 42 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage at the approved frequency. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
4	NOx (Total) <= 42 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
5	CO <= 58.62 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	CO <= 0.059 lb/MMBTU. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. The permittee shall determine the lb CO/MMBTU during stack testing, performed according to the conditions of this permit, while the turbine is operating at minimum load, and corresponding fuel consumption at ambient temperature, as determined using the turbine heat input (MMBTU/hr), at high heat value (HHV). The permittee shall record the lb CO/MMBTU as measured through stack testing. The permittee shall record the ambient temperature, pressure, relative humidity and throughput of the gas turbine during the stack testing. The lb CO/MMBTU shall be computed as follows: lb CO/hr divided by actual heat input (MMBTU/hr) at HHV during stack testing, or as approved by EMS. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	Other: The permittee shall record the lb CO/MMBTU as measured through stack testing. The permittee shall record the ambient temperature, pressure, relative humidity and throughput of the gas turbine during the stack testing. The lb CO/MMBTU shall be computed as follows: lb CO/hr divided by actual heat input (MMBTU/hr) at HHV during stack testing, or as approved by EMS. See STACK TESTING SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(e)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
7	CO <= 25 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
8	CO <= 25 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(o)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [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	VOC (Total) <= 3.5 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
10	VOC (Total) <= 7 lb/hr. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
11	TSP <= 11 lb/hr. [N.J.A.C. 7:27-22.16(e)]	TSP: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
12	PM-10 (Total) <= 16 lb/hr. [N.J.A.C. 7:27-22.16(e)]	PM-10 (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
13	PM-2.5 (Total) <= 16 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
14	SO ₂ <= 2.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
15	NO _x (Total) <= 102 ppmvd @ 15% O ₂ . No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)] &. [40 CFR 60.334]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)] &. [40 CFR 60.334]	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
16	Sulfuric Acid Mist Emissions \leq 0.4 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
17	NOx (Total) \leq 102 ppmvd @ 15% O ₂ . Maximum emission rate from preconstruction permit. No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	NOx (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
18	Arsenic compounds \leq 0.0167 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Arsenic compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic 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.
19	Benzene \leq 0.0833 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
20	Beryllium Emissions \leq 0.00047 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
21	Butadiene (1,3-) \leq 0.0242 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	Cadmium Emissions \leq 0.00727 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
23	Formaldehyde \leq 0.424 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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 no recordkeeping method required once initially. [N.J.A.C. 7:27-22.16(o)]	None.
24	Pb \leq 0.0212 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
25	Manganese Emissions \leq 0.156 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	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.
26	Methylnaphthalene (2-) \leq 0.00061 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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
27	1-Methylnaphthalene <= 0.00274 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines [N.J.A.C. 7:27-22.16(a)]	Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(a)]	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	Mercury Emissions <= 0.00182 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Methane <= 10.2 lb/hr. Emissions based on maximum heat input rate of the turbine in (MMBtu/hr, HHV) and emissions factors from 40 CFR 98, Subpart C. [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.
30	Naphthalene <= 0.053 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	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(a)]	None.
31	Nickel Emissions <= 0.00697 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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(a)]	None.
32	Nitrous oxide <= 2 lb/hr. Emissions based on maximum heat input rate of the turbine in (MMBtu/hr, HHV) and emissions factors from 40 CFR 98, Subpart C. [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	Polynuclear aromatic hydrocarbons (PAHs) ≤ 0.0606 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
34	Polycyclic organic matter ≤ 0.0606 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS21 Unit No. 1 Module 1101 - Start-up Gas, OS22 Unit No. 1 Module 1201 - Start-up Gas, OS23 Unit No. 1 Module 1301 - Start-up Gas, OS24 Unit No. 1 Module 1401 - Start-up Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Start-up Period <= 120 minutes. Startup is defined as that period of time from initiation of combustion turbine operation until the unit reaches steady state at 80% to 100% load conditions. [N.J.A.C. 7:27-22.16(e)]	Start-up Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Start-up Period: Recordkeeping by other recordkeeping method (provide description) continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	Nitrogen oxides (NOx) <= 1.3 lb/MW-hr if natural gas is the fuel fired. [N.J.A.C. 7:27-19.5(d)2]	Nitrogen oxides (NOx): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)]	Nitrogen oxides (NOx): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(a)]	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). [N.J.A.C. 7:27-22.16(o)]
3	Carbon monoxide <= 250 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-16.23(a)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
4	VOC (Total) <= 50 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during startup. [N.J.A.C. 7:27-22.16(o)].	None.
5	TSP <= 6 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during startup [N.J.A.C. 7:27-22.16(o)].	None.
6	PM-10 (Total) <= 7.6 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 [N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 7.6 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 [N.J.A.C. 7:27-22.16(o)].	None.
8	SO ₂ <= 1.25 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Bi

OS21, OS22, OS23, OS24

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	Acetaldehyde \leq 0.0606 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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	Acrolein \leq 0.00969 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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	Benzene \leq 0.0182 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
12	Butadiene (1,3-) \leq 0.000651 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Dioxins/Furans (Total) \leq 3.79E-7 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.
14	Ethylbenzene \leq 0.0485 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. [None]	Ethylbenzene: 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
15	Formaldehyde <= 1.08 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [None]	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	Pb <= 0.000785 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
17	Manganese compounds <= 0.012 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
18	Mercury Emissions <= 0.000636 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Methane <= 3.34 lb/hr. Emissions based on maximum heat input rate of the turbine in (MMBtu/hr, HHV) and emissions factors from 40 CFR 98, Subpart C. [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	Methylnaphthalene (2-) <= 0.000251 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI, Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Naphthalene <= 0.00197 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	Nickel Emissions \leq 0.00226 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
23	Nitrous oxide \leq 0.333 lb/hr. Emissions based on maximum heat input rate of the turbine in (MMBtu/hr, HHV) and emissions factors from 40 CFR 98, Subpart C. [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.
24	Polycyclic organic matter \leq 0.00333 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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	Polynuclear aromatic hydrocarbons (PAHs) \leq 0.00333 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
26	Propylene oxide \leq 0.0439 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
27	Toluene \leq 0.197 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.6(a)]	Toluene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS25 Unit No. 1 Module 1101 - Shutdown Gas , OS26 Unit No. 1 Module 1201 - Shutdown Gas, OS27 Unit No. 1 Module 1301 - Shutdown Gas, OS28 Unit No. 1 Module 1401 - Shutdown Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Shutdown Period <= 30 minutes Shutdown is the period of time from the initial lowering of combustion turbine output below 80% of the base load to the cessation of combustion turbine operation. . [N.J.A.C. 7:27-22.16(e)]	Shutdown Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Shutdown Period: Recordkeeping by other recordkeeping method (provide description) continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	Nitrogen oxides (NOx) <= 1.3 lb/MW-hr if natural gas is the fuel fired. [N.J.A.C. 7:27-19.5(d)2]	Nitrogen oxides (NOx): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)]	Nitrogen oxides (NOx): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(a)]	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). [N.J.A.C. 7:27-22.16(o)]
3	Carbon monoxide <= 250 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-16.23(a)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
4	VOC (Total) <= 50 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during shutdown.[N.J.A.C. 7:27-22.16(o)].	None.
5	TSP <= 6 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during shutdown.[N.J.A.C. 7:27-22.16(o)].	None.
6	PM-10 (Total) <= 7.6 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.[N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 7.6 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.[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	SO ₂ ≤ 1.25 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	Acetaldehyde ≤ 0.0606 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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	Acrolein ≤ 0.00969 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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	Benzene ≤ 0.0182 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
12	Butadiene (1,3-) ≤ 0.000651 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Dioxins/Furans (Total) ≤ 3.79E-7 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.
14	Ethylbenzene ≤ 0.0485 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. [None]	Ethylbenzene: 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	Formaldehyde \leq 1.08 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. [None]	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	Pb \leq 0.000785 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
17	Manganese compounds \leq 0.012 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
18	Mercury Emissions \leq 0.000636 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Methane \leq 3.34 lb/hr. Emissions based on maximum heat input rate of the turbine in (MMBtu/hr, HHV) and emissions factors from 40 CFR 98, Subpart C. [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	Methylnaphthalene (2-) \leq 0.000251 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI, Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Naphthalene \leq 0.00197 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	Nickel Emissions \leq 0.00226 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
23	Nitrous oxide \leq 0.333 lb/hr. Emissions based on maximum heat input rate of the turbine in (MMBtu/hr, HHV) and emissions factors from 40 CFR 98, Subpart C. [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.
24	Polycyclic organic matter \leq 0.00333 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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	Polynuclear aromatic hydrocarbons (PAHs) \leq 0.00333 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
26	Propylene oxide \leq 0.0439 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
27	Toluene \leq 0.197 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.6(a)]	Toluene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS29 Unit No. 1 Module 1101 - Startup ULSD, OS30 Unit No. 1 Module 1201 - Startup ULSD, OS31 Unit No. 1 Module 1301 - Startup ULSD, OS32 Unit No. 1 Module 1401 - Startup ULSD

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Start-up Period <= 120 minutes. Startup is defined as that period of time from initiation of combustion turbine operation until the unit reaches steady state at 80% to 100% load conditions. [N.J.A.C. 7:27-22.16(e)]	Start-up Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Start-up Period: Recordkeeping by other recordkeeping method (provide description) continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	Nitrogen oxides (NOx) <= 1.3 lb/MW-hr if natural gas is the fuel fired. [N.J.A.C. 7:27-19.5(d)2]	Nitrogen oxides (NOx): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)]	Nitrogen oxides (NOx): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(a)]	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). [N.J.A.C. 7:27-22.16(o)]
3	Carbon monoxide <= 250 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-16.23(a)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
4	VOC (Total) <= 50 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during startup.[N.J.A.C. 7:27-22.16(o)].	None.
5	TSP <= 11 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during startup[N.J.A.C. 7:27-22.16(o)].	None.
6	PM-10 (Total) <= 16 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[N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 16 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[N.J.A.C. 7:27-22.16(o)].	None.
8	SO ₂ <= 2.4 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Bi

OS29, OS30, OS31, OS32

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS33 Unit No. 1 Module 1101 - Shutdown ULSD, OS34 Unit No. 1 Module 1201 - Shutdown ULSD, OS35 Unit No. 1 Module 1301 - Shutdown ULSD, OS36 Unit No. 1 Module 1401 - Shutdown ULSD

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Shutdown Period <= 30 minutes Shutdown is the period of time from the initial lowering of combustion turbine output below 80% of the base load to the cessation of combustion turbine operation. . [N.J.A.C. 7:27-22.16(e)]	Shutdown Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Shutdown Period: Recordkeeping by other recordkeeping method (provide description) continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	Nitrogen oxides (NOx) <= 2 lb/MW-hr if ULSD is the fuel fired. [N.J.A.C. 7:27-19.5(d)2]	Nitrogen oxides (NOx): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)]	Nitrogen oxides (NOx): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(a)]	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). [N.J.A.C. 7:27-22.16(o)]
3	Carbon monoxide <= 250 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-16.23(a)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
4	VOC (Total) <= 50 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during shutdown.[N.J.A.C. 7:27-22.16(o)].	None.
5	TSP <= 11 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during shutdown.[N.J.A.C. 7:27-22.16(o)].	None.
6	PM-10 (Total) <= 16 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.[N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 16 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.[N.J.A.C. 7:27-22.16(o)].	None.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Bi

OS33, OS34, OS35, OS36

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	SO ₂ ≤ 2.4 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	Arsenic compounds ≤ 0.0167 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Arsenic compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic 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.
10	Benzene ≤ 0.0833 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
11	Beryllium Emissions ≤ 0.00047 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
12	Butadiene (1,3-) ≤ 0.0242 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Cadmium Emissions ≤ 0.00727 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Formaldehyde \leq 0.424 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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 no recordkeeping method required once initially. [N.J.A.C. 7:27-22.16(o)]	None.
15	Pb \leq 0.0212 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
16	Manganese Emissions \leq 0.156 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	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.
17	Methylnaphthalene (2-) \leq 0.00061 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	1-Methylnaphthalene \leq 0.00274 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines [N.J.A.C. 7:27-22.16(a)]	1-Methylnaphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(a)]	1-Methylnaphthalene: 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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	Mercury Emissions \leq 0.00182 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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.
20	Methane \leq 0.0379 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [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.
21	Naphthalene \leq 0.053 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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(a)]	None.
22	Nickel Emissions \leq 0.00697 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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(a)]	None.
23	Nitrous oxide \leq 2 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [N.J.A.C. 7:27-22.16(o)]	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.
24	Polynuclear aromatic hydrocarbons (PAHs) \leq 0.0606 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct B

OS33, OS34, OS35, OS36

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
25	Polycyclic organic matter \leq 0.0606 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS37 Unit No. 2 Module 2101- Natural Gas, Base Load without Duct Firing, OS38 Unit No. 2 Module 2201- Natural Gas, Base Load without Duct Firing

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. No person shall cause, suffer, allow or permit smoke the shade or appearance of which is greater than 20 percent opacity, exclusive of visible condensed water vapor, to be emitted into the outdoor air from the combustion of fuel in any stationary internal combustion engine or any stationary turbine engine for a period of more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Particulate Emissions <= 238 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
3	NOx (Total) <= 0.0093 lb/MMBTU at the High Heat Value (HHV). The pounds of Nitrogen Oxides (NOx) as Nitrogen Dioxide (NO2), emitted per million British Thermal Units (MMBTU) combusted (lbs/MMBTU) shall not exceed 0.0093 at the High Heat Value (HHV). [N.J.A.C. 7:27-22.16(e)]	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. The lb NOx-NO2/MMBTU shall be computed as follows: lb NOx-NO2/hr divided by actual heat input (MMBTU/hr) at HHV during stack testing. See STACK TESTING SUMMARY at U1 OS Summary. [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). The permittee shall record the lb NOx-NO2/MMBTU as measured through stack testing. All records and calculations shall be kept on-site, along with stack testing results. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (See U1 OS Summary for stack testing details). [N.J.A.C. 7:27-22.16(e)]
4	NOx (Total) <= 0.12 lb/MW-hr at the High Heat Value (HHV). The lbs NOx/MW-hr shall be computed by dividing the lbs NOx/hr emitted with the Total MW produced by each gas turbine. [N.J.A.C. 7:27-22.16(e)]	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 1-hour tests. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). The permittee shall record the lb NOx-NO2/MW-hr as measured through stack testing, as specified in the conditions of this permit. All records and calculations shall be kept on-site, along with stack testing results. . See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
5	TSP <= 11 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	PM-2.5 (Total) <= 16.6 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
7	PM-10 (Total) <= 16.6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
8	VOC (Total) <= 2.1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
9	VOC (Total) <= 2 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
10	CO <= 10.5 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: 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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
11	SO ₂ <= 2 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
12	NO _x (Total) <= 17.7 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NO _x (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. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
13	NO _x (Total) <= 2.5 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NO _x (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. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
14	NO _x (Total) <= 2.5 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [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 <= 3 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
16	CO <= 3 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
17	Maximum Gross Heat Input <= 2,380 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(e)]	Other: Fuel Burner's Rated Capacity. [N.J.A.C. 7:27-22.16(e)].	None.	None.
18	NO _x (Total) <= 109 ppmvd @ 15% O ₂ No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [40 CFR 60.334]	NO _x (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	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)] & [N.J.A.C. 7:27-22.16(o)]
19	NO _x (Total) <= 109 ppmvd @ 15% O ₂ No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NO _x (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. See STACK TESTING SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	NO _x (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). See STACK TESTING SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o)] & [40 CFR 60.334]
20	Sulfuric Acid Mist Emissions <= 0.33 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
21	Acetaldehyde <= 0.0952 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. Calculate by using the following equation: Acetaldehyde (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((4.0 E-05 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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.
22	Acrolein <= 0.0152 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. Calculate by using the following equation: Acrolein (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor (6.40 E-06 lb/MMBtu)). [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.
23	Benzene <= 0.0286 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. Calculate by using the following equation: Benzene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.2 E-05 lb/MMBtu)). [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	Butadiene (1,3-) <= 0.00102 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. Calculate by using the following equation: 1,3-Butadiene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((4.3 E-07 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Dioxins/Furans (Total) <= 0.000000595 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. Calculate by using the following equation: Dioxin/Furan (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.5 E-10 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.
26	Ethylbenzene <= 0.0762 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. Calculate by using the following equation: Ethyl benzene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((3.2 E-05 lb/MMBtu)). [None]	Ethylbenzene: 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
27	Formaldehyde \leq 1.69 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. Calculate by using the following equation: Formaldehyde (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor (7.1E-04 lb/MMBtu)]. [None]	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.
28	Lead compounds \leq 0.00123 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Lead compounds: Monitored by calculations once initially. Calculate by using the following equation: Lead (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((5.2 E-07 lb/MMBtu)]. [N.J.A.C. 7:27-22.16(o)]	Lead 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.
29	Manganese compounds \leq 0.0188 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. Calculate by using the following equation: Manganese (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((7.9 E-06 lb/MMBtu)]. [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.
30	Mercury Emissions \leq 0.001 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. Calculate by using the following equation: Mercury Emissions (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((4.2 E-07 lb/MMBtu)]. [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Methane \leq 5.25 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing natural gas, and emission factor from 40 CFR 98, Subpart C. [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	Methylnaphthalene (2-) \leq 0.000395 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. Calculate by using the following equation: 2-Methylnaphthalene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor (1.7E-07 lb/MMBtu)]. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Naphthalene \leq 0.00309 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. Calculate by using the following equation: Naphthalene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.3 E-06 lb/MMBtu)). [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.
34	Nickel Emissions \leq 0.00355 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. Calculate by using the following equation: Nickel (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.5 E-06 lb/MMBtu)). [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.
35	Nitrous oxide \leq 0.525 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing natural gas, and emission factor from 40 CFR 98, Subpart C. [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.
36	Polycyclic organic matter \leq 0.00524 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. Calculate by using the following equation: POM (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.2 E-06 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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 0.00524 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. Calculate by using the following equation: PAH (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.2 E-06 lb/MMBtu)). [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.
38	Propylene oxide \leq 0.069 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Propylene oxide: Monitored by calculations once initially. Calculate by using the following equation: Propylene Oxide (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.9 E-05 lb/MMBtu)). [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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
39	Toluene \leq 0.309 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Toluene: Monitored by calculations once initially. Calculate by using the following equation: . Toluene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.3 E-04 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS39 Unit No. 2 Module 2101- Low Sulfur Distillate Oil Firing, OS40 Unit No. 2 Module 2201- Low Sulfur Distillate Oil Firing

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions <= 245 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
2	TSP <= 72 lb/hr. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	TSP: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
3	PM-10 (Total) <= 78 lb/hr. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	PM-10 (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
4	PM-2.5 (Total) <= 78 lb/hr. From BOP130002. [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-21.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
5	VOC (Total) <= 5.3 lb/hr. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
6	CO <= 13.4 lb/hr. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	NOx (Total) <= 48.2 lb/hr. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]
8	SO2 <= 3.9 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
9	Sulfuric Acid Mist Emissions <= 0.65 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
10	VOC (Total) <= 2.5 ppmvd @ 15% O2. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (See U1 OS Summary for stack testing details). [N.J.A.C. 7:27-22.16(e)]
11	CO <= 4 ppmvd @ 15% O2. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
12	CO <= 4 ppmvd @ 15% O2. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
13	NOx (Total) <= 6 ppmvd @ 15% O2. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-21.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [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	NOx (Total) <= 6 ppmvd @ 15% O ₂ . Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
15	NOx (Total) <= 0.0236 lb/MMBTU The pounds of Nitrogen Oxides (NOx) as Nitrogen Dioxide (NO ₂), emitted per million British Thermal Units (MMBTU) combusted (lbs/MMBTU) shall not exceed 0.0236 at the High Heat Value (HHV). [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing at the approved frequency. The permittee shall determine the lb NOx-NO ₂ /MMBTU during stack testing, performed according to the conditions of this permit, while the turbine is operating at worst-case permitted operating conditions with regard to meeting the applicable emission standards, and corresponding fuel consumption at ambient temperature, as determined using the turbine heat input (MMBTU/hr), at high heat value (HHV). The permittee shall record the ambient temperature, pressure, relative humidity and throughput of the gas turbine during the stack testing. The lb NOx-NO ₂ /MMBTU shall be computed as follows: lb NOx-NO ₂ /hr divided by actual heat input (MMBTU/hr) at HHV during stack testing. (See U1 OS Summary for stack testing details). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results at the approved frequency. The permittee shall record the lb NOx-NO ₂ /MMBTU as measured through stack testing. All records and calculations shall be kept on-site, along with stack testing results. (See U1 OS Summary for stack testing details). [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (See U1 OS Summary for stack testing details). [N.J.A.C. 7:27-22.16(e)]
16	Maximum heat input from preconstruction permit. Maximum Gross Heat Input <= 2,450 MMBTU/hr. [N.J.A.C. 7:27-22.16(e)]	None.	Other: Keep records showing maximum heat input rate for each turbine[N.J.A.C. 7:27-22.16(o)].	None.
17	The pounds of NOx emitted per Megawatts-Hour (lbs NOx/MW-hr) <= 0.305 per module at HHV. [N.J.A.C. 7:27-22.16(e)]	Monitored by stack emission testing at the approved frequency (See U1 OS Summary for stack testing details). [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by stack test results at the approved frequency (See U1 OS Summary for stack testing details). The lbs NOx/M-hr shall be computed by dividing the lbs NOx/hr emitted with the Total MW produced by each gas turbine. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: At no specified schedule (See U1 OS Summary for stack testing details). [N.J.A.C. 7:27-22.16(e)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
18	NOx (Total) <= 102 ppmvd @ 15% O ₂ . No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average [N.J.A.C. 7:27-22.16(o) & [40 CFR 60.334]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [40 CFR 60.334]	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)]
19	NOx (Total) <= 102 ppmvd @ 15% O ₂ . No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary [N.J.A.C. 7:27-22.16(o) & [40 CFR 60.334]	NOx (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o) & [40 CFR 60.334]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
20	The owner or operator of any stationary gas turbine subject to the provisions of this subpart shall monitor sulfur content of the fuel being fired in the turbine. The analysis 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. Analysis for fuel sulfur content of the fuel oil shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in oil fuels, or an approved alternative method. [40 CFR 60.334(b)]	Other: For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule. The frequency of determining the sulfur and nitrogen content of the fuel shall be as follows: For fuel oil, use one of the total sulfur sampling options and the associated sampling frequency described in sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of appendix D to part 75 of this chapter (i.e., flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank). If an emission allowance is being claimed for fuel-bound nitrogen, the nitrogen content of the oil shall be determined and recorded once per unit operating day.[40 CFR 60.334(h4)(i)(1)].	Other: Keep the results of monitoring showing fuel sulfur content in a permanently bound log book or readily accessible computer memories. All records shall be kept on-site.[40 CFR 60.334(h4)(i)(1)].	Other (provide description): As per the approved schedule ; Should any fuel sulfur monitoring indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the EPA Region II Administrator and the NJDEP Northern Regional Enforcement Office within (15) calendar days of the occurrence(s). (See Attachment 2). [40 CFR 60.334(h)]

**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 any stationary gas turbine subject to the provisions of this subpart shall monitor nitrogen content of the fuel being fired in the turbine. The analysis 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. Analysis for fuel nitrogen content of the fuel oil shall be conducted using one of the approved ASTM reference methods for the measurement of nitrogen in oil fuels, or an approved alternative method. [40 CFR 60.334(b)]	None.	None.	None.
22	Arsenic compounds ≤ 0.027 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Arsenic compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic 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.
23	Benzene ≤ 0.135 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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 ≤ 0.00076 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
25	Butadiene (1,3-) ≤ 0.0392 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	Cadmium Emissions \leq 0.0118 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
27	Formaldehyde \leq 0.686 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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 no recordkeeping method required once initially. [N.J.A.C. 7:27-22.16(o)]	None.
28	Pb \leq 0.0343 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
29	Manganese Emissions \leq 0.252 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	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	Methylnaphthalene (2-) \leq 0.000987 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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 16.2 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [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.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct B

OS39, OS40

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
32	1-Methylnaphthalene <= 0.00443 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines [N.J.A.C. 7:27-22.16(a)]	1-Methylnaphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	1-Methylnaphthalene: 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	Mercury Emissions <= 0.00294 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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.
34	Naphthalene <= 0.0858 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	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(a)]	None.
35	Nickel Emissions <= 0.0113 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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(a)]	None.
36	Nitrous oxide <= 3.24 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
37	Polynuclear aromatic hydrocarbons (PAHs) ≤ 0.098 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
38	Polycyclic organic matter ≤ 0.098 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS41 Unit No. 2 Module 2101- Natural Gas - Duct Firing, OS42 Unit No. 2 Module 2201- Natural Gas - Duct Firing

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	The duct burner cannot run independent of the turbine (See Group 16 for Specific Requirements) [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	TSP <= 277.5 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of each module of turbine and duct burner. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
3	Any owner or operator of any duct burner subject to this section shall adjust the combustion process in accordance with the procedure set forth at N.J.A.C.7:27-16.24 before May 1 of each year. [N.J.A.C. 7:27-16.9(f)]	Monitored by continuous emission monitoring system continuously or a periodic (portable) emission monitoring device. [N.J.A.C. 7:27-16.9(f)]	Recordkeeping by manual logging of parameter annually in a permanently bound log book or readily accessible computer memories. The permittee shall maintain the following records: 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 made the adjustment; 3. The NOx concentration in the effluent stream, in either ppmv or ppmvd, after each adjustment was made; 4. The CO concentration in the effluent stream, in either ppmv or ppmvd, after each adjustment was made; and 5. The concentration of O2 at which the CO and NOx concentrations pursuant to 3 and 4 were measured. [N.J.A.C. 7:27-16.9(f)]	None.
4	VOC (Total) <= 5.1 lb/hr for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
5	VOC (Total) <= 2.5 ppmvd @ 15% O2 each module of turbine and duct burner. Maximum emission limit from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	NOx (Total) <= 18.4 lb/hr for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
7	NOx (Total) <= 2.5 ppmvd @ 15% O2 for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. [N.J.A.C. 7:27-22.16(o)]	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)]
8	NOx (Total) <= 2.5 ppmvd @ 15% O2 for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o) & [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [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	NO _x (Total): The pounds of NitrogenOxides (NO _x) as Nitrogen Dioxide (NO ₂), emitted per million British Thermal Units (MMBTU) for each module of turbine and duct burner shall not exceed 0.0093 at the High Heat Value (HHV). Maximum emissions limit from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average and stack emission testing every five years based on the average of three one hour tests (See U1 OS Summary for stack test details). The permittee shall determine the lb NO _x -NO ₂ /MMBTU during stack testing, performed according to the conditions of this permit, while the turbine is operating at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition, and corresponding fuel consumption at ambient temperature, as determined using the turbine heat input (MMBTU/hr), at high heat value (HHV). The permittee shall record the ambient temperature, pressure, relative humidity and throughput of the gas turbine during the stack testing. The lb NO _x -NO ₂ /MMBTU shall be computed as follows: lb NO _x -NO ₂ /hr divided by actual heat input (MMBTU/hr) at HHV during stack testing. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by chart or round chart and data acquisition (DAS) system/electronic data storage continuously and stack test results. (See U1 OS Summary for stack test details). The permittee shall record the lb NO _x -NO ₂ /MMBTU as measured through stack testing, and as specified in the conditions of this permit.[N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
10	NO _x (Total) <= 0.0125 lb/MW-hr. The pounds of NO _x emitted per Megawatts-Hour (lbs NO _x /MW-hr) <= 0.125 per each module of turbine and duct burner at HHV. [N.J.A.C. 7:27-22.16(e)]	NO _x (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. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Recordkeeping by stack test results every 5 years (based on completion date of the last stack test). The lbs NO _x /MW-hr shall be computed by dividing the lbs NO _x /hr emitted with the Total MW produced by each module. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (See U1 OS Summary for stack test details). [N.J.A.C. 7:27-22.16(a)]
11	CO <= 9.6 lb/hr for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	CO <= 3 ppmvd @ 15% O2 for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. [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)]	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	CO <= 3 ppmvd @ 15% O2 for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
14	SO2 <= 2 lb/hr for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
15	TSP <= 13.5 lb/hr for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
16	PM-10 (Total) <= 20.5 lb/hr for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
17	PM-2.5 (Total) <= 20.5 lb/hr for each module of turbine and duct burner. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
18	Maximum Gross Heat Input <= 2,380 MMBTU/hr (HHV). Maximum Gross Heat Input of each Unit 2 Turbine firing Natural Gas with Duct Burners. [N.J.A.C. 7:27-22.16(e)]	None.	Other: Keep records showing maximum heat input rate for each turbine[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	Maximum Gross Heat Input for each Duct Burner. Maximum Gross Heat Input \leq 395 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	Other: Fuel burner's rated capacity.[N.J.A.C. 7:27-22.16(o)].	Other: Keep records showing maximum heat input rate for each duct burner[N.J.A.C. 7:27-22.16(o)].	None.
20	NO _x (Total) \leq 0.2 lb/MMft ³ each module of turbine and duct burner. This emission standard does not apply during periods of startup, shutdown, or malfunction. [40 CFR 60.44a(a)(1)]	Other: The owner or operator shall comply with the monitoring requirements as required in 40 CFR 60.46a(j).[40 CFR 60.46a(j)].	NO _x (Total): Recordkeeping by strip chart, round chart or data acquisition (DAS) system / electronic data storage continuously or by stack reports. [40 CFR 60.46a(j)]	Submit a report: Once initially. The owner or operator shall submit to the Administrator the best data from the initial and all subsequent performance evaluations if CEMs are used to demonstrate compliance. [40 CFR 60.49a(a)]
21	NO _x (Total) \leq 1.6 lb/MW-hr. This emission standard does not apply during periods of startup, shutdown, or malfunction. [40 CFR 60.44a(d)(1)]	Other: The owner or operator shall comply with the monitoring requirements as required in 40 CFR 60.46a(k).[40 CFR 60.46a(k)].	NO _x (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously or by stack reports. [40 CFR 60.46a(j)]	Submit a report: Once initially. The owner or operator shall submit to the Administrator the best data from the initial and all subsequent performance evaluations if CEMs are used to demonstrate compliance. [40 CFR 60.49a(a)]
22	The owner or operator of an affected facility not complying with an output based limit shall install, calibrate, maintain, and operate a CEMS, and record the output of the system, for measuring the O ₂ content of the flue gases at each location where NO _x emissions are monitored. [40 CFR 60.49Da(d)]	Monitored by continuous emission monitoring system continuously. [40 CFR 60.47a(d)]	Recordkeeping by strip chart, round chart or data acquisition (DAS) system / electronic data storage continuously. [40 CFR 60.47a(a)]	None.
23	The continuous emissions monitoring systems are operated and data recorded during all periods of operation of the affected facility including periods of startup, shutdown, malfunction, or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments. [40 CFR 60.49Da(e)]	Monitored by continuous emission monitoring system continuously. [40 CFR 60.47a(e)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [40 CFR 60.47a(e)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	The owner or operator shall submit written reports to the Administrator, all information specified at 40 CFR 60.49a(b),(c),(d),(f),(g) & (h). See Reporting Requirements in 40 CFR 60.49a. [40 CFR 60.49a(i)]	Other: See Requirements in 40 CFR 60.49a.[40 CFR 60.49a(i)].	Other: See Requirements in 40 CFR 60.49a.[40 CFR 60.49a(i)].	Submit a report: As per the approved schedule submit written report by the 30th day following the end of each 6 month period. The report shall contain all information specified at 40CFR 60.49a(b) through (h), as applicable. The report shall be accompanied by a signed statement prepared as specified at 40 CFR 60.49a(g). The report shall be submitted to the EPA Region II Administrator and the Northern Regional Office of NJDEP. This Semiannual report shall be postmarked by the 30th day following the end of the reporting period. (See Requirements in 40 CFR 60.49a). [40 CFR 60.49(a)(i)]
25	The owner or operator of an affected facility may submit electronic quarterly reports for SO ₂ and/or NO _x and/or opacity in lieu of submitting written reports required under 40 CFR 60.51a(b) and 40 CFR 60.51a(i). [40 CFR 60.51a(k)]	None.	None.	Submit a report: As per the approved schedule. The electronic reports shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format. The format of each quarterly electronic report shall be coordinated with the permitting authority. [40 CFR 60.49a(j)]
26	Sulfuric Acid Mist Emissions \leq 0.33 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
27	Particulate Emissions \leq 0.03 lb/MMBTU. This emission standard does not apply during periods of startup, shutdown, or malfunction. [40 CFR 60.42a(a)(1)]	Particulate Emissions: Monitored by stack emission testing once initially, based on any 60 minute period. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use the procedures specified at 40 CFR 60.48a(b) to determine compliance. [40 CFR 60.48a(a)]	Particulate Emissions: Recordkeeping by stack test results once initially. [40 CFR 60.49a(a)]	Submit a stack test report: Once initially. The owner or operator shall submit results of the initial compliance tests to the Administrator at the schedule specified at 40 CFR 60.8. [40 CFR 60.49a(a)]

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
28	Opacity <= 20 % except one 6-minute period per hour of not more than 27% opacity. This standard does not apply during periods of startup, shutdown, or malfunction. [40 CFR 60.42a(b)]	Opacity: Monitored by stack emission testing once initially, based on any 60 minute period. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use the procedures specified at 40 CFR 60.48a(b) to determine compliance. [40 CFR 60.48a(a)]	Opacity: Recordkeeping by stack test results once initially. [40 CFR 60.49a(a)]	Submit a stack test report: Once initially. The owner or operator shall submit results of the initial compliance tests to the Administrator at the schedule specified at 40 CFR 60.8. [40 CFR 60.49a(a)]
29	SO ₂ <= 0.2 lb/MMBTU , except during periods of startup, shutdown, or when both emergency conditions exist and the procedures specified at 40 CFR 46a(d) are implemented. [40 CFR 60.43a(b)(2)]	SO ₂ : Monitored by stack emission testing once initially, based on any 60 minute period. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use the procedures specified at 40 CFR 60.48a(c) to determine compliance. [40 CFR 60.48a(a)]	SO ₂ : Recordkeeping by stack test results once initially. [40 CFR 60.49a(a)]	Submit a stack test report: Once initially. The owner or operator shall submit results of the initial compliance tests to the Administrator at the schedule specified at 40 CFR 60.8. [40 CFR 60.49a(a)]
30	Acetaldehyde <= 0.0952 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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	Acrolein <= 0.0152 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
32	Benzene <= 0.0294 lb/hr Emission limit for Combustion Turbine (CT) is based maximum heat input rate (HHV) of the Combustion Turbine (CT), and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines and, emission limit for duct burner (DB) is based maximum heat input rate (HHV) of the duct burner and emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
33	Beryllium Emissions \leq 0.00000465 lb/hr. Emission factors used are from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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.
34	Butadiene (1,3-) \leq 0.00102 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Dioxins/Furans (Total) \leq 0.000000595 lb/hr Emission limit for Combustion Turbine (CT) is based maximum heat input rate (HHV) of the Combustion Turbine (CT), and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines and, emission limit for duct burner (DB) is based maximum heat input rate (HHV) of the duct burner and emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.
36	Ethylbenzene \leq 0.0762 lb/hr Emission limit for Combustion Turbine (CT) is based maximum heat input rate (HHV) of the Combustion Turbine (CT), and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines and, emission limit for duct burner (DB) is based maximum heat input rate (HHV) of the duct burner and emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Ethylbenzene: 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
37	Formaldehyde \leq 1.72 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
38	Hexane (n-) \leq 0.697 lb/hr Emission limit for Combustion Turbine (CT) is based maximum heat input rate (HHV) of the Combustion Turbine (CT), and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines and, emission limit for duct burner (DB) is based maximum heat input rate (HHV) of the duct burner and emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [N.J.A.C. 7:27-22.16(a)]	Hexane (n-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Hexane (n-): 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.
39	Pb \leq 0.00143 lb/hr Emission limit for Combustion Turbine (CT) is based maximum heat input rate (HHV) of the Combustion Turbine (CT), and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines and, emission limit for duct burner (DB) is based maximum heat input rate (HHV) of the duct burner and emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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.
40	Manganese compounds \leq 0.0188 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
41	Mercury Emissions ≤ 0.0011 lb/hr Emission limit for Combustion Turbine (CT) is based maximum heat input rate (HHV) of the Combustion Turbine (CT), and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines and, emission limit for duct burner (DB) is based maximum heat input rate (HHV) of the duct burner and emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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.
42	Methylnaphthalene (2-) ≤ 0.000405 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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.
43	Naphthalene ≤ 0.00333 lb/hr Emission limit for Combustion Turbine (CT) is based maximum heat input rate (HHV) of the Combustion Turbine (CT), and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines and, emission limit for duct burner (DB) is based maximum heat input rate (HHV) of the duct burner and emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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.
44	Nickel Emissions ≤ 0.00436 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines and emission limit based maximum heat input rate (HHV) of the Duct Burner and emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct B

OS41, OS42

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
45	Polycyclic organic matter \leq 0.00549 lb/hr Emission limit for Combustion Turbine (CT) is based maximum heat input rate (HHV) of the Combustion Turbine (CT), and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines and, emission limit for duct burner (DB) is based maximum heat input rate (HHV) of the duct burner and emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.
46	Polynuclear aromatic hydrocarbons (PAHs) \leq 0.00549 lb/hr Emission limit for Combustion Turbine (CT) is based maximum heat input rate (HHV) of the Combustion Turbine (CT), and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines and, emission limit for duct burner (DB) is based maximum heat input rate (HHV) of the duct burner and emission factor from AP-42 5th Edition, Table 1.4-3, 1.4-4 and 1.4-5 (Dated 7/1998) - Natural Gas Combustion. [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.
47	Propylene oxide \leq 0.069 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
48	Toluene \leq 0.311 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Toluene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS43 Unit No. 2 Module 2101- Minimum Load on Natural Gas, OS44 Unit No. 2 Module 2201- Minimum Load on Natural Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP <= 245 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
2	TSP <= 11 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
3	PM-10 (Total) <= 16.6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
4	PM-2.5 (Total) <= 16.6 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	CO <= 6.9 lb/hr. [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	CO <= 3 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
7	CO <= 3 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-21.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [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	NOx (Total) <= 2.5 ppmvd @ 15% O2. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
9	NOx (Total) <= 2.5 ppmvd @ 15% O2. [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
10	VOC (Total) <= 1.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	NOx (Total) <= 11.3 lb/hr. [N.J.A.C. 7:27-22.16(e)]	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. See STACK TESTING SUMMARY at U1 OS Summary. [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). See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
12	SO2 <= 2 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	VOC (Total) <= 2 ppmvd @ 15% O2. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
14	NOx (Total) <= 109 ppmvd @ 15% O2 No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [40 CFR 60.332(a)(1)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [40 CFR 60.332(a)(1)]	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)]
15	Sulfuric Acid Mist Emissions <= 0.33 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
16	Acetaldehyde <= 0.0952 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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	Acrolein <= 0.0152 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
18	Benzene <= 0.0286 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
19	Butadiene (1,3-) <= 0.00102 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Dioxins/Furans (Total) <= 0.000000595 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.
21	Ethylbenzene <= 0.0762 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Ethylbenzene: 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
22	Formaldehyde <= 1.69 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
23	Lead compounds <= 0.00123 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Lead compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Lead 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.
24	Manganese compounds <= 0.0188 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
25	Mercury Emissions <= 0.001 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Naphthalene <= 0.00309 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
27	Nickel Emissions <= 0.00355 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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
28	Polycyclic organic matter \leq 0.00524 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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	Polynuclear aromatic hydrocarbons (PAHs) \leq 0.00524 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.
30	Propylene oxide \leq 0.069 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [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.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS45 Unit No. 2 Module 2101- Minimum Load on Low Sulfur Distillate Oil, OS46 Unit No. 2 Module 2201- Minimum Load on Low Sulfur Distillate Oil

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions <= 245 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
2	TSP <= 72 lb/hr. [N.J.A.C. 7:27-22.16(e)]	TSP: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
3	PM-10 (Total) <= 78 lb/hr. [N.J.A.C. 7:27-22.16(e)]	PM-10 (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
4	PM-2.5 (Total) <= 78 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
5	VOC (Total) <= 3.5 lb/hr. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	CO <= 9.1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
7	VOC (Total) <= 2.5 ppmvd @ 15% O2. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	CO <= 4 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. [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)]	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)]
9	CO <= 4 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
10	NO _x (Total) <= 30.7 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
11	NO _x (Total) <= 6 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
12	NO _x (Total) <= 6 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results at the approved frequency. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See STACK TESTING SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
13	SO ₂ <= 2.52 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
14	Sulfuric Acid Mist Emissions <= 0.42 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
15	NOx (Total) <= 102 ppmvd @ 15% O2 No owner or operator shall cause to be discharged into the atmosphere any gases which contain oxides of nitrogen in excess of emissions derived from 40 CFR 60.332(a)(1). [40 CFR 60.332(a)(1)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [40 CFR 60.332(a)(1)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [40 CFR 60.332(a)(1)]	CEMS/COMS - Submit equipment protocol, submit a PST protocol, conduct PST and submit results: 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. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]
16	Arsenic compounds <= 0.027 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Arsenic compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic 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	Benzene <= 0.135 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
18	Beryllium Emissions <= 0.00076 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
19	Butadiene (1,3-) <= 0.0392 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
20	Cadmium Emissions \leq 0.00118 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
21	Formaldehyde \leq 0.686 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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 no recordkeeping method required once initially. [N.J.A.C. 7:27-22.16(o)]	None.
22	Pb \leq 0.0343 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
23	Manganese Emissions \leq 0.252 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	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.
24	Methylnaphthalene (2-) \leq 0.000987 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Methane \leq 16.2 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [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.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct B

OS45, OS46

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	1-Methylnaphthalene <= 0.00443 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines [N.J.A.C. 7:27-22.16(a)]	1-Methylnaphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(a)]	1-Methylnaphthalene: 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	Mercury Emissions <= 0.00294 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Naphthalene <= 0.0858 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	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(a)]	None.
29	Nitrous oxide <= 3.24 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [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.
30	Nickel Emissions <= 0.0113 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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(a)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
31	Polynuclear aromatic hydrocarbons (PAHs) ≤ 0.098 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
32	Polycyclic organic matter ≤ 0.098 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS47 Unit No. 2 Module 2101- Startup-Gas, OS48 Unit No. 2 Module 2201- Startup-Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Start-up Period <= 240 minutes. Start-up shall be defined as the period of time from initiation of combustion turbine operation until the unit reaches a steady state of 50 to 100 percent load conditions, not to exceed 240 minutes. [N.J.A.C. 7:27-22.16(e)]	Start-up Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Start-up Period: Recordkeeping by other recordkeeping method (provide description) continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	Nitrogen oxides (NOx) <= 1.3 lb/MW-hr if natural gas is the fuel fired. [N.J.A.C. 7:27-19.5(d)2]	Nitrogen oxides (NOx): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)]	Nitrogen oxides (NOx): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(a)]	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). [N.J.A.C. 7:27-22.16(o)]
3	Carbon monoxide <= 250 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-16.23(a)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
4	VOC (Total) <= 50 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during startup. [N.J.A.C. 7:27-22.16(o)].	None.
5	TSP <= 11 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during startup [N.J.A.C. 7:27-22.16(o)].	None.
6	PM-10 (Total) <= 16.6 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 [N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 16.6 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 [N.J.A.C. 7:27-22.16(o)].	None.
8	SO ₂ <= 2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct B

OS47, OS48

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	Acetaldehyde <= 0.0952 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. Calculate by using the following equation: Acetaldehyde (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((4.0 E-05 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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	Acrolein <= 0.0152 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. Calculate by using the following equation: Acrolein (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor (6.40 E-06 lb/MMBtu)). [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	Benzene <= 0.0286 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. Calculate by using the following equation: Benzene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.2 E-05 lb/MMBtu)). [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.
12	Butadiene (1,3-) <= 0.00102 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. Calculate by using the following equation: 1,3-Butadiene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((4.3 E-07 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Dioxins/Furans (Total) <= 0.000000595 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. Calculate by using the following equation: Dioxin/Furan (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.5 E-10 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.
14	Ethylbenzene <= 0.0762 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. Calculate by using the following equation: Ethyl benzene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((3.2 E-05 lb/MMBtu)). [None]	Ethylbenzene: 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
15	Formaldehyde \leq 1.69 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. Calculate by using the following equation: Formaldehyde (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor (7.1E-04 lb/MMBtu)]. [None]	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	Lead compounds \leq 0.00123 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Lead compounds: Monitored by calculations once initially. Calculate by using the following equation: Lead (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((5.2 E-07 lb/MMBtu)]. [N.J.A.C. 7:27-22.16(o)]	Lead 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	Manganese compounds \leq 0.0188 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. Calculate by using the following equation: Manganese (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((7.9 E-06 lb/MMBtu)]. [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.
18	Mercury Emissions \leq 0.001 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. Calculate by using the following equation: Mercury Emissions (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((4.2 E-07 lb/MMBtu)]. [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Methane \leq 5.25 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing natural gas, and emission factor from 40 CFR 98, Subpart C. [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	Methylnaphthalene (2-) \leq 0.000395 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. Calculate by using the following equation: 2-Methylnaphthalene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor (1.7E-07 lb/MMBtu)]. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Naphthalene \leq 0.00309 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. Calculate by using the following equation: Naphthalene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.3 E-06 lb/MMBtu)). [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.
22	Nickel Emissions \leq 0.00355 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. Calculate by using the following equation: Nickel (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.5 E-06 lb/MMBtu)). [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.
23	Nitrous oxide \leq 0.525 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing natural gas, and emission factor from 40 CFR 98, Subpart C. [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.
24	Polycyclic organic matter \leq 0.00524 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. Calculate by using the following equation: POM (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.2 E-06 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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	Polynuclear aromatic hydrocarbons (PAHs) \leq 0.00524 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. Calculate by using the following equation: PAH (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.2 E-06 lb/MMBtu)). [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.
26	Propylene oxide \leq 0.069 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Propylene oxide: Monitored by calculations once initially. Calculate by using the following equation: Propylene Oxide (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.9 E-05 lb/MMBtu)). [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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
27	Toluene \leq 0.309 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Toluene: Monitored by calculations once initially. Calculate by using the following equation: . Toluene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.3 E-04 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS49 Unit No. 2 Module 2101- Shutdown-Gas, OS50 Unit No. 2 Module 2201- Shutdown-Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Shutdown Period <= 120 minutes. Shutdown is defined as the period of time from the initial lowering of combustion turbine output with the intent to cease generation of electrical power output and concludes with the cessation of combustion turbine operation. [N.J.A.C. 7:27-22.16(e)]	Shutdown Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Shutdown Period: Recordkeeping by other recordkeeping method (provide description) continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	Nitrogen oxides (NOx) <= 1.3 lb/MW-hr if natural gas is the fuel fired. [N.J.A.C. 7:27-19.5(d)2]	Nitrogen oxides (NOx): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)]	Nitrogen oxides (NOx): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(a)]	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). [N.J.A.C. 7:27-22.16(o)]
3	Carbon monoxide <= 250 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-16.23(a)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
4	VOC (Total) <= 50 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during shutdown.[N.J.A.C. 7:27-22.16(o)].	None.
5	TSP <= 11 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during shutdown.[N.J.A.C. 7:27-22.16(o)].	None.
6	PM-10 (Total) <= 16.6 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.[N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 16.6 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.[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	SO ₂ ≤ 2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	Acetaldehyde ≤ 0.0952 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acetaldehyde: Monitored by calculations once initially. Calculate by using the following equation: Acetaldehyde (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((4.0 E-05 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Acetaldehyde: 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	Acrolein ≤ 0.0152 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Acrolein: Monitored by calculations once initially. Calculate by using the following equation: Acrolein (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor (6.40 E-06 lb/MMBtu)). [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	Benzene ≤ 0.0286 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by calculations once initially. Calculate by using the following equation: Benzene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.2 E-05 lb/MMBtu)). [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.
12	Butadiene (1,3-) ≤ 0.00102 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. Calculate by using the following equation: 1,3-Butadiene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((4.3 E-07 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Dioxins/Furans (Total) ≤ 0.000000595 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Dioxins/Furans (Total): Monitored by calculations once initially. Calculate by using the following equation: Dioxin/Furan (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.5 E-10 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Dioxins/Furans (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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Ethylbenzene \leq 0.0762 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Ethylbenzene: Monitored by calculations once initially. Calculate by using the following equation: Ethyl benzene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((3.2 E-05 lb/MMBtu)). [None]	Ethylbenzene: 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 1.69 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Formaldehyde: Monitored by calculations once initially. Calculate by using the following equation: Formaldehyde (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor (7.1E-04 lb/MMBtu)). [None]	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	Lead compounds \leq 0.00123 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Lead compounds: Monitored by calculations once initially. Calculate by using the following equation: Lead (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((5.2 E-07 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Lead 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	Manganese compounds \leq 0.0188 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Manganese compounds: Monitored by calculations once initially. Calculate by using the following equation: Manganese (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((7.9 E-06 lb/MMBtu)). [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.
18	Mercury Emissions \leq 0.001 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(o)]	Mercury Emissions: Monitored by calculations once initially. Calculate by using the following equation: Mercury Emissions (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((4.2 E-07 lb/MMBtu)). [N.J.A.C. 7:27-22.16(o)]	Mercury 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	Methane \leq 5.25 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing natural gas, and emission factor from 40 CFR 98, Subpart C. [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
20	Methylnaphthalene (2-) \leq 0.000395 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from EPRI. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. Calculate by using the following equation: 2-Methylnaphthalene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor (1.7E-07 lb/MMBtu))]. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Naphthalene \leq 0.00309 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. Calculate by using the following equation: Naphthalene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.3 E-06 lb/MMBtu))]. [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.
22	Nickel Emissions \leq 0.00355 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by calculations once initially. Calculate by using the following equation: Nickel (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.5 E-06 lb/MMBtu))]. [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.
23	Nitrous oxide \leq 0.525 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing natural gas, and emission factor from 40 CFR 98, Subpart C. [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.
24	Polycyclic organic matter \leq 0.00524 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. Calculate by using the following equation: POM (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.2 E-06 lb/MMBtu))]. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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	Polynuclear aromatic hydrocarbons (PAHs) \leq 0.00524 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polynuclear aromatic hydrocarbons (PAHs): Monitored by calculations once initially. Calculate by using the following equation: PAH (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.2 E-06 lb/MMBtu))]. [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.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct B

OS49, OS50

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	Propylene oxide \leq 0.069 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Propylene oxide: Monitored by calculations once initially. Calculate by using the following equation: Propylene Oxide (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((2.9 E-05 lb/MMBtu)]. [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.
27	Toluene \leq 0.309 lb/hr Emission limit based maximum heat input rate (HHV) of the Combustion Turbine, and emission factor from AP 42, 5th Edition, Table 3.1-3, (Dated 4/2000), Natural Gas Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Toluene: Monitored by calculations once initially. Calculate by using the following equation: . Toluene (lb/hr): [Maximum Heat Input per Engine (MMBtu/hr) x (Emission Factor ((1.3 E-04 lb/MMBtu)]. [N.J.A.C. 7:27-22.16(o)]	Toluene: 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS51 Unit No. 2 Module 2101- Maintenance, Mode and Fuel Transfer, OS52 Unit No. 2 Module 2201- Maintenance, Mode and Fuel Transfer

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Mode transfer period is defined as that period of time between duct burners in and out of service. Duration of mode transfer period shall not exceed 45 minutes. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	Mechanical safety testing period <= 12 hours per year. Mechanical safety testing is defined as the period of time following mechanical servicing or repair when mechanical safety tests are conducted, not to exceed 12 hours per year. [N.J.A.C. 7:27-22.16(e)]	None.	Other: Recordkeeping by manual logging of hour, time and load parameters in a permanently bound log book. Per Occurrence. Records shall be kept of each mechanical safety testing period including start time, end time, date, and total testing time. [N.J.A.C. 7:27-22.16(o)].	None.
3	Fuel Transfer Period <= 45 minutes. Fuel Transfer period is defined as that period of time during which the fuel is swithed from natural gas to fuel oil and vice versa. Duration of fuel transfer peiod shall not exceed 45 minutes. [N.J.A.C. 7:27-22.16(o)]	None.	Fuel Transfer Period: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event in a permanently bound log book or readily accessible computer memories. Records shall show transfer start time, transfer end time, date, and total transfer time. [N.J.A.C. 7:27-22.16(o)]	None.
4	Nitrogen oxides (NOx) <= 1.3 lb/MW-hr , if natural gas is the fuel fired. [N.J.A.C. 7:27-19.g]	Nitrogen oxides (NOx): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)]	Nitrogen oxides (NOx): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [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
5	Nitrogen oxides (NOx) <= 2 lb/MW-hr , if ULSD is the fuel fired. [N.J.A.C. 7:27-19.g]	Nitrogen oxides (NOx): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)]	Nitrogen oxides (NOx): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
6	Carbon monoxide <= 250 ppm @ 15% O2. [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-16.23(a)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
7	VOC (Total) <= 50 ppm @ 15% O2. [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during maintenance, mode transfer, and fuel transfer.[N.J.A.C. 7:27-22.16(o)].	None.
8	TSP <= 72 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during s maintenance, mode transfer, and fuel transfer.[N.J.A.C. 7:27-22.16(o)].	None.
9	PM-10 (Total) <= 78 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM10 emission limits during maintenance, mode transfer, and fuel transfer.[N.J.A.C. 7:27-22.16(o)].	None.
10	PM-2.5 (Total) <= 78 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 maintenance, mode transfer, and fuel transfer.[N.J.A.C. 7:27-22.16(o)].	None.
11	SO2 <= 3.9 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

BOP190002

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

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS55 Unit No. 2 Module 2101- Startup-ULSD, OS56 Unit No. 2 Module 2201- Startup-ULSD

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Start-up Period <= 240 minutes Start-up shall be defined as the period of time from initiation of combustion turbine operation until the unit reaches a steady state of 50 to 100 percent load conditions, not to exceed 240 minutes. [N.J.A.C. 7:27-22.16(e)]	Start-up Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Start-up Period: Recordkeeping by other recordkeeping method (provide description) continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	Nitrogen oxides (NOx) <= 1.3 lb/MW-hr if natural gas is the fuel fired. [N.J.A.C. 7:27-19.5(d)2]	Nitrogen oxides (NOx): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)]	Nitrogen oxides (NOx): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(a)]	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). [N.J.A.C. 7:27-22.16(o)]
3	Carbon monoxide <= 250 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-16.23(a)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
4	VOC (Total) <= 50 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during startup.[N.J.A.C. 7:27-22.16(o)].	None.
5	TSP <= 72 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during startup[N.J.A.C. 7:27-22.16(o)].	None.
6	PM-10 (Total) <= 78 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[N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 78 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[N.J.A.C. 7:27-22.16(o)].	None.
8	SO ₂ <= 3.9 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct B

OS55, OS56

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	Arsenic compounds \leq 0.027 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Arsenic compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic 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.
10	Benzene \leq 0.135 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
11	Beryllium Emissions \leq 0.00076 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
12	Butadiene (1,3-) \leq 0.0392 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Cadmium Emissions \leq 0.0118 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Formaldehyde \leq 0.686 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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 no recordkeeping method required once initially. [N.J.A.C. 7:27-22.16(o)]	None.
15	Pb \leq 0.0343 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
16	Manganese Emissions \leq 0.252 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	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.
17	Methylnaphthalene (2-) \leq 0.000987 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Methane \leq 16.2 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [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
19	1-Methylnaphthalene <= 0.00443 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines [N.J.A.C. 7:27-22.16(a)]	1-Methylnaphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	1-Methylnaphthalene: 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	Mercury Emissions <= 0.00294 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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.
21	Naphthalene <= 0.0858 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	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(a)]	None.
22	Nickel Emissions <= 0.0113 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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(a)]	None.
23	Nitrous oxide <= 3.24 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	Polynuclear aromatic hydrocarbons (PAHs) ≤ 0.098 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
25	Polycyclic organic matter ≤ 0.098 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS57 Unit No. 2 Module 2101- Shutdown-ULSD, OS58 Unit No. 2 Module 2201- Shutdown-ULSD

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Shutdown Period <= 120 minutes. Shutdown is defined as the period of time from the initial lowering of combustion turbine output with the intent to cease generation of electrical power output and concludes with the cessation of combustion turbine operation. [N.J.A.C. 7:27-22.16(e)]	Shutdown Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]	Shutdown Period: Recordkeeping by other recordkeeping method (provide description) continuously. [N.J.A.C. 7:27-22.16(o)]	None.
2	Nitrogen oxides (NOx) <= 2 lb/MW-hr if ULSD is the fuel fired. [N.J.A.C. 7:27-19.5(d)2]	Nitrogen oxides (NOx): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.15(a)]	Nitrogen oxides (NOx): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1). [N.J.A.C. 7:27-22.16(o)]
3	Carbon monoxide <= 250 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-16.23(a)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
4	VOC (Total) <= 50 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during shutdown.[N.J.A.C. 7:27-22.16(o)].	None.
5	TSP <= 72 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during shutdown.[N.J.A.C. 7:27-22.16(o)].	None.
6	PM-10 (Total) <= 78 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.[N.J.A.C. 7:27-22.16(o)].	None.
7	PM-2.5 (Total) <= 78 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.[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	SO ₂ ≤ 3.9 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	Arsenic compounds ≤ 0.027 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Arsenic compounds: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Arsenic 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.
10	Benzene ≤ 0.135 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
11	Beryllium Emissions ≤ 0.00076 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
12	Butadiene (1,3-) ≤ 0.0392 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Butadiene (1,3-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Butadiene (1,3-): 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	Cadmium Emissions ≤ 0.0118 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Formaldehyde \leq 0.686 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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 no recordkeeping method required once initially. [N.J.A.C. 7:27-22.16(o)]	None.
15	Pb \leq 0.0343 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
16	Manganese Emissions \leq 0.252 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	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.
17	Methylnaphthalene (2-) \leq 0.000987 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Methylnaphthalene (2-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Methylnaphthalene (2-): 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	Methane \leq 16.2 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [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
19	1-Methylnaphthalene <= 0.00443 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines [N.J.A.C. 7:27-22.16(a)]	1-Methylnaphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	1-Methylnaphthalene: 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	Mercury Emissions <= 0.00294 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Mercury Emissions: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Mercury 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.
21	Naphthalene <= 0.0858 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Naphthalene: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	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(a)]	None.
22	Nickel Emissions <= 0.0113 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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(a)]	None.
23	Nitrous oxide <= 3.24 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from 40 CFR 98, Subpart C. [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.

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
24	Polynuclear aromatic hydrocarbons (PAHs) ≤ 0.098 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [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.
25	Polycyclic organic matter ≤ 0.098 lb/hr. Emission limit based maximum heat input rate (HHV) of the Combustion Turbine when firing ULSD, and emission factor from AP 42, 5th Edition, Table 3.1-4 and Table 3.1-5 (Dated 4/2000), Oil Fired Turbines. [N.J.A.C. 7:27-22.16(a)]	Polycyclic organic matter: Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Polycyclic organic matter: 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.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

Operating Scenario: OS61 Unit No. 1 Module 1101 - Maintenance, Fuel Transfer, and Mode Transfer, OS62 Unit No. 1 Module 1201 - Maintenance, Fuel Transfer, and Mode Transfer, OS63 Unit No. 1 Module 1301 - Maintenance, Fuel Transfer, and Mode Transfer, OS64 Unit No. 1 Module 1401 - Maintenance, Fuel Transfer, and Mode Transfer

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Mechanical safety testing is defined as the period of time following mechanical servicing or repair when mechanical safety tests are conducted, not to exceed 12 hours per year. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event in a permanently bound log book or readily accessible computer memories. Records shall be kept of each mechanical testing period including start time, end time, date, and total testing time. [N.J.A.C. 7:27-22.16(o)]	None.
2	Mode transfer period is defined as that period of time during which the combustion turbine is switching between premix and diffusion modes of operation. Duration of mode transfer period shall not exceed 45 minutes. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event in a permanently bound log book or readily accessible computer memories. Records shall show transfer start time, transfer end time, date, and total transfer time. [N.J.A.C. 7:27-22.16(o)]	None.
3	Fuel Transfer Period <= 45 minutes. Fuel Transfer period is defined as that period of time during which the fuel is swithed from natural gas to fuel oil and vice versa. Duration of fuel transfer peiod shall not exceed 45 minutes. [N.J.A.C. 7:27-22.16(o)]	None.	Fuel Transfer Period: Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event in a permanently bound log book or readily accessible computer memories. Records shall show transfer start time, transfer end time, date, and total transfer time. [N.J.A.C. 7:27-22.16(o)]	None.
4	NOx (Total) <= 1.3 lb/MW-hr for natural gas firing. [N.J.A.C. 7:27-19.5(d)2]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.5(a)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each quarter hour during operation. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(e)]	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
5	NO _x (Total) ≤ 2 lb/MW-hr if ULSD is fired. [N.J.A.C. 7:27-19.5(d)2]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-19.5(a)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each quarter hour during operation. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
6	Carbon monoxide ≤ 250 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	Carbon monoxide: Monitored by continuous emission monitoring system continuously, based on one calendar day. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-16.23(a)]	Carbon monoxide: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEMS REQUIREMENTS SUMMARY at U1 OS Summary. [N.J.A.C. 7:27-22.16(o)]	None.
7	VOC (Total) ≤ 50 ppm @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	None.	Other: Keep turbine manufacturer's specifications showing the VOC emission limits during maintenance, mode transfer, and fuel transfer.[N.J.A.C. 7:27-22.16(o)].	None.
8	TSP ≤ 11 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	Other: Keep turbine manufacturer's specifications showing the TSP emission limits during maintenance, mode transfer, and fuel transfer.[N.J.A.C. 7:27-22.16(o)].	None.
9	PM-10 (Total) ≤ 16 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep turbine manufacturer's specifications showing the PM10 emission limits during maintenance, mode transfer, and fuel transfer.[N.J.A.C. 7:27-22.16(o)].	None.
10	PM-2.5 (Total) ≤ 16 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 maintenance, mode transfer, and fuel transfer.[N.J.A.C. 7:27-22.16(o)].	None.
11	SO ₂ ≤ 2.4 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

BOP190002

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

Emission Unit: U3 Pump Floor Heater - Direct heat exchanger used for miscellaneous heating purposes

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	NO _x (Total) <= 0.429 tons/yr. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	CO <= 0.36 tons/yr. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

BOP190002

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

Emission Unit: U3 Pump Floor Heater - Direct heat exchanger used for miscellaneous heating purposes

Operating Scenario: OS1 Pump Floor Heater

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions <= 0.6 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
2	Opacity: Smoke emissions from any stack no greater than 20% opacity, exclusive of visible condensed water vapor, except for a period of not longer than three minutes in any consecutive 30-minute period. [N.J.A.C.7:27-6.2(d) &. [N.J.A.C. 7:27-6.2(e)]	None.	None.	None.
3	Pump Floor Heater fuel limited to natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
4	Natural Gas Usage<= 8.5 MMSCF/YR, based on 8,760 hours of operation. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
5	TSP <= 0.05 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
6	CO <= 0.082 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
7	NOx (Total) <= 0.098 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
8	Maximum Gross Heat Input <= 1 MMBTU/hr. [N.J.A.C. 7:27-22.16(e)]	None.	Other: Keep records showing maximum heat input rate for the heater[N.J.A.C. 7:27-22.16(o)].	None.

BOP190002

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

Emission Unit: U4 Turbine Bay Heater No. 1 - Direct heat exchanger used for miscellaneous heating purposes

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	NO _x (Total) <= 1.28 tons/yr. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	CO <= 1.07 tons/yr. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

BOP190002

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

Emission Unit: U4 Turbine Bay Heater No. 1 - Direct heat exchanger used for miscellaneous heating purposes

Operating Scenario: OS1 Turbine Bay Heater No. 1

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions <= 1.8 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
2	Smoke emissions from any stack no greater than 20% opacity, exclusive of visible condensed water vapor, except for a period of not longer than three minutes in any consecutive 30-minute period.[N.J.A.C.7:27-6.2(d)] &. [N.J.A.C. 7:27- 6.2(e)]	None.	None.	None.
3	Heater fuel limited to natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
4	TSP <= 0.05 lb/hr. Emissions of TSP are less than the reporting thresholds at N.J.A.C. 7:22 Appendix Table A. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	NOx (Total) <= 0.294 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	CO <= 0.24 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
7	Natural Gas Usage <= 25.5 MMSCF/YR, based on 8,760 hours of operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
8	Maximum Gross Heat Input <= 3 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(e)]	None.	Other: Keep records showing maximum heat input rate for the heater[N.J.A.C. 7:27-22.16(o)].	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U5 Turbine Bay Heater No. 2 - Direct heat exchanger used for miscellaneous heating purposes
Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	NOx (Total) <= 1.28 tons/yr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	CO <= 1.07 tons/yr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

BOP190002

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

Emission Unit: U5 Turbine Bay Heater No. 2 - Direct heat exchanger used for miscellaneous heating purposes

Operating Scenario: OS1 Turbine Bay Heater No. 2

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions <= 1.8 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.
2	Smoke emissions from any stack no greater than 20% opacity, exclusive of visible condensed water vapor, except for a period of not longer than three minutes in any consecutive 30-minute period. [N.J.A.C.7:27-6.2(d)&. [N.J.A.C. 7:27- 6.2(e)]	None.	None.	None.
3	Heater fuel limited to natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
4	TSP <= 0.05 lb/hr. Emissions of TSP are less than the reporting thresholds at N.J.A.C. 7:22 Appendix Table A. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	NOx (Total) <= 0.294 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	CO <= 0.24 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
7	Natural Gas Usage <= 25.5 MMft ³ /yr , based on 8,760 hours of operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
8	Maximum Gross Heat Input <= 3 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(e)]	None.	Other: Keep records showing maximum heat input rate[N.J.A.C. 7:27-22.16(o)].	None.

BOP190002

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U7 Counterflow, mechanical draft, parallel path wet/dry type cooling towers consisting of eight identical parallel cells

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	For annual emissions see GR11 [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	Smoke emissions from any stack no greater than 20% opacity, exclusive of visible condensed water vapor, except for a period of not longer than three minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-6.2(d)] & [N.J.A.C. 7:27- 6.2(e)]	None.	None.	None.
3	Water treatment chemicals containing hexavalent chromium shall not be added to the cooling tower circulating water. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by invoices / bills of lading per delivery , manual logging of parameter in a permanently bound log book or readily accessible computer memories. [N.J.A.C. 7:27-22.16(a)]	None.
4	TSP <= 1.5 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
5	PM-10 (Total) <= 1.5 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	PM-2.5 (Total) <= 1.5 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
7	VOC (Total) <= 1.3 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
8	The concentration of total dissolved (TDS) and suspended solids (TSS) in the cooling tower circulating water shall not exceed 6000 parts per million by volume (ppmv). [N.J.A.C. 7:27-22.16(e)]	Other: Monitored by other method (provide description) each month during operation, based on a 24 hour period. A 24 hour continuous sample from the cooling tower circulating water shall be collected once per month during periods of cooling tower operation. The composite sample shall be analyzed for total suspended solids (TSS) and total dissolved solids (TDS). [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by certified lab analysis results each month during operation. [N.J.A.C. 7:27-22.16(e)]	Submit a report: As per the approved schedule within 30 calendar days after the end of each calendar year. [N.J.A.C. 7:27-22.16(e)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	VOC (Total) <= 1.5 ppmv in the cooling tower make-up water. [N.J.A.C. 7:27-22.16(e)]	Other: VOC (Total): Monitored by other method (provide description) annually, based on a 24 hour period. A grab sample from the cooling tower make-up water shall be collected and analyzed once per year during periods of cooling tower operation. Compliance with the limit specified above shall be based on the average concentration of VOC measured in the cooling tower make-up water for the calendar year during which the samples were collected.[N.J.A.C. 7:27-22.16(e)].	Other: VOC (Total): Recordkeeping by certified lab analysis results annually.[N.J.A.C. 7:27-22.16(e)].	Submit a report: As per the approved schedule within 30 calendar days after the end of each calendar year. [N.J.A.C. 7:27-22.16(e)]
10	The permittee shall install a mechanical induced draft, counterflow, wet cells cooling towers, referred by E10 in the conditions of this permit, equipped with drift eliminators, respectively referred by CD10 in the conditions of this permit, used for removing liquid droplets and other moisture-laden chemicals before they are discharged into the atmosphere. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by manual logging of parameter at the approved frequency. The permittee shall maintain cooling towers as-built configuration and manufacturer's documentation on-site. [N.J.A.C. 7:27-22.16(e)]	None.
11	Flowrate <= 21.1 gal/min. Drift Flow Rate <= 21.1 gallon per minute. This condition applies to CD10. [N.J.A.C. 7:27-22.16(e)]	Flowrate: Monitored by documentation of construction at the approved frequency. The permittee shall maintain documentation that the tower drift flow rate is 0.001% of circulating water flow rate. [N.J.A.C. 7:27-22.16(e)]	Flowrate: Recordkeeping by manual logging of parameter at the approved frequency. The permittee shall maintain records and documentation on-site. [N.J.A.C. 7:27-22.16(e)]	None.
12	Cooling tower circulating water flow rate <= 110,000 gallon per minute (gpm). This condition applies to CD10. [N.J.A.C. 7:27-22.16(e)]	Other: Monitored by documentation of construction.[N.J.A.C. 7:27-22.16(o)].	Recordkeeping by manual logging of parameter once initially. The permittee shall keep all records and documentation on-site. [N.J.A.C. 7:27-22.16(o)]	None.

BOP190002

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

Emission Unit: U8 Counterflow, mechanical draft, parallel path wet/dry type cooling towers consisting of eight identical parallel cells

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	For annual emissions see GR11 [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	Smoke emissions from any stack no greater than 20% opacity, exclusive of visible condensed water vapor, except for a period of not longer than three minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-6.2(d)] & [N.J.A.C. 7:27- 6.2(e)]	None.	None.	None.
3	Water treatment chemicals containing hexavalent chromium shall not be added to the cooling tower circulating water. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by invoices / bills of lading per delivery , manual logging of parameter in a permanently bound log book or readily accessible computer memories. [N.J.A.C. 7:27-22.16(a)]	None.
4	TSP <= 1.5 lb/hr. Maximum emission rate from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
5	PM-10 (Total) <= 1.5 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	PM-2.5 (Total) <= 1.5 lb/hr. [N.J.A.C. 7:27-22.16(o)]	None.	None.	None.
7	VOC (Total) <= 1.3 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
8	The concentration of total dissolved (TDS) and suspended solids (TSS) in the cooling tower circulating water shall not exceed 6000 parts per million by volume (ppmv). [N.J.A.C. 7:27-22.16(e)]	Other: Monitored by other method (provide description) each month during operation, based on a 24 hour period. A 24 hour continuous sample from the cooling tower circulating water shall be collected once per month during periods of cooling tower operation. The composite sample shall be analyzed for total suspended solids (TSS) and total dissolved solids (TDS). [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by certified lab analysis results each month during operation. [N.J.A.C. 7:27-22.16(e)]	Submit a report: As per the approved schedule within 30 calendar days after the end of each calendar year. The report shall be sent to the Regional Enforcement Office, and shall include the concentration of TDS and TSS in the cooling tower circulating water, and average flow rate and temperature of cooling tower circulating water. [N.J.A.C. 7:27-22.16(e)]

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	VOC (Total) <= 1.5 ppmv in the cooling tower make-up water. [N.J.A.C. 7:27-22.16(e)]	Other: VOC (Total): Monitored by other method (provide description) annually, based on a 24 hour period. A grab sample from the cooling tower make-up water shall be collected and analyzed once per year during periods of cooling tower operation. Compliance with the limit specified above shall be based on the average concentration of VOC measured in the cooling tower make-up water for the calendar year during which the samples were collected.[N.J.A.C. 7:27-22.16(e)].	Other: VOC (Total): Recordkeeping by certified lab analysis results annually.[N.J.A.C. 7:27-22.16(e)].	Submit a report: As per the approved schedule within 30 calendar days after the end of each calendar year. [N.J.A.C. 7:27-22.16(e)]
10	The permittee shall install a mechanical induced draft, counterflow, wet cells cooling towers, referred by E10, E11 and E15 in the conditions of this permit, equipped with drift eliminators, respectively referred by CD10, CD11 and CD20 in the conditions of this permit, used for removing liquid droplets and other moisture-laden chemicals before they are discharged into the atmosphere. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by manual logging of parameter at the approved frequency. The permittee shall maintain cooling towers as-built configuration and manufacturer's documentation on-site. [N.J.A.C. 7:27-22.16(e)]	None.
11	Flowrate <= 21.1 gal/min. Drift Flow Rate <= 21.1 gallon per minute. This condition applies to CD11. [N.J.A.C. 7:27-22.16(e)]	Flowrate: Monitored by documentation of construction at the approved frequency. The permittee shall maintain documentation that the tower drift flow rate is 0.001% of circulating water flow rate. [N.J.A.C. 7:27-22.16(e)]	Flowrate: Recordkeeping by manual logging of parameter at the approved frequency. The permittee shall maintain records and documentation on-site. [N.J.A.C. 7:27-22.16(e)]	None.
12	Cooling tower circulating water flow rate <= 110,000 gallon per minute (gpm). This condition applies to CD11. [N.J.A.C. 7:27-22.16(e)]	Other: Monitored by documentation of construction.[N.J.A.C. 7:27-22.16(o)].	Recordkeeping by manual logging of parameter once initially. The permittee shall keep all records and documentation on-site. [N.J.A.C. 7:27-22.16(o)]	None.

BOP190002

New Jersey Department of Environmental Protection Facility Specific Requirements

Emission Unit: U14 Cooling Tower #2

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	For annual emissions see GR11 [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	TSP <= 2.2 lb/hr. [N.J.A.C. 7:27-22.16(e)]	TSP: Monitored by calculations upon request of the Department, based on an instantaneous determination , typically using maximum circulating cooling water flow rate and maximum concentration of solid particles in circulating water. [N.J.A.C. 7:27-22.16(e)]	TSP: Recordkeeping by manual logging of parameter upon request of the Department. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
3	PM-10 (Total) <= 2.2 lb/hr. [N.J.A.C. 7:27-22.16(e)]	PM-10 (Total): Monitored by calculations upon request of the Department, based on an instantaneous determination , typically using maximum circulating cooling water flow rate and maximum concentration of particulate matter in circulating water. [N.J.A.C. 7:27-22.16(e)]	PM-10 (Total): Recordkeeping by manual logging of parameter upon request of the Department. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
4	PM-2.5 (Total) <= 2.2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by calculations upon request of the Department, based on an instantaneous determination , typically using maximum circulating cooling water flow rate and maximum concentration of particulate matter in circulating water. [N.J.A.C. 7:27-22.16(e)]	PM-2.5 (Total): Recordkeeping by manual logging of parameter upon request of the Department. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
5	VOC (Total) <= 2.21 lb/hr. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by calculations upon request of the Department, based on an instantaneous determination , typically using maximum circulating cooling water flow rate and maximum concentration of volatile organic compounds in circulating water. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Recordkeeping by manual logging of parameter upon request of the Department. All records shall be kept on-site for at least five (5) years, readily made available to the Department upon request. [N.J.A.C. 7:27-22.16(e)]	None.
6	Flowrate <= 0.73 gal/min (drift). Drift Flow Rate <= 0.73 gallon per minute. [N.J.A.C. 7:27-22.16(e)]	Flowrate: Monitored by documentation of construction once initially, based on an instantaneous determination. The permittee shall maintain documentation that the tower drift flow rate is 0.0005% of circulating water flow rate. [N.J.A.C. 7:27-22.16(e)]	Flowrate: Recordkeeping by manual logging of parameter at the approved frequency. The permittee shall keep all records and documentation on-site. [N.J.A.C. 7:27-22.16(e)]	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	Flowrate <= 146,000 gal/min of Cooling tower circulating water. This condition applies to CD20. [N.J.A.C. 7:27-22.16(e)]	Other: Flowrate: Monitored by documentation of construction.[N.J.A.C. 7:27-22.16(o)].	Flowrate: Recordkeeping by manual logging of parameter or storing data in a computer data system once initially. The permittee shall keep all records and documentaytion on-site. [N.J.A.C. 7:27-22.16(o)]	None.
8	VOC (Total) <= 1.5 ppmv in the cooling tower make-up water. [N.J.A.C. 7:27-22.16(e)]	Other: VOC (Total): Monitored by other method (provide description) annually, based on a 24 hour period. A grab sample from the cooling tower make-up water shall be collected and analyzed once per year during periods of cooling tower operation. Compliance with the limit specified above shall be based on the average concentration of VOC measured in the cooling tower make-up water for the calendar year during which the samples were collected.[N.J.A.C. 7:27-22.16(e)].	Other: VOC (Total): Recordkeeping by certified lab analysis results annually.[N.J.A.C. 7:27-22.16(e)].	Submit a report: As per the approved schedule within 30 calendar days after the end of each calendar year. [N.J.A.C. 7:27-22.16(e)]
9	Water treatment chemicals containing hexavalent chromium shall not be added to the cooling tower circulating water. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
10	The permittee shall install a mechanical induced draft, counterflow, wet cells cooling towers, referred by E15 in the conditions of this permit, equipped with drift eliminators, respectively referred by CD15 in the conditions of this permit, used for removing liquid droplets and other moisture-laden chemicals before they are discharged into the atmosphere. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by manual logging of parameter at the approved frequency. The permittee shall maintain cooling towers as-built configuration and manufacturer's documentation on-site. [N.J.A.C. 7:27-22.16(e)]	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U15 Fuel Gas Heaters
Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Summary of Applicable Federal Regulations: 40 CFR 63 Subpart A and [40 CFR 63.Subpart(DDDDD)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	<p>The owner or operator of an industrial/commercial/institutional boiler or other indirect heat exchanger with a gross heat input of at least five million BTU per hour or more shall adjust the combustion process annually in the same quarter of each calendar year.</p> <p>If the source is not operated during the quarter of the calendar year in which the annual adjustment is to be performed, the owner or operator shall perform the adjustment within seven days after the boiler or other indirect heat exchanger is next operated.</p> <p>The adjustment of the combustion process shall be done in accordance with the procedure set forth at N.J.A.C. 7:27-19.16. [N.J.A.C. 7:27-16.8(b)], [N.J.A.C. 7:27-16.8(c)] and [N.J.A.C. 7:27-19.7(g)]</p>	<p>Monitored by periodic emission monitoring annually. The owner or operator shall perform the adjustment of the combustion process in accordance with the combustion adjustment monitoring procedures specified in NJDEP Technical Manual 1005 and the procedure at N.J.A.C. 7:27-19.16(a) as follows: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly; 4. Minimize the total emissions of NOx and CO consistent with the manufacturer's specifications; 5. Measure the concentrations in the effluent stream of NOx and CO in ppmvd and O2 in percent, before and after the adjustment is made; and 6. Convert the measured emission values of NOx, CO and O2 concentrations to lb/MMBTU according to the following formula: $\text{Lb/MMBTU} = \text{ppmvd} * \text{MW} * \text{F dry factor} * \text{O2 correction factor} / 387,000,000$, where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO; MW is the Molecular Weight for NOx=46 lb/lb-mole, CO=28 lb/lb-mole; F Dry factor for: Natural Gas = 8,710 dscf/MMBTU, Residual or fuel oil = 9,190 dscf/MMBTU; O2 correction factor: $(20.9\%)/(20.9\% - \text{O2 measured})$, where O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon performing combustion adjustment of 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 made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent test performed after taking any corrective action, including concentrations and converted emission values in (lb/MMBTU); 7. The type and amount of fuel used over the 12 months prior to the annual adjustment; 8. Any other information which the Department or the EPA has required as a condition of approval of any permit or certificate issued for the source operation. The records must be retained for a minimum of five years and to be made readily accessible to the Department upon request. [N.J.A.C. 7:27-19.16(b)]</p>	<p>Submit a report: Annually. The owner or operator shall submit an annual adjustment combustion process report to the department within 45 days after the adjustment of the combustion process is completed. The report shall be submitted electronically to: www.njdeponline.com. Instructions for submitting this report online are specified at: https://dep.nj.gov/boss/annual-combustion-a [N.J.A.C. 7:27-19.16(d)] and. [N.J.A.C. 7:27-19.16(c)]</p>

BOP190002

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	The owner or operator of the adjusted equipment or source operation shall ensure that the operating parameter settings are established and recorded after the combustion process is adjusted and that the adjusted equipment or source operation is maintained to operate consistent with the annual adjustment. [N.J.A.C. 7:27-19.16(e)]	Other: Monitored by the operating parameter settings that are established after the combustion process is adjusted in order to operate consistent with the annual adjustment. [N.J.A.C. 7:27-19.16(e)].	Other: The owner or operator shall record the operating parameter settings that are established after the combustion process is adjusted and retain until the next annual adjustment, to be made readily accessible to the Department upon request. [N.J.A.C. 7:27-19.16(e)].	None.
4	NO _x (Total) <= 8 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	CO <= 6.72 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
6	Dimethylbenz(a)anthracene (7,12-) <= 0.00000127 tons/yr. [N.J.A.C. 7:27-22.16(a)]	Dimethylbenz(a)anthracene (7,12-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dimethylbenz(a)anthracene (7,12-): 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.
7	Formaldehyde <= 0.00427 tons/yr. [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.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	<p>The permittee must conduct a tune-up of the boiler or process heater biennially. Each tune-up must be conducted no more than 25 months after the previous tune-up. For an existing source, the first tune-up is no later than January 31, 2016, and for a new source, no later than 25 months after the initial startup.</p> <p>The tune-ups shall be conducted in accordance with 40 CFR 63.7540(a)(10) as follows:</p> <p>(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary. The burner inspection may be delayed until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection.</p> <p>(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.</p> <p>(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. The inspection may be delayed until the next scheduled unit shutdown.</p> <p>(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOx requirement to which the unit is subject.</p> <p>Per 40 CFR 63.7540(a)(13), if the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.</p> <p>[40 CFR 63.7540(a)(11)]</p>	<p>Monitored by periodic emission monitoring once initially and once every 2 years.</p> <p>Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made).</p> <p>Measurements may be taken using a portable CO analyzer.</p> <p>[40 CFR 63.7540(10)(v)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system once initially and once every 2 years.</p> <p>The permittee shall maintain on-site and submit, if requested by the Administrator, a report containing the following information:</p> <p>The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;</p> <p>A description of any corrective actions taken as a part of the tune-up; and</p> <p>The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.</p> <p>Per 40 CFR 63.10(b)(1), the files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.7540(a)(10)(vi)]</p>	<p>Submit notification: Once initially. Submit a Notification of Compliance status for existing sources within 60 days of January 31, 2016 that includes the information in 40 CFR 63.7545(e)(1) and (e)(8) as follows:</p> <ul style="list-style-type: none"> - A description including identification of which subcategories the unit is in, the design heat input capacity, a description of the add-on controls, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined to be a non-waste under paragraph 40 CFR 241.3, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of 40 CFR 241.3, and justification for the selection of fuel(s) burned during the compliance demonstration, and - The following certification(s) of compliance, as applicable, and signed by a responsible official: <ul style="list-style-type: none"> “This facility completed the required initial tune-up according to the procedures in 40 CFR 63.7540(a)(10)(i) through (vi).” “This facility has had an energy assessment performed according to 40 CFR 63.7530(e). Except for units that burn only natural gas or refinery gas, or units that qualify for a statutory exemption: “No secondary materials that are solid waste were combusted in any affected unit.” <p>[40 CFR 63.7545(e)]</p>
9	<p>The owner or operator of a boiler or process heater shall comply with the applicable General Provisions in 40 CFR 63 Subpart A as listed in Table 10 in 40 CFR 63 Subpart DDDDD. [40 CFR 63.7565]</p>	None.	None.	None.

BOP190002

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

Emission Unit: U15 Fuel Gas Heaters

Operating Scenario: OS1 Fuel Gas Heater No. 1 for Unit 1 Firing Natural Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	No visible emissions exclusive of visible condensed water vapor, except for a period of not longer than three minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-3.2(a)] & [N.J.A.C. 7:27- 3.2(c)]	None.	None.	None.
2	Particulate Emissions <= 3.18 lb/hr. [N.J.A.C. 7:27- 4.2]	None.	None.	None.
3	CO <= 0.44 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	NOx (Total) <= 0.52 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	TSP <= 0.05 lb/hr. Emissions of TSP are less than the reporting thresholds at N.J.A.C. 7:22 Appendix Table A. Rule limit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
6	TSP <= 0.05 lb/hr. Emissions of TSP are less than the reporting thresholds at N.J.A.C. 7:22 Appendix Table A. Rule limit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
7	Maximum Gross Heat Input <= 5.3 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
8	Maximum Annual Heat Input <= 46,428 MMBTU/yr, based on 8760 hours of operation. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep records showing maximum heat input rate for each heater[N.J.A.C. 7:27-22.16(o)].	None.
9	Fuel limited to Natural Gas. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	Dimethylbenz(a)anthracene (7,12-) <= 8.23E-8 lb/hr. Emissions based on maximum heat input rate of the heater in (MMBtu/hr, HHV) and emissions factors from AP-42, Fourth Edition, Chapter 1.4, Natural Gas Combustion (Tables 1.4-1 through 1.4-3), October 1992. [N.J.A.C. 7:27-22.16(a)]	Dimethylbenz(a)anthracene (7,12-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dimethylbenz(a)anthracene (7,12-): 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.

BOP190002

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

Emission Unit: U15 Fuel Gas Heaters**Operating Scenario:** OS2 Fuel Gas Heater No. 2 for Unit 2 Firing Natural Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	No visible emissions exclusive of visible condensed water vapor, except for a period of not longer than three minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-3.2(a)] & [N.J.A.C. 7:27- 3.2(c)]	None.	None.	None.
2	Particulate Emissions <= 4.02 lb/hr. [N.J.A.C. 7:27- 4.2]	None.	None.	None.
3	CO <= 0.55 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	NOx (Total) <= 0.65 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	TSP <= 0.05 lb/hr. Emissions of TSP are less than the reporting thresholds at N.J.A.C. 7:22 Appendix Table A. Rule limit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
6	Dimethylbenz(a)anthracene (7,12-) <= 1.04E-7 lb/hr. Emissions based on maximum heat input rate of the heater in (MMBtu/hr, HHV) and emissions factors from AP-42, Fourth Edition, Chapter 1.4, Natural Gas Combustion (Tables 1.4-1 through 1.4-3), October 1992. [N.J.A.C. 7:27-22.16(a)]	Dimethylbenz(a)anthracene (7,12-): Monitored by calculations once initially. [N.J.A.C. 7:27-22.16(o)]	Dimethylbenz(a)anthracene (7,12-): 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.
7	Formaldehyde <= 0.000488 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
8	Maximum Gross Heat Input <= 6.7 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep records showing maximum heat input rate for each heater[N.J.A.C. 7:27-22.16(o)].	None.
9	Maximum Annual Heat Input <= 58,342 MMBTU/yr, based on maximum heat input rate in MMBtu/hr and 8760 hours of operation. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	Fuel limited to Natural Gas. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

BOP190002

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

Emission Unit: U15 Fuel Gas Heaters

Operating Scenario: OS3 Fuel Gas Heater No. 3 for Unit 2 Firing Natural Gas

The requirements for this item are identical to those for: U15 OS2

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): Bergen Generating Station Facility

Facility ID (AIMS): 02488

Street 10 VICTORIA TER
Address: RIDGEFIELD,,, NJ 07657

Mailing 10 VICTORIA TER
Address: RIDGEFIELD,,, NJ 07657

County: Bergen
Location
Description:

State Plane Coordinates:	
X-Coordinate:	190,018
Y-Coordinate:	222,845
Units:	Meters
Datum:	NAD27
Source Org.:	Other/Unknown
Source Type:	Digital Image

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

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Air Permit Information Contact

Organization: Parkway Generation Operating LLC

Org. Type: LLC

Name: Pete Tomas

NJ EIN: 00824081414

Title: EHS Manager

Phone: (201) 313-7742 x

Mailing Address: 10 Victoria Terrace
Ridgefield,, NJ 07657

Fax: () - x

Other: () - x

Type:

Email: ptomas@camsops.com

Contact Type: BOP - Operating Permits

Organization: Parkway Generation Operating LLC

Org. Type: LLC

Name: Pete Tomas

NJ EIN: 00824081414

Title: EHS Manager

Phone: (201) 313-7742 x

Mailing Address: 10 Victoria Terrace
Ridgefield,, NJ 07657

Fax: () - x

Other: () - x

Type:

Email: ptomas@camsops.com

Contact Type: Consultant

Organization: eSPARC

Org. Type: LLC

Name: Lucian Hill

NJ EIN: 00000000000

Title: Environmental Director

Phone: (225) 678-2060 x

Mailing Address: 910 Louisiana Street, Suite 2400
Suite 160
Houston, TX 77002

Fax: () - x

Other: () - x

Type:

Email: lhill@camstex.com

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Emission Statements

Organization: Parkway Generation Operating LLC

Org. Type: LLC

Name: Pete Tomas

NJ EIN: 00824081414

Title: EHS Manager

Phone: (201) 313-7742 x

Mailing Address: 10 Victoria Terrace

Fax: () - x

Ridgefield,, NJ 07657

Other: () - x

Type:

Email: ptomas@camsops.com

Contact Type: Fees/Billing Contact

Organization: Parkway Generation Operating LLC

Org. Type: LLC

Name: Pete Tomas

NJ EIN: 00824081414

Title: EHS Manager

Phone: (201) 313-7742 x

Mailing Address: 10 Victoria Terrace

Fax: () - x

Ridgefield,, NJ 07657

Other: () - x

Type:

Email: ptomas@camsops.com

Contact Type: General Contact

Organization: eSPARC

Org. Type: LLC

Name: Derek Furstenwerth

NJ EIN: 00000000000

Title: VP Environmental Services

Phone: (713) 380-4782 x

Mailing Address: 910 Louisiana Street, Suite 2400

Fax: () - x

Suite 2400

Other: () - x

Houston, TX 77002

Type:

Email: dfrustenwerth@camstex.com

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: On-Site Manager

Organization: Parkway Generation Operating LLC

Org. Type: LLC

Name: Peter Van Den Houten

NJ EIN: 00824081414

Title: Power Plant Manager

Phone: (201) 313-7700 x

Mailing Address: 10 Victoria Terrace
Ridgefield, NJ 07657

Fax: () - x

Other: () - x

Type:

Email: pvandenhouten@camsops.com

Contact Type: Operator

Organization: eSPARC

Org. Type: LLC

Name: Derek Furstenwerth

NJ EIN: 00000000000

Title: VP Environmental Services

Phone: (713) 380-4782 x

Mailing Address: 910 Louisiana Street, Suite 2400
Suite 2400
Houston, TX 77002

Fax: () - x

Other: () - x

Type:

Email: dfrustenwerth@camstex.com

Contact Type: Owner (Current Primary)

Organization: Alpha Generation

Org. Type: Corporation

Name: Natalia Hernandez

NJ EIN: 00000000000

Title: VP, EHS

Phone: (718) 570-7198 x

Mailing Address: 300 Atlantic Street
5th Floor
Stamford, CT 06901

Fax: () - x

Other: () - x

Type:

Email: nhernandez@alphagen.com

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Responsible Official

Organization: Parkway Generation Operating LLC

Org. Type: LLC

Name: Peter Van Den Houten

NJ EIN: 00824081414

Title: Power Plant Manager

Phone: (201) 313-7700 x

Mailing Address: 10 Victoria Terrace
Ridgefield, NJ 07657

Fax: () - x

Other: () - x

Type:

Email: pvandenhouten@camsops.com

BERGEN GENERATING STATION (02488)
BOP190002

Date: 01/14/2025

New Jersey Department of Environmental Protection
Non-Source Fugitive Emissions

FG NJID	Description of Activity Causing Emission	Location Description	Reasonable Estimate of Emissions (tpy)								
			VOC (Total)	NOx	CO	SO	TSP (Total)	PM-10	Pb	HAPS (Total)	Other (Total)
FG3	Miscellaneous Solvent Uses										
FG4	Miscellaneous pipes, flanges, fittings										
Total			2.300	0.000	0.000	0.000	0.000	0.000	0.000	0.00000000	0.000

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

New Jersey Department of Environmental Protection
Insignificant Source Emissions

IS NJID	Source/Group Description	Equipment Type	Location Description	Estimate of Emissions (tpy)								
				VOC (Total)	NO _x	CO	SO	TSP	PM-10	Pb	HAPS (Total)	Other (Total)
IS1	Insignificant Liquid Storage Tanks or Vessels	Storage Vessel										
IS2	Commercial Fuel Burning Equipment < 1 MMBtu/hr and Non-Emergency Electric Generators < 37 kW	Fuel Combustion Equipment (Other)										
IS3	Wastewater Treatment Equipment <100 ppbw each TXS & <3500 ppbw total VOC	Other Equipment										
IS4	Non-applicable VOC (<0.02 psia) storage tanks with capacities >10,000 gallons											
IS5	Surface/Parts cleaners < 6 SQFT, capacity <100 gallons	Other Equipment										
IS7	Applicable VOC (>0.02 psia) storage tanks <2000 gallons	Other Equipment										
IS8	Fire protection systems <50 lb/hr of raw material	Other Equipment										

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

New Jersey Department of Environmental Protection
Insignificant Source Emissions

IS NJID	Source/Group Description	Equipment Type	Location Description	Estimate of Emissions (tpy)								
				VOC (Total)	NOx	CO	SO	TSP	PM-10	Pb	HAPS (Total)	Other (Total)
IS9	Building sumps <100 ppbw each TXS & <3500 ppbw total VOC	Other Equipment										
IS10	Chemical cleaning equipment <50 lb/hr of raw material	Other Equipment										
IS11	Generator purge system <50 lb/hr of raw material	Other Equipment										
IS12	Floor drain collections systems <100 ppbw each TXS & <3500 ppbw total VOC	Other Equipment										
IS13	Gas scrubber blowdown systems <100 ppbw each TXS & <3500 ppbw total VOC	Other Equipment										
IS15	Wet cell batteries Group 1 or Group 2 TXS (or a combination thereof) < 0.1 lb/hr PTE	Other Equipment										
IS16	Circulating water vent stacks <50 lb/hr of raw material	Other Equipment										

New Jersey Department of Environmental Protection
Insignificant Source Emissions

IS NJID	Source/Group Description	Equipment Type	Location Description	Estimate of Emissions (tpy)								
				VOC (Total)	NOx	CO	SO	TSP	PM-10	Pb	HAPS (Total)	Other (Total)
IS17	Welding equipment < 12 lb/calendar day of welding rod or wire											
Total				3.130	3.380	2.050	0.000	0.470	0.550	0.000	0.54000000	0.000

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

Equip. NJID	Facility's Designation	Equipment Description	Equipment Type	Certificate Number	Install Date	Grand- Fathered	Last Mod. (Since 1968)	Equip. Set ID
E1	Module 1101	Unit No. 1, Module No. 1101	Combustion Turbine	113137	6/1/1995	No	7/9/2002	
E2	Module 1201	Unit No. 1, Module No. 1201	Combustion Turbine	113132	6/1/1995	No	7/9/2002	
E3	Module 1301	Unit No. 1, Module No. 1301	Combustion Turbine	113133	6/1/1995	No	7/9/2002	
E4	Module 1401	Unit No. 1, Module No. 1401	Combustion Turbine	113134	6/1/1995	No	7/9/2002	
E6	Fl Heater	Pump Floor Heater	Fuel Combustion Equipment (Other)	124409	10/23/1995	No		
E7	TBH #1	No. 1 Turbine Bay Heater	Fuel Combustion Equipment (Other)	124408	10/23/1995	No		
E8	TBH #2	No. 2 Turbine Bay Heater	Fuel Combustion Equipment (Other)	124410	10/23/1995	No		
E10	Cool Twr 1A	Cooling Tower - 1A	Other Equipment	113140	6/1/1995	No	7/9/2002	
E11	Cool Twr 1B	Cooling Tower - 1B	Other Equipment	113131	6/1/1995	No	7/9/2002	
E13	Module 2101	Unit No. 2 Module No. 2101	Combustion Turbine		3/12/2002	No		
E14	Module 2201	Unit No. 2 Module No. 2201	Combustion Turbine		3/22/2002	No		
E15	Cool Twr 2	Cooling Tower - 2	Other Equipment		3/12/2002	No		
E18	DB 1	Module 2101 Duct Burner	Fuel Combustion Equipment (Other)		3/12/2002	No		
E19	DB 2	Module 2201 Duct Burner	Fuel Combustion Equipment (Other)		3/12/2002	No		
E20	FGH #1	Fuel Gas Heater No. 1	Other Equipment		8/6/2007	No		
E21	FGH #2	Fuel Gas Heater No. 2	Other Equipment		8/6/2007	No		
E22	FGH #3	Fuel Gas Heater No. 3	Other Equipment		8/6/2007	No		

02488 BERGEN GENERATING STATION BOP190002 E1 (Combustion Turbine)
Print Date: 1/14/2025

Make:	<input type="text" value="Siemens"/>		
Manufacturer:	<input type="text" value="Siemens V84.2"/>		
Model:	<input type="text"/>		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	<input type="text" value="1,514.80"/>		
Type of Turbine:	<input type="text" value="Industrial"/>		
Type of Cycle:	<input type="text" value="Combined-Cycle"/>	Description:	<input type="text"/>
Industrial Application:	<input type="text" value="Electrical Generator"/>	Description:	<input type="text"/>
Power Output:	<input type="text" value="125.00"/>	Units:	<input type="text" value="Megawatts"/>
Is the combustion turbine using (check all that apply):			
A Dry Low NOx Combustor:	<input checked="" type="checkbox"/>		
Steam Injection:	<input type="checkbox"/>	Steam to Fuel Ratio:	<input type="text"/>
Water Injection:	<input checked="" type="checkbox"/>	Water to Fuel Ratio:	<input type="text"/>
Other:	<input type="checkbox"/>	Description:	<input type="text"/>
Is the turbine Equipped with a Duct Burner?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	<input type="text" value="Water to Fuel Ratio: When CEM system is not operating, 1.38 lb H2O to 1 lb Oil; 2.0 lb H2O to 1 lb Nat. Gas (In Power Aug. Mode)"/>		

02488 BERGEN GENERATING STATION BOP190002 E2 (Combustion Turbine)
Print Date: 1/14/2025

Make:	<input type="text" value="Siemens"/>		
Manufacturer:	<input type="text" value="Siemens V84.2"/>		
Model:	<input type="text"/>		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	<input type="text" value="1,514.80"/>		
Type of Turbine:	<input type="text" value="Industrial"/>		
Type of Cycle:	<input type="text" value="Combined-Cycle"/>	Description:	<input type="text"/>
Industrial Application:	<input type="text" value="Electrical Generator"/>	Description:	<input type="text"/>
Power Output:	<input type="text" value="125.00"/>	Units:	<input type="text" value="Megawatts"/>
Is the combustion turbine using (check all that apply):			
A Dry Low NOx Combustor:	<input checked="" type="checkbox"/>		
Steam Injection:	<input type="checkbox"/>	Steam to Fuel Ratio:	<input type="text"/>
Water Injection:	<input checked="" type="checkbox"/>	Water to Fuel Ratio:	<input type="text"/>
Other:	<input type="checkbox"/>	Description:	<input type="text"/>
Is the turbine Equipped with a Duct Burner?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	<input type="text" value="Water to Fuel Ratio: When CEM system is not operating, 1.38 lb H2O to 1 lb Oil; 2.0 lb H2O to 1 lb Nat. Gas (In Power Aug. Mode)"/>		

02488 BERGEN GENERATING STATION BOP190002 E3 (Combustion Turbine)
Print Date: 1/14/2025

Make:	<input type="text" value="Siemens"/>		
Manufacturer:	<input type="text" value="Siemens V84.2"/>		
Model:	<input type="text"/>		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	<input type="text" value="1,514.80"/>		
Type of Turbine:	<input type="text" value="Industrial"/>		
Type of Cycle:	<input type="text" value="Combined-Cycle"/>	Description:	<input type="text"/>
Industrial Application:	<input type="text" value="Electrical Generator"/>	Description:	<input type="text"/>
Power Output:	<input type="text" value="125.00"/>	Units:	<input type="text" value="Megawatts"/>
Is the combustion turbine using (check all that apply):			
A Dry Low NOx Combustor:	<input checked="" type="checkbox"/>		
Steam Injection:	<input type="checkbox"/>	Steam to Fuel Ratio:	<input type="text"/>
Water Injection:	<input checked="" type="checkbox"/>	Water to Fuel Ratio:	<input type="text"/>
Other:	<input type="checkbox"/>	Description:	<input type="text"/>
Is the turbine Equipped with a Duct Burner?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	<input type="text" value="Water to Fuel Ratio: When CEM system is not operating, 1.38 lb H2O to 1 lb Oil; 2.0 lb H2O to 1 lb Nat. Gas (In Power Aug. Mode)"/>		

02488 BERGEN GENERATING STATION BOP190002 E4 (Combustion Turbine)
Print Date: 1/14/2025

Make:	<input type="text" value="Siemens"/>		
Manufacturer:	<input type="text" value="Siemens V84.2"/>		
Model:	<input type="text"/>		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	<input type="text" value="1,514.80"/>		
Type of Turbine:	<input type="text" value="Industrial"/>		
Type of Cycle:	<input type="text" value="Combined-Cycle"/>	Description:	<input type="text"/>
Industrial Application:	<input type="text" value="Electrical Generator"/>	Description:	<input type="text"/>
Power Output:	<input type="text" value="125.00"/>	Units:	<input type="text" value="Megawatts"/>
Is the combustion turbine using (check all that apply):			
A Dry Low NOx Combustor:	<input checked="" type="checkbox"/>		
Steam Injection:	<input type="checkbox"/>	Steam to Fuel Ratio:	<input type="text"/>
Water Injection:	<input checked="" type="checkbox"/>	Water to Fuel Ratio:	<input type="text"/>
Other:	<input type="checkbox"/>	Description:	<input type="text"/>
Is the turbine Equipped with a Duct Burner?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	<input type="text" value="Water to Fuel Ratio: When CEM system is not operating, 1.38 lb H2O to 1 lb Oil; 2.0 lb H2O to 1 lb Nat. Gas (In Power Aug. Mode)"/>		

02488 BERGEN GENERATING STATION BOP190002 E6 (Fuel Combustion Equipment (Other))
Print Date: 1/14/2025

Make:	
Manufacturer:	Bonanza
Model:	B-1000
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	1.00
Type of Heat Exchange:	Direct
Equipment Type Description:	Direct Heat Exchanger

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

☐ Yes
☒ No

Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?

☐ Yes
☒ No

Comments:

A diagram was submitted with the original November 1995 Title V Application Submittal. For information purposes only

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

02488 BERGEN GENERATING STATION BOP190002 E7 (Fuel Combustion Equipment (Other))
Print Date: 1/14/2025

Make:	
Manufacturer:	Bonanza
Model:	
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	3.00
Type of Heat Exchange:	Direct
Equipment Type Description:	Direct Heat Exchanger

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: For information purposes only

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

02488 BERGEN GENERATING STATION BOP190002 E8 (Fuel Combustion Equipment (Other))
Print Date: 1/14/2025

Make:	
Manufacturer:	Bonanza
Model:	
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	3.00
Type of Heat Exchange:	Direct
Equipment Type Description:	Direct Heat Exchanger

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: For information purposes only

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

02488 BERGEN GENERATING STATION BOP190002 E13 (Combustion Turbine)
Print Date: 1/14/2025

Make:	GE Frame 7FA		
Manufacturer:	General Electric		
Model:	GE Frame 7FA		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	2,450.00		
Type of Turbine:	Industrial	Description:	
Type of Cycle:	Combined-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	545.00	Units:	Megawatts
Is the combustion turbine using (check all that apply):			
A Dry Low NOx Combustor:	<input checked="" type="checkbox"/>		
Steam Injection:	<input type="checkbox"/>	Steam to Fuel Ratio:	
Water Injection:	<input checked="" type="checkbox"/>	Water to Fuel Ratio:	1.30
Other:	<input type="checkbox"/>	Description:	
Is the turbine Equipped with a Duct Burner?	<input checked="" type="radio"/> Yes <input type="radio"/> No		
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input 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:	Has SCR, Oxidation Catalyst Water to Fuel Ratio = 1.0-1.3		

02488 BERGEN GENERATING STATION BOP190002 E14 (Combustion Turbine)
Print Date: 1/14/2025

Make:	GE Frame 7FA		
Manufacturer:	General Electric		
Model:	GE Frame 7FA		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	2,450.00		
Type of Turbine:	Industrial	Description:	
Type of Cycle:	Combined-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	545.00	Units:	Megawatts
Is the combustion turbine using (check all that apply):			
A Dry Low NOx Combustor:	<input checked="" type="checkbox"/>		
Steam Injection:	<input type="checkbox"/>	Steam to Fuel Ratio:	
Water Injection:	<input checked="" type="checkbox"/>	Water to Fuel Ratio:	1.30
Other:	<input type="checkbox"/>	Description:	
Is the turbine Equipped with a Duct Burner?	<input checked="" type="radio"/> Yes <input type="radio"/> No		
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input 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:	Has SCR, Oxidation Catalyst Water to Fuel Ratio = 1.0-1.3		

02488 BERGEN GENERATING STATION BOP190002 E15 (Other Equipment)
Print Date: 1/14/2025

Make:

Manufacturer:

Model:

Equipment Type:

Hamon
CF1412WDFRP
Cooling Tower

Capacity:

Units:

Description:

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

1.46
other units
MMgals/minute

<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:

The capacity of cooling tower is 146,000 gallons per minute.

02488 BERGEN GENERATING STATION BOP190002 E18 (Fuel Combustion Equipment (Other))
Print Date: 1/14/2025

Make:	
Manufacturer:	COEN
Model:	Custom
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	336.00
Type of Heat Exchange:	Direct
Equipment Type Description:	

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:

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

02488 BERGEN GENERATING STATION BOP190002 E19 (Fuel Combustion Equipment (Other))
Print Date: 1/14/2025

Make:	
Manufacturer:	COEN
Model:	Custom
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	336.00
Type of Heat Exchange:	Direct
Equipment Type Description:	

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:

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

02488 BERGEN GENERATING STATION BOP190002 E20 (Other Equipment)
Print Date: 1/14/2025

Make:	Total Energy Resources, Inc.
Manufacturer:	Custom
Model:	
Equipment Type:	Glycol/Warerbath Firetube Fuel Gas Heater
Capacity:	5.30
Units:	MMBTU/hr (HHV)
Description:	

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

☐ Yes
☒ No

Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?

☐ Yes
☒ No

Comments:

02488 BERGEN GENERATING STATION BOP190002 E21 (Other Equipment)
Print Date: 1/14/2025

Make:	Total Energy Resources, Inc.
Manufacturer:	Custom
Model:	
Equipment Type:	Glycol/Warerbath Firetube Fuel Gas Heater
Capacity:	6.70
Units:	MMBTU/hr (HHV)
Description:	

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

☐ Yes
☒ No

Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?

☐ Yes
☒ No

Comments:

02488 BERGEN GENERATING STATION BOP190002 E22 (Other Equipment)
Print Date: 1/14/2025

Make:	Total Energy Resources, Inc.
Manufacturer:	Custom
Model:	
Equipment Type:	Glycol/Warerbath Firetube Fuel Gas Heater
Capacity:	6.70
Units:	MMBTU/hr (HHV)
Description:	

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

☐ Yes
☒ No

Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?

☐ Yes
☒ No

Comments:

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

CD NJID	Facility's Designation	Description	CD Type	Install Date	Grand-Fathered	Last Mod. (Since 1968)	CD Set ID
CD1	WI 1101	Water Injection on Unit No.1, Module 1101	Other	6/1/1995	No	7/9/2002	
CD2	DLN 1101	Dry Low NOx on Module No. 1101	Other	6/1/1995	No	7/9/2002	
CD3	WI 1201	Water Injection on Unit No. 1, Module 1201	Other	6/1/1995	No	7/9/2002	
CD4	DLN 1201	Dry Low NOx Combustors on Unit No. 1, Module 1201	Other	6/1/1995	No	7/9/2002	
CD5	WI 1301	Water Injection on Unit No. 1, Module 1301	Other	6/1/1995	No	7/9/2002	
CD6	DLN 1301	Dry Low NOx Combustors on Unit No. 1, Module 1301	Other	6/1/1995	No	7/9/2002	
CD7	WI 1401	Water Injection on Unit No. 1, Module 1401	Other	6/1/1995	No	7/9/2002	
CD8	DLN 1401	Dry Low NOx Combustors on Unit No. 1, Module 1401	Other	6/1/1995	No	7/9/2002	
CD10	CT 1A	High efficiency drift eliminator on Cooling Tower 1A	Other	6/1/1995	No	7/9/2002	
CD11	CT 1B	High efficiency drift eliminator on Cooling Tower 1B	Other	6/1/1995	No	7/9/2002	
CD12	WI 2101	Water Injection Unit 2 Module 2101	Other	3/12/2002	No		
CD13	SCR 2101	Selective Catalyst Unit 2 Module 2101	Selective Catalytic Reduction	3/12/2002	No		

BERGEN GENERATING STATION (02488)

Date: 1/14/2025

BOP190002

**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
CD14	Ox Cat 2101	Oxidation Catalyst Unit 2 Module 2101	Oxidizer (Catalytic)	3/12/2002	No		
CD15	DLN 2101	Dry Low NOx Combustors on Unit 2 Module 2101	Other	3/12/2002	No		
CD16	WI 2201	Water Injection Unit 2 Module 2201	Other	3/22/2002	No		
CD17	SCR 2201	Selective Catalyst Unit 2 Module 2201	Selective Catalytic Reduction	3/22/2002	No		
CD18	Ox Cat 2201	Selective Catalyst Unit 2 Module 2201	Oxidizer (Catalytic)	3/22/2002	No		
CD19	DLN 2201	Dry Low NOx on Unit 2 Module 2201	Oxidizer (Catalytic)	3/22/2002	No		
CD20	Tower 2	High efficiency drift eliminator on Cooling Tower 2	Other	3/12/2002	No		

02488 BERGEN GENERATING STATION BOP190002 CD12 (Other)

Print Date: 1/14/2025

Make:	<input type="text" value="NA"/>
Manufacturer:	<input type="text" value="NA"/>
Model:	<input type="text" value="NA"/>
Maximum Air Flow Rate to Control Device (acfm):	<input type="text"/>
Maximum Temperature of Vapor Stream to Control Device (°F):	<input type="text"/>
Minimum Temperature of Vapor Stream to Control Device (°F):	<input type="text"/>
Minimum Moisture Content of Vapor Stream to Control Device (%):	<input type="text"/>
Minimum Pressure Drop Across Control Device (in. H2O):	<input type="text"/>
Maximum Pressure Drop Across Control Device (in. H2O):	<input type="text"/>
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	<input type="text" value="1"/>
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	<input type="text"/>
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:	<input type="text" value="Water Injection Unit 2 Module 2101"/>

02488 BERGEN GENERATING STATION BOP190002 CD13 (Selective Catalytic Reduction)
Print Date: 1/14/2025

Make:	NA
Manufacturer:	Hitachi or equivalent
Model:	NA
Minimum Temperature at Catalyst Bed (°F):	550
Maximum Temperature at Catalyst Bed (°F):	800
Minimum Temperature at Reagent Injection Point (°F):	550
Maximum Temperature at Reagent Injection Point (°F):	800
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	NH4(OH)
Minimum Reagent Charge Rate (gpm):	0.3
Maximum Reagent Charge Rate (gpm):	2
Minimum Concentration of Reagent in Solution (% Volume):	25
Minimum NOx to Reagent Mole Ratio:	0.42
Maximum NOx to Reagent Mole Ratio:	0.53
Maximum Anticipated Ammonia Slip (ppm):	10
Type of Catalyst:	Titanium Vanadium Pentoxide
Volume of Catalyst (ft³):	3335
Form of Catalyst:	Honeycomb
Anticipated Life of Catalyst:	3
Units:	Years
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	NOx CEMS
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:	Install, operate and maintain per manufacturer's specifications and NOx CEMS
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

02488 BERGEN GENERATING STATION BOP190002 CD13 (Selective Catalytic Reduction)
Print Date: 1/14/2025

Comments:

SCR NOx percentage removal \geq 70%(design value)

02488 BERGEN GENERATING STATION BOP190002 CD14 (Oxidizer (Catalytic))
Print Date: 1/14/2025

Make:	NA
Manufacturer:	BASF or equivalent
Model:	NA
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	800
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	800
Minimum Residence Time (sec)	1
Fuel Type:	Other
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	0.036
Maximum Pressure Drop Across Catalyst (psi):	0.1
Catalyst Material:	Platinum or an equivalent precious metal
Form of Catalyst:	Honeycomb
Description:	
Minimum Expected Life of Catalyst:	3
Units:	Years
Volume of Catalyst (ft³):	240
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:	Install, operate and maintain per manufacturer's spec
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:	Oxidation catalyst CO percentage removal >=55% and VOC percentage removal>=32% (design value)

02488 BERGEN GENERATING STATION BOP190002 CD15 (Other)

Print Date: 1/14/2025

Make:	<input type="text" value="NA"/>
Manufacturer:	<input type="text" value="NA"/>
Model:	<input type="text" value="NA"/>
Maximum Air Flow Rate to Control Device (acfm):	<input type="text"/>
Maximum Temperature of Vapor Stream to Control Device (°F):	<input type="text"/>
Minimum Temperature of Vapor Stream to Control Device (°F):	<input type="text"/>
Minimum Moisture Content of Vapor Stream to Control Device (%):	<input type="text"/>
Minimum Pressure Drop Across Control Device (in. H2O):	<input type="text"/>
Maximum Pressure Drop Across Control Device (in. H2O):	<input type="text"/>
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	<input type="text" value="1"/>
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	<input type="text"/>
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:	<input type="text" value="Dry Low NOx Combustors on Unit 2 Module 2101"/>

02488 BERGEN GENERATING STATION BOP190002 CD16 (Other)

Print Date: 1/14/2025

Make:

Manufacturer:

Model:

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):

Alternative Method to Demonstrate
Control Apparatus is Operating
Properly:

Have you attached data from recent
performance testing? ☐ Yes ☒ No

Have you attached any manufacturer's
data or specifications in support of the
feasibility and/or effectiveness of this
control apparatus? ☐ Yes ☒ No

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

Comments: [Water Injection Unit 2 Module 2201](#)

02488 BERGEN GENERATING STATION BOP190002 CD17 (Selective Catalytic Reduction)
Print Date: 1/14/2025

Make:	NA
Manufacturer:	Hitachi or equivalent
Model:	NA
Minimum Temperature at Catalyst Bed (°F):	550
Maximum Temperature at Catalyst Bed (°F):	800
Minimum Temperature at Reagent Injection Point (°F):	550
Maximum Temperature at Reagent Injection Point (°F):	800
Type of Reagent:	Ammonia
Description:	
Chemical Formula of Reagent:	NH4(OH)
Minimum Reagent Charge Rate (gpm):	0.3
Maximum Reagent Charge Rate (gpm):	2
Minimum Concentration of Reagent in Solution (% Volume):	25
Minimum NOx to Reagent Mole Ratio:	0.42
Maximum NOx to Reagent Mole Ratio:	0.53
Maximum Anticipated Ammonia Slip (ppm):	10
Type of Catalyst:	Titanium Vanadium Pentoxide
Volume of Catalyst (ft³):	3335
Form of Catalyst:	Honeycomb
Anticipated Life of Catalyst:	3
Units:	Years
Have you attached a catalyst replacement schedule?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Method of Determining Breakthrough:	NOx CEMS
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:	Install, operate and maintain per manufacturer's specifications and NOx CEMS
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

02488 BERGEN GENERATING STATION BOP190002 CD17 (Selective Catalytic Reduction)
Print Date: 1/14/2025

Comments:

SCR NOx percentage removal \geq 70%(design value)

02488 BERGEN GENERATING STATION BOP190002 CD18 (Oxidizer (Catalytic))
Print Date: 1/14/2025

Make:	NA
Manufacturer:	BASF or equivalent
Model:	NA
Minimum Inlet Temperature (°F):	550
Maximum Inlet Temperature (°F)	800
Minimum Outlet Temperature (°F)	550
Maximum Outlet Temperature (°F):	800
Minimum Residence Time (sec)	1
Fuel Type:	Natural gas
Description:	
Maximum Rated Gross Heat Input (MMBtu/hr):	
Minimum Pressure Drop Across Catalyst (psi):	0.036
Maximum Pressure Drop Across Catalyst (psi):	0.1
Catalyst Material:	Platinum or an equivalent precious metal
Form of Catalyst:	Honeycomb
Description:	
Minimum Expected Life of Catalyst:	3
Units:	Years
Volume of Catalyst (ft³):	240
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:	Install, operate and maintain per manufacturer's spec
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:	Oxidation catalyst CO percentage removal >=55% and VOC percentage removal>=32% (design value)

02488 BERGEN GENERATING STATION BOP190002 CD19 (Oxidizer (Catalytic))
Print Date: 1/14/2025

Make:	<input type="text"/>
Manufacturer:	<input type="text"/>
Model:	<input type="text"/>
Minimum Inlet Temperature (°F):	<input type="text"/>
Maximum Inlet Temperature (°F)	<input type="text"/>
Minimum Outlet Temperature (°F)	<input type="text"/>
Maximum Outlet Temperature (°F):	<input type="text"/>
Minimum Residence Time (sec)	<input type="text"/>
Fuel Type:	<input type="text"/>
Description:	<input type="text"/>
Maximum Rated Gross Heat Input (MMBtu/hr):	<input type="text"/>
Minimum Pressure Drop Across Catalyst (psi):	<input type="text"/>
Maximum Pressure Drop Across Catalyst (psi):	<input type="text"/>
Catalyst Material:	<input type="text"/>
Form of Catalyst:	<input type="text"/>
Description:	<input type="text"/>
Minimum Expected Life of Catalyst:	<input type="text"/>
Units:	<input type="text"/>
Volume of Catalyst (ft³):	<input type="text"/>
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	<input type="text"/>
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	<input type="text"/>
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:	<input type="text" value="Dry Low NOx on Unit 2 Module 2201"/>

02488 BERGEN GENERATING STATION BOP190002 CD20 (Other)

Print Date: 1/14/2025

Make: Manufacturer: Model: 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): Alternative Method to Demonstrate
Control Apparatus is Operating
Properly: Have you attached data from recent
performance testing? ☐ Yes ☒ NoHave you attached any manufacturer's
data or specifications in support of the
feasibility and/or effectiveness of this
control apparatus? ☐ Yes ☒ NoHave you attached a diagram showing
the location and/or configuration of this
control apparatus? ☐ Yes ☒ NoComments:

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

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	1, Mod. 1101	Unit No. 1, Module No. 1101	Round	221	213	590	235.0	220.0	295.0	815,000.0	800,000.0	950,000.0	Up	
PT2	1, Mod. 1201	Unit No. 1, Module No. 1201	Round	221	213	570	235.0	220.0	295.0	815,000.0	800,000.0	950,000.0	Up	
PT3	1, Mod 1301	Unit No. 1, Module No. 1301	Round	221	213	570	235.0	220.0	295.0	815,000.0	800,000.0	950,000.0	Up	
PT4	1, Mod 1401	Unit No. 1, Module No. 1401	Round	221	213	590	235.0	220.0	295.0	815,000.0	800,000.0	950,000.0	Up	
PT6	Fl. Heater	Pump Floor Heater	Rectangle	23	10	590	75.0	40.0	110.0	10,000.0	10,000.0	10,000.0	Horizontal	
PT7	TBH #1	Turbine Bay Heater No. 1	Rectangle	36	20	590	75.0	40.0	110.0	32,000.0	32,000.0	32,000.0	Horizontal	
PT8	TBH #2	Turbine Bay Heater No. 2	Rectangle	36	20	590	75.0	40.0	110.0	32,000.0	32,000.0	32,000.0	Horizontal	
PT10	C. Tower 1A	Cooling Tower - 1A	Rectangle	999	60	245	85.0	50.0	100.0	9,999,999.0	9,999,999.0	9,999,999.0	Up	
PT11	C. Tower 1B	Cooling Tower - 1B	Rectangle	999	60	245	85.0	50.0	100.0	9,999,999.0	9,999,999.0	9,999,999.0	Up	
PT13	2, Mod. 2101	Unit No. 2 Module 2101	Round	228	213	325	197.0	150.0	302.0	1,000,000.0	600,000.0	1,247,000.0	Up	
PT14	2, Mod. 2201	Unit No. 2 Module 2201	Round	228	213	325	197.0	150.0	302.0	1,000,000.0	600,000.0	1,247,000.0	Up	
PT20	FGH #1	Fuel Gas Heater No. 1	Round	26	26	700								
PT21	FGH #2	Fuel Gas Heater No. 2	Round	30	29	700								
PT22	FGH #3	Fuel Gas Heater No. 3	Round	30	29	700								
PT45	C. Tower 2	Cooling Tower - 2	Rectangle	0	60	220	109.0	50.0	120.0	9,500,000.0	0.0	9,980,000.0	Up	

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

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

U 1 Units No.1&2 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

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	1101NG - BL	Unit No. 1 Module 1101 - Turbine firing natural gas, pre-mix operation with or without water injection	Normal - Steady State	E1	CD1 (S) CD2 (P)	PT1	2-03-001-01							
OS2	1201NG - BL	Unit No. 1 Module 1201 - Turbine firing natural gas, pre-mix operation with or without water injection	Normal - Steady State	E2	CD3 (S) CD4 (P)	PT2	2-03-001-01							
OS3	1301NG - BL	Unit No. 1 Module 1301 - Turbine firing natural gas, pre-mix operation with or without water injection	Normal - Steady State	E3	CD5 (S) CD6 (P)	PT3	2-03-001-01							
OS4	1401NG - BL	Unit No. 1 Module 1401 - Turbine firing natural gas, pre-mix operation with or without water injection	Normal - Steady State	E4	CD7 (S) CD8 (P)	PT4	2-03-001-01							
OS5	1101NG - ML	Unit No. 1 Module 1101 - Turbine firing natural gas, minimum load	Normal - Steady State	E1	CD2 (P)	PT1	2-03-001-01							
OS6	1201NG - ML	Unit No. 1 Module 1201 - Turbine firing natural gas, minimum load	Normal - Steady State	E2	CD4 (P)	PT2	2-03-001-01							
OS7	1301NG - ML	Unit No. 1 Module 1301 - Turbine firing natural gas, minimum load	Normal - Steady State	E3	CD6 (P)	PT3	2-03-001-01							
OS8	1401NG - ML	Unit No. 1 Module 1401 - Turbine firing natural gas, minimum load	Normal - Steady State	E4	CD8 (P)	PT4	2-03-001-01							
OS9	1101NG -DPAG	Unit No. 1 Module 1101 - Turbine firing natural gas, Diffusion power augmentation mode with water injection	Normal - Steady State	E1	CD1 (S) CD2 (P)	PT1	2-03-001-01							

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

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

U 1 Units No.1&2 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

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								Min.	Max.		Min.	Max.	Min.	Max.
OS10	1201NG -DPAG	Unit No. 1 Module 1201 - Turbine firing natural gas, Diffusion power augmentation mode with water injection	Normal - Steady State	E2	CD3 (S) CD4 (P)	PT2	2-03-001-01							
OS11	1301NG -DPAG	Unit No. 1 Module 1301 - Turbine firing natural gas, Diffusion power augmentation mode with water injection	Normal - Steady State	E3	CD5 (S) CD6 (P)	PT3	2-03-001-01							
OS12	1401NG -DPAG	Unit No. 1 Module 1401 - Turbine firing natural gas, Diffusion power augmentation mode with water injection	Normal - Steady State	E4	CD7 (S) CD8 (P)	PT4	2-03-001-01							
OS13	1101 OIL	Unit No. 1 Module 1101 - Turbine firing low sulfur distillate oil, diffusion mode with water injection.	Normal - Steady State	E1	CD1 (P)	PT1	2-03-001-01							
OS14	1201 OIL	Unit No. 1 Module 1201 - Turbine firing low sulfur distillate oil, diffusion mode with water injection.	Normal - Steady State	E2	CD3 (P)	PT2	2-03-001-01							
OS15	1301 OIL	Unit No. 1 Module 1301 - Turbine firing low sulfur distillate oil, diffusion mode with water injection.	Normal - Steady State	E3	CD5 (P)	PT3	2-03-001-01							
OS16	1401 OIL	Unit No. 1 Module 1401 - Turbine firing low sulfur distillate oil, diffusion mode with water injection.	Normal - Steady State	E4	CD7 (P)	PT4	2-03-001-01							

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

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

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								Min.	Max.		Min.	Max.	Min.	Max.
OS17	1101-OIL-ML	Unit No. 1 Module 1101 - Turbine firing low sulfur distillate oil, minimum load	Normal - Steady State	E1	CD1 (P)	PT1	2-03-001-01							
OS18	1201 OIL-ML	Unit No. 1 Module 1201 - Turbine firing low sulfur distillate oil, minimum load	Normal - Steady State	E2	CD3 (P)	PT2	2-03-001-01							
OS19	1301 OIL-ML	Unit No. 1 Module 1301 - Turbine firing low sulfur distillate oil, minimum load	Normal - Steady State	E3	CD5 (P)	PT3	2-03-001-01							
OS20	1401 OIL-ML	Unit No. 1 Module 1401 - Turbine firing low sulfur distillate oil, minimum load	Normal - Steady State	E4	CD7 (P)	PT4	2-03-001-01							
OS21	1101 SU_Gas	Unit No. 1 Module 1101 - Start-up Gas	Startup	E1		PT1	2-03-001-01							
OS22	1201 SU_Gas	Unit No. 1 Module 1201 - Start-up Gas	Startup	E2		PT2	2-03-001-01							
OS23	1301 SU_Gas	Unit No. 1 Module 1301 - Start-up Gas	Startup	E3		PT3	2-03-001-01							
OS24	1401 SU_Gas	Unit No. 1 Module 1401 - Start-up Gas	Startup	E4		PT4	2-03-001-01							
OS25	1101 SD_Gas	Unit No. 1 Module 1101 - Shutdown Gas	Shutdown	E1		PT1	2-03-001-01							
OS26	1201 SD_Gas	Unit No. 1 Module 1201 - Shutdown Gas	Shutdown	E2		PT2	2-03-001-01							
OS27	1301 SD_Gas	Unit No. 1 Module 1301 - Shutdown Gas	Shutdown	E3		PT3	2-03-001-01							
OS28	1401 SD_Gas	Unit No. 1 Module 1401 - Shutdown Gas	Shutdown	E4		PT4	2-03-001-01							

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

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

U 1 Units No.1&2 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

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.
OS29	1101 SU_OIL	Unit No. 1 Module 1101 - Startup ULSD	Startup	E1		PT1								
OS30	1201 SU_OIL	Unit No. 1 Module 1201 - Startup ULSD	Startup	E2		PT2								
OS31	1301 SU_OIL	Unit No. 1 Module 1301 - Startup ULSD	Startup	E3		PT3								
OS32	1401 SU_OIL	Unit No. 1 Module 1401 - Startup ULSD	Startup	E4		PT4								
OS33	1101 SD_OIL	Unit No. 1 Module 1101 - Shutdown ULSD	Shutdown	E1		PT1								
OS34	1201 SD_OIL	Unit No. 1 Module 1201 - Shutdown ULSD	Shutdown	E2		PT2								
OS35	1301 SD_OIL	Unit No. 1 Module 1301 - Shutdown ULSD	Shutdown	E3		PT3								
OS36	1401 SD_OIL	Unit No. 1 Module 1401 - Shutdown ULSD	Shutdown	E4		PT4								
OS37	2101 NG N/DF	Unit No. 2 Module 2101- Natural Gas, Base Load without Duct Firing	Normal - Steady State	E13	CD13 (S) CD14 (T) CD15 (P)	PT13								
OS38	2201 NG N/DF	Unit No. 2 Module 2201- Natural Gas, Base Load without Duct Firing	Normal - Steady State	E14	CD17 (S) CD18 (T) CD19 (P)	PT14								
OS39	2101 Oil	Unit No. 2 Module 2101- Low Sulfur Distillate Oil Firing	Normal - Steady State	E13	CD12 (T) CD13 (P) CD14 (S)	PT13								
OS40	2201 Oil	Unit No. 2 Module 2201- Low Sulfur Distillate Oil Firing	Normal - Steady State	E14	CD16 (T) CD17 (P) CD18 (S)	PT14								

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

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

U 1 Units No.1&2 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

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.
OS41	2101 NG DF	Unit No. 2 Module 2101- Natural Gas - Duct Firing	Normal - Steady State	E18	CD13 (S) CD14 (T) CD15 (P)	PT13								
OS42	2201 NG DF	Unit No. 2 Module 2201- Natural Gas - Duct Firing	Normal - Steady State	E19	CD17 (S) CD18 (T) CD19 (P)	PT14								
OS43	2101 NG MIN	Unit No. 2 Module 2101- Minimum Load on Natural Gas	Normal - Steady State	E13	CD13 (S) CD14 (T) CD15 (P)	PT13								
OS44	2201 NG MIN	Unit No. 2 Module 2201- Minimum Load on Natural Gas	Normal - Steady State	E14	CD17 (S) CD18 (T) CD19 (P)	PT14								
OS45	2101 OIL MIN	Unit No. 2 Module 2101- Minimum Load on Low Sulfur Distillate Oil	Normal - Steady State	E13	CD12 (P) CD13 (S) CD14 (T)	PT13								
OS46	2201 OIL MIN	Unit No. 2 Module 2201- Minimum Load on Low Sulfur Distillate Oil	Normal - Steady State	E14	CD16 (P) CD17 (S) CD18 (T)									
OS47	2101 SU_Gas	Unit No. 2 Module 2101- Startup-Gas	Startup	E13		PT13								
OS48	2201 SU_Gas	Unit No. 2 Module 2201- Startup-Gas	Startup	E14		PT14								
OS49	2101 SD_Gas	Unit No. 2 Module 2101- Shutdown-Gas	Shutdown	E13		PT13								
OS50	2201 SD_Gas	Unit No. 2 Module 2201- Shutdown-Gas	Shutdown	E14		PT14								

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

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

U 1 Units No.1&2 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

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.
OS51	2101 MT FT	Unit No. 2 Module 2101- Maintenance, Mode and Fuel Transfer	Maintenance	E13		PT13								
OS52	2201 MT FT	Unit No. 2 Module 2201- Maintenance, Mode and Fuel Transfer	Maintenance	E14		PT14								
OS53	2101 OpFlex	Unit No. 2 Module 2101 - OpFlex Advantage Peak Operation Firing Natural Gas	Normal - Steady State	E13	CD13 (S) CD14 (T) CD15 (P)	PT13	2-01-002-01							
OS54	2201 OpFlex	Unit No. 2 Module 2201 - OpFlex Advantage Peak Operation Firing Natural Gas	Normal - Steady State	E14	CD17 (S) CD18 (T) CD19 (P)	PT14	2-01-002-01							
OS55	2101 SU_OIL	Unit No. 2 Module 2101- Startup-ULSD	Startup	E13	CD13 (S) CD14 (T) CD15 (P)	PT13								
OS56	2201 SU_OIL	Unit No. 2 Module 2201- Startup-ULSD	Startup	E14	CD17 (S) CD18 (T) CD19 (P)	PT14								
OS57	2101 SD_OIL	Unit No. 2 Module 2101- Shutdown-ULSD	Shutdown	E13	CD13 (S) CD14 (T) CD15 (P)	PT13								
OS58	2201 SD_OIL	Unit No. 2 Module 2201- Shutdown-ULSD	Shutdown	E14	CD17 (S) CD18 (T) CD19 (P)	PT14								

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

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

U 1 Units No.1&2 Six combined cycle stationary gas turbines (Units 1 & 2) and Two Duct Burners for Unit 2, Module 2101 and 2201

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.
OS61	1101MTFTMT	Unit No. 1 Module 1101 - Maintenance, Fuel Transfer, and Mode Transfer	Normal - Steady State	E1		PT1	2-03-001-01							
OS62	1201MTFTMT	Unit No. 1 Module 1201 - Maintenance, Fuel Transfer, and Mode Transfer	Normal - Steady State	E2		PT2	2-03-001-01							
OS63	1301MTFTMT	Unit No. 1 Module 1301 - Maintenance, Fuel Transfer, and Mode Transfer	Normal - Steady State	E3		PT3	2-03-001-01							
OS64	1401MTFTMT	Unit No. 1 Module 1401 - Maintenance, Fuel Transfer, and Mode Transfer	Normal - Steady State	E4		PT4	2-03-001-01							

U 3 Pump Floor H Pump Floor Heater - Direct heat exchanger used for miscellaneous heating purposes

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	FLOOR HEATER	Pump Floor Heater	Normal - Steady State	E6		PT6								

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

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

U 4 1TBay Heater Turbine Bay Heater No. 1 - Direct heat exchanger used for miscellaneous heating purposes

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	TBH #1	Turbine Bay Heater No. 1	Normal - Steady State	E7		PT7								

U 5 2TBay Heater Turbine Bay Heater No. 2 - Direct heat exchanger used for miscellaneous heating purposes

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	TBH #2	Turbine Bay Heater No. 2	Normal - Steady State	E8		PT8								

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

U 7 Cool Twr 1A Counterflow, mechanical draft, parallel path wet/dry type cooling towers consisting of eight identical parallel cells

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	Cool Twr 1A	Cooling Tower	Normal - Steady State	E10	CD10 (P)	PT10								

U 8 Cool Twr 1B Counterflow, mechanical draft, parallel path wet/dry type cooling towers consisting of eight identical parallel cells

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	Cool Twr 1B	Cooling Tower	Normal - Steady State	E11	CD11 (P)	PT11								

BERGEN GENERATING STATION (02488)
BOP190002

Date: 1/14/2025

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

U 14 C Tower 2 Cooling Tower #2

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	Cool Twr 2	Cooling Tower - 2	Normal - Steady State	E15	CD20 (P)	PT45								

U 15 FGH Fuel Gas Heaters

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	FGH #1	Fuel Gas Heater No. 1 for Unit 1 Firing Natural Gas	Normal - Steady State	E20		PT20								
OS2	FGH #2	Fuel Gas Heater No. 2 for Unit 2 Firing Natural Gas	Normal - Steady State	E21		PT21								
OS3	FGH #3	Fuel Gas Heater No. 3 for Unit 2 Firing Natural Gas	Normal - Steady State	E22		PT22								

Date: 1/14/2025

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

Group NJID: GR11 Unit 1,2 &CT

Members:

Type	ID	OS	Step
U	U 1	OS0 Summary	
U	U 14	OS0 Summary	
U	U 7	OS0 Summary	
U	U 8	OS0 Summary	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): Unit 1 & Unit 2 Combustion Turbines and Cooling Towers

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

N/A

Operating Circumstances:

N/A

New Jersey Department of Environmental Protection
Subject Item Group Inventory

Group NJID: GR12 Unit-1 NG

Members:

Type	ID	OS	Step
E	E 1		
E	E 2		
E	E 3		
E	E 4		
U	U 1	OS1 1101NG - BL	
U	U 1	OS10 1201NG -DPAG	
U	U 1	OS11 1301NG -DPAG	
U	U 1	OS12 1401NG -DPAG	
U	U 1	OS2 1201NG - BL	
U	U 1	OS21 1101 SU_Gas	
U	U 1	OS22 1201 SU_Gas	
U	U 1	OS23 1301 SU_Gas	
U	U 1	OS24 1401 SU_Gas	
U	U 1	OS25 1101 SD_Gas	
U	U 1	OS26 1201 SD_Gas	
U	U 1	OS27 1301 SD_Gas	
U	U 1	OS28 1401 SD_Gas	
U	U 1	OS3 1301NG - BL	
U	U 1	OS4 1401NG - BL	
U	U 1	OS5 1101NG - ML	
U	U 1	OS6 1201NG - ML	
U	U 1	OS61 1101MTFTMT	
U	U 1	OS62 1201MTFTMT	
U	U 1	OS63 1301MTFTMT	
U	U 1	OS64 1401MTFTMT	
U	U 1	OS7 1301NG - ML	

Date: 1/14/2025

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

Members:

Type	ID	OS	Step
U	U 1	OS8 1401NG - ML	
U	U 1	OS9 1101NG -DPAG	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): Unit 1 turbines firing NG Only

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

N/A

Operating Circumstances:

N/A

New Jersey Department of Environmental Protection
Subject Item Group Inventory

Group NJID: GR13 Unit 1 DO

Members:

Type	ID	OS	Step
E	E 1		
E	E 2		
E	E 3		
E	E 4		
U	U 1	OS13 1101 OIL	
U	U 1	OS14 1201 OIL	
U	U 1	OS15 1301 OIL	
U	U 1	OS16 1401 OIL	
U	U 1	OS17 1101-OIL-ML	
U	U 1	OS18 1201 OIL-ML	
U	U 1	OS19 1301 OIL-ML	
U	U 1	OS20 1401 OIL-ML	
U	U 1	OS21 1101 SU_Gas	
U	U 1	OS22 1201 SU_Gas	
U	U 1	OS23 1301 SU_Gas	
U	U 1	OS24 1401 SU_Gas	
U	U 1	OS25 1101 SD_Gas	
U	U 1	OS26 1201 SD_Gas	
U	U 1	OS27 1301 SD_Gas	
U	U 1	OS28 1401 SD_Gas	
U	U 1	OS61 1101MTFTMT	
U	U 1	OS62 1201MTFTMT	
U	U 1	OS63 1301MTFTMT	
U	U 1	OS64 1401MTFTMT	

Formal Reason(s) for Group/Cap:

☒ Other

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

Other (explain): Unit 1 Turbines firing DO Only

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

N/A

Operating Circumstances:

N/A

New Jersey Department of Environmental Protection
Subject Item Group Inventory

Group NJID: GR14 Unit 2 NG

Members:

Type	ID	OS	Step
U	U 1	OS37 2101 NG N/DF	
U	U 1	OS38 2201 NG N/DF	
U	U 1	OS41 2101 NG DF	
U	U 1	OS42 2201 NG DF	
U	U 1	OS43 2101 NG MIN	
U	U 1	OS44 2201 NG MIN	
U	U 1	OS47 2101 SU_Gas	
U	U 1	OS48 2201 SU_Gas	
U	U 1	OS49 2101 SD_Gas	
U	U 1	OS50 2201 SD_Gas	
U	U 1	OS51 2101 MT FT	
U	U 1	OS52 2201 MT FT	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): Cooling Tower for Unit 2

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

N/A

Operating Circumstances:

N/A

Date: 1/14/2025

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

Group NJID: GR15 Unit 2 DO

Members:

Type	ID	OS	Step
U	U 1	OS39 2101 Oil	
U	U 1	OS40 2201 Oil	
U	U 1	OS45 2101 OIL MIN	
U	U 1	OS46 2201 OIL MIN	
U	U 1	OS47 2101 SU_Gas	
U	U 1	OS48 2201 SU_Gas	
U	U 1	OS49 2101 SD_Gas	
U	U 1	OS50 2201 SD_Gas	
U	U 1	OS51 2101 MT FT	
U	U 1	OS52 2201 MT FT	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): Unit 2 Turbines on Oil only

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

N/A

Operating Circumstances:

N/A

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

Group NJID: GR16 Unit 2 NG/DF

Members:

Type	ID	OS	Step
U	U 1	OS37 2101 NG N/DF	
U	U 1	OS38 2201 NG N/DF	
U	U 1	OS41 2101 NG DF	
U	U 1	OS42 2201 NG DF	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): Unit 2 Natural Gas Firing turbines with and without Duct Burners

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

The Duct Burners cannot operate independent of the turbines.

Operating Circumstances:

N/A

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

Group NJID: GR101 Unit 2 OpFlx

Members:

Type	ID	OS	Step
U	U 1	OS53 2101 OpFlex	
U	U 1	OS54 2201 OpFlex	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): Similar conditions for each module during OpFlex Advantage Peak operation.

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: GR102 Unit 1 Upgrd

Members:

Type	ID	OS	Step
E	E 1		
E	E 2		
E	E 3		
E	E 4		

Formal Reason(s) for Group/Cap:

☒ Other

☒ Avoid being subject to the reqts of PSD

Other (explain): Bergen Unit No.1-Siemens 3-Dimensional Turbine Blades&Vanes (Si3D) and
Compressor Mass Flow Increase

**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: GR103 RGGI

Members:

Type	ID	OS	Step
E	E 1		
E	E 2		
E	E 3		
E	E 4		
U	U 1	OSO Summary	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): RGGI Requirements for Combustion 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: GR104 NJAC 7-27F

Members:

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

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): NJAC 7-27F PACT Requirements for Combustion 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: GR105 Unt1-TotHAPs

Members:

Type	ID	OS	Step
U	U 1	OS0 Summary	
U	U 1	OS1 1101NG - BL	
U	U 1	OS10 1201NG -DPAG	
U	U 1	OS11 1301NG -DPAG	
U	U 1	OS12 1401NG -DPAG	
U	U 1	OS13 1101 OIL	
U	U 1	OS14 1201 OIL	
U	U 1	OS15 1301 OIL	
U	U 1	OS16 1401 OIL	
U	U 1	OS17 1101-OIL-ML	
U	U 1	OS18 1201 OIL-ML	
U	U 1	OS19 1301 OIL-ML	
U	U 1	OS2 1201NG - BL	
U	U 1	OS20 1401 OIL-ML	
U	U 1	OS3 1301NG - BL	
U	U 1	OS4 1401NG - BL	
U	U 1	OS5 1101NG - ML	
U	U 1	OS6 1201NG - ML	
U	U 1	OS7 1301NG - ML	
U	U 1	OS8 1401NG - ML	
U	U 1	OS9 1101NG -DPAG	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): Worst case HAPs fir Unit 1 turbines

Date: 1/14/2025

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

**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: GR107 Unt2-TotHAPs

Members:

Type	ID	OS	Step
U	U 1	OS37 2101 NG N/DF	
U	U 1	OS38 2201 NG N/DF	
U	U 1	OS39 2101 Oil	
U	U 1	OS40 2201 Oil	
U	U 1	OS41 2101 NG DF	
U	U 1	OS42 2201 NG DF	
U	U 1	OS43 2101 NG MIN	
U	U 1	OS44 2201 NG MIN	
U	U 1	OS45 2101 OIL MIN	
U	U 1	OS46 2201 OIL MIN	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): Worst Case HAPs lb/hr and tons/yr for Unit 2 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, Energy & Materials Sustainability

Division of Air Quality and Radiation Protection

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

PHASE II ACID RAIN PERMIT

Issued to: Bergen Generating Station
Victoria Terrace
Ridgefield, NJ 07657

Owned by: Alpha Generation
300 Atlantic Street 5th Floor
Stamford, CT 06901

Operated by: CAMS LLC
910 Louisiana St
Suite 2400
Houston, TX 77002

ORIS Code: 2398

Effective: Coincides with Operating permit dates (expires ????????????)

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:

David J. Owen
Supervisor, Bureau of Stationary Sources

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.

Bergen Generating Station	NJ	2398
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)
1101	Yes
1201	Yes
1301	Yes
1401	Yes
2101	Yes
2201	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes

STEP 3

Permit Requirements

Read the standard requirements.

- (1) The designated representative of each affected source and each affected unit at the source shall:
 - (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
 - (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
- (2) The owners and operators of each affected source and each affected unit at the source shall:
 - (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
 - (ii) Have an Acid Rain Permit.

Monitoring Requirements

- (1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

- (1) The owners and operators of each source and each affected unit at the source shall:
 - (i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
 - (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
 - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
- (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.

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.

Bergen Generating Station
Facility (Source) Name (from STEP 1)

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	Peter Van Den Houten	
Signature		Date 3/8/19



Instructions for the Acid Rain Program Permit Application

The Acid Rain Program requires the designated representative to submit an Acid Rain permit application for each source with an affected unit. A complete Certificate of Representation must be received by EPA before the permit application is submitted to the title V permitting authority. A complete Acid Rain permit application, once submitted, is binding on the owners and operators of the affected source and is enforceable in the absence of a permit until the title V permitting authority either issues a permit to the source or disapproves the application.

Please type or print. If assistance is needed, contact the title V permitting authority.

STEP 1 A Plant Code is a 4 or 5 digit number assigned by the Department of Energy's (DOE) Energy Information Administration (EIA) to facilities that generate electricity. For older facilities, "Plant Code" is synonymous with "ORISPL" and "Facility" codes. If the facility generates electricity but no Plant Code has been assigned, or if there is uncertainty regarding what the Plant Code is, send an email to the EIA. The email address is EIA-860@eia.gov.

STEP 2 In column "a," identify each unit at the facility by providing the appropriate unit identification number, consistent with the identifiers used in the Certificate of Representation and with submissions made to DOE and/or EIA. Do not list duct burners. For new units without identification numbers, owners and operators must assign identifiers consistent with EIA and DOE requirements. Each Acid Rain Program submission that includes the unit identification number(s) (e.g., Acid Rain permit applications, monitoring plans, quarterly reports, etc.) should reference those unit identification numbers in exactly the same way that they are referenced on the Certificate of Representation.

Submission Deadlines

For new units, an initial Acid Rain permit application must be submitted to the title V permitting authority 24 months before the date the unit commences operation. Acid Rain permit renewal applications must be submitted at least 6 months in advance of the expiration of the acid rain portion of a title V permit, or such longer time as provided for under the title V permitting authority's operating permits regulation.

Submission Instructions

Submit this form to the appropriate title V permitting authority. If you have questions regarding this form, contact your local, State, or EPA Regional Acid Rain contact, or call EPA's Acid Rain Hotline at (202) 343-9620.

Paperwork Burden Estimate

The public reporting and record keeping burden for this collection of information is estimated to average 8 hours per response. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW., Washington, D.C. 20460. Include the OMB control number in any correspondence. **Do not send the completed form to this address.**

ATTACHMENT

Cross-State Air Pollution Rule (CSAPR) for the CSAPR NO_x Annual Trading Program requirements, CSAPR NO_x Ozone Season Trading Program, and CSAPR SO₂ Trading Program

Transport Rule (TR) Trading Program Title V Requirements

TR NO_x Annual Trading Program requirements (40 CFR 97.406)

(a) Designated representative requirements.

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

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

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

(c) NO_x emissions requirements.

- (1) TR NO_x Annual emissions limitation.
 - (i). As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_x Annual source and each TR NO_x Annual unit at the source shall hold, in the source's compliance account, TR NO_x Annual allowances available for deduction for such control period under 40 CFR 97.424(a) in an amount not less than the tons of total NO_x emissions for such control period from all TR NO_x Annual units at the source.
 - (ii). If total NO_x emissions during a control period in a given year from the TR NO_x Annual units at a TR NO_x Annual source are in excess of the TR NO_x Annual emissions limitation set forth in paragraph (c)(1)(i) above, then:
 - (A). The owners and operators of the source and each TR NO_x Annual unit at the source shall hold the TR NO_x Annual allowances required for deduction under 40 CFR 97.424(d); and
 - (B). The owners and operators of the source and each TR NO_x Annual unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess

emissions and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAAA and the Clean Air Act.

(2) TR NO_x Annual assurance provisions.

- (i). If total NO_x emissions during a control period in a given year from all TR NO_x Annual units at TR NO_x Annual sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_x emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NO_x Annual allowances available for deduction for such control period under 40 CFR 97.425(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.425(b), of multiplying— (A) The quotient of the amount by which the common designated representative's share of such NO_x emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such NO_x emissions exceeds the respective common designated representative's assurance level; and (B) The amount by which total NO_x emissions from all TR NO_x Annual units at TR NO_x Annual sources in the state for such control period exceed the state assurance level.
- (ii). The owners and operators shall hold the TR NO_x Annual allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.
- (iii). Total NO_x emissions from all TR NO_x Annual units at TR NO_x Annual sources in the State during a control period in a given year exceed the state assurance level if such total NO_x emissions exceed the sum, for such control period, of the state NO_x Annual trading budget under 40 CFR 97.410(a) and the state's variability limit under 40 CFR 97.410(b).
- (iv). It shall not be a violation of 40 CFR part 97, subpart AAAAAA or of the Clean Air Act if total NO_x emissions from all TR NO_x Annual units at TR NO_x Annual sources in the State during a control period exceed the state assurance level or if a common designated representative's share of total NO_x emissions from the TR NO_x Annual units at TR NO_x Annual sources in the state during a control period exceeds the common designated representative's assurance level.
- (v). To the extent the owners and operators fail to hold TR NO_x Annual allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,
 - (A). The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - (B). Each TR NO_x Annual allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAAA and the Clean Air Act.

(3) Compliance periods.

- (i). A TR NO_x Annual unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of January 1, 2015, or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.

- (ii). A TR NO_x Annual unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.
- (4) Vintage of allowances held for compliance.
 - (i). A TR NO_x Annual allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR NO_x Annual allowance that was allocated for such control period or a control period in a prior year.
 - (ii). A TR NO_x Annual allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR NO_x Annual allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.
- (5) Allowance Management System requirements. Each TR NO_x Annual allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart AAAAA.
- (6) Limited authorization. A TR NO_x Annual allowance is a limited authorization to emit one ton of NO_x during the control period in one year. Such authorization is limited in its use and duration as follows:
 - (i). Such authorization shall only be used in accordance with the TR NO_x Annual Trading Program; and
 - (ii). Notwithstanding any other provision of 40 CFR part 97, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.
- (7) Property right. A TR NO_x Annual allowance does not constitute a property right.

(d) Title V permit revision requirements.

- (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR NO_x Annual allowances in accordance with 40 CFR part 97, subpart AAAAA.
- (2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.430 through 97.435, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.406(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

(e) Additional recordkeeping and reporting requirements.

- (1) Unless otherwise provided, the owners and operators of each TR NO_x Annual source and each TR NO_x Annual unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - (i). The certificate of representation under 40 CFR 97.416 for the designated representative for the source and each TR NO_x Annual unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such

certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.416 changing the designated representative.

- (ii). All emissions monitoring information, in accordance with 40 CFR part 97, subpart 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_x Annual Trading Program.
- (2) The designated representative of a TR NO_x Annual source and each TR NO_x Annual unit at the source shall make all submissions required under the TR NO_x Annual Trading Program, except as provided in 40 CFR 97.418. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

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

(g) Effect on other authorities.

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

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

(a) Designated representative requirements.

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

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

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

(c) NO_x emissions requirements.

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

sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_x emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NO_x Ozone Season allowances available for deduction for such control period under 40 CFR 97.525(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.525(b), of multiplying—

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

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

(d) Title V permit revision requirements.

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

(e) Additional recordkeeping and reporting requirements.

- (1) Unless otherwise provided, the owners and operators of each TR NO_x Ozone Season source and each TR NO_x Ozone Season unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - (i). The certificate of representation under 40 CFR 97.516 for the designated representative for the source and each TR NO_x Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.516 changing the designated representative.

- (ii). All emissions monitoring information, in accordance with 40 CFR part 97, subpart 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_x Ozone Season Trading Program.
- (2) The designated representative of a TR NO_x Ozone Season source and each TR NO_x Ozone Season unit at the source shall make all submissions required under the TR NO_x Ozone Season Trading Program, except as provided in 40 CFR 97.518. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

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

(g) Effect on other authorities.

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

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

(a) Designated representative requirements.

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

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

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

(c) SO₂ emissions requirements.

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

units having a common designated representative for such control period, where the common designated representative's share of such SO₂ emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR SO₂ Group 1 allowances available for deduction for such control period under 40 CFR 97.625(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.625(b), of multiplying—

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

- (i). A TR SO₂ Group 1 allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR SO₂ Group 1 allowance that was allocated for such control period or a control period in a prior year.
- (ii). A TR SO₂ Group 1 allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR SO₂ Group 1 allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.
- (5) Allowance Management System requirements. Each TR SO₂ Group 1 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart CCCCC.
- (6) Limited authorization. A TR SO₂ Group 1 allowance is a limited authorization to emit one ton of SO₂ during the control period in one year. Such authorization is limited in its use and duration as follows:
 - (i). Such authorization shall only be used in accordance with the TR SO₂ Group 1 Trading Program; and
 - (ii). Notwithstanding any other provision of 40 CFR part 97, subpart CCCCC, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.
- (7) Property right. A TR SO₂ Group 1 allowance does not constitute a property right.

(d) Title V permit revision requirements.

- (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR SO₂ Group 1 allowances in accordance with 40 CFR part 97, subpart CCCCC.
- (2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.630 through 97.635, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR part 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.606(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

(e) Additional recordkeeping and reporting requirements.

- (1) Unless otherwise provided, the owners and operators of each TR SO₂ Group 1 source and each TR SO₂ Group 1 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - (i). The certificate of representation under 40 CFR 97.616 for the designated representative for the source and each TR SO₂ Group 1 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.616 changing the designated representative.
 - (ii). All emissions monitoring information, in accordance with 40 CFR part 97, subpart CCCCC.

- (iii). Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR SO₂ Group 1 Trading Program.
- (2) The designated representative of a TR SO₂ Group 1 source and each TR SO₂ Group 1 unit at the source shall make all submissions required under the TR SO₂ Group 1 Trading Program, except as provided in 40 CFR 97.618. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

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

(g) Effect on other authorities.

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