



VIA NJDEP ONLINE BUSINESS PORTAL

April 14, 2020

Mr. David Owen
New Jersey Department of Environmental Protection
Bureau of Stationary Sources
401 East State St. – 2nd Floor
Trenton, NJ 08625

Reference: PSEG Fossil LLC
Essex Title V Operating Permit
Program Interest No. 07627
Activity Number: BOP190002
Title V Operating Permit Renewal Application

Dear Mr. Owen:

PSEG Fossil LLC (PSEG Fossil or the Company) is submitting the enclosed application to renew the Title V Operating Permit (Title V permit, or the permit) for the Essex Generating Station (Essex, or the facility). The New Jersey Department of Environmental Protection (NJDEP or the Department) approved Essex's initial Title V permit on July 27, 2001. The current Essex Title V permit was approved by the Department on September 11, 2019 (BOP190002), and expires on July 26, 2021.

Pursuant to N.J.A.C. 7:27-22.30(c), to be considered timely, renewal applications must be received and deemed administratively complete by the Department at least 12 months prior to the expiration of the Title V permit. 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). PSEG Fossil requests that the Department provide written confirmation that the application is administratively complete and that the application shield applies.

Application Forms

The application forms used in this submittal were obtained from the *Attachment to the RADIUS Operating Permit Renewal Application Package*, dated June 29, 2018. These forms are provided in **Attachment 1**, and are described in more detail below.

Section 1 – Compliance Requirements

Compliance Assurance Monitoring (CAM) Applicability Determination

EPA developed 40 CFR 64 (Compliance Assurance Monitoring or "CAM") in order to provide reasonable assurance that facilities comply with emission limitations by monitoring the operation and maintenance of their control devices. CAM applies to emission units that meet all of the following conditions:

1. The emission unit is located at a major source for which a Title V permit is required;
2. The emission unit is subject to an emission limitation or standard for a specific contaminant;
3. The emission unit uses a control device to achieve compliance with that specific contaminant's federally enforceable limit or standard;
4. The emission unit has potential pre-control or post-control emissions (of that specific contaminant) of at least 100% of the major source amount (see 40 CFR 64.2 - "Major facility"); and
5. The emission unit is not otherwise exempt from CAM (for exemptions, see 40 CFR 64.2(b)).

Essex Unit No. 9 (Emission Unit U1) consists of one (1) General Electric (GE) Frame 7EA simple-cycle combustion turbine. Water injection is used on Essex Unit No. 9 to control emissions of nitrogen oxides (NO_x). Potential pre-control NO_x emissions from this unit exceed 100% of the major source amount, i.e. 25 tons per year (tons/yr) for NO_x, making it potentially subject to CAM requirements.

However, Essex Unit No. 9 employs a Continuous Emissions Monitoring System (CEMS) to monitor NO_x emissions. The CEMS requirements specified in the current permit include provisions for monitoring, recordkeeping, and submittal/action requirements. The use of a NO_x CEMS exempts Unit No. 9 from CAM requirements pursuant to 40 CFR 64.2(b)(vi), which exempts "emission limitations or standards for which a Part 70 or 71 permit specifies a continuous compliance determination method as defined in 40 CFR 64.1". 40 CFR 64.1 defines a continuous compliance determination method as "a method, specified by the applicable standard or an applicable permit condition, which: (1) is used to determine compliance with an emission limitation or standard on a continuous basis, consistent with the averaging

period established for the emission limitation or standards; and (2) provides data either in units of the standard or correlated directly with the compliance limit.”

Therefore, Essex Unit No. 9 and hence, the facility, is not subject to CAM, and Section 1 of the facility’s Air Operating Permit Renewal Package states that the facility does not currently have any emission units subject to CAM requirements.

Health Risk Assessment

As part of this renewal application, PSEG Fossil has evaluated the reportability of Hazardous Air Pollutant (HAP) emissions under the new, mostly lower, reporting thresholds in N.J.A.C. 7:27-17.9. Essex Unit No. 9 (U1) is the only emission unit at the facility with reportable HAP emissions, which are summarized in the table below. An Excel spreadsheet with back-up emission calculations is provided with this application.

HAP	PTE (tons/yr)
	U1
1,3-Butadiene	2.76E-03
Acetaldehyde	4.46E-02
Acrolein	7.14E-03
Arsenic	1.64E-03
Benzene	1.86E-02
Beryllium	4.63E-05
Cadmium	7.18E-04
Ethyl benzene	3.57E-02
Formaldehyde	7.92E-01
Lead	2.09E-03
Manganese	1.18E-01
Naphthalene	6.35E-03
Nickel	6.88E-04
PAH/POM	7.87E-03
Propylene Oxide	3.23E-02
Total HAPs	1.07

Acid Rain Program

Pursuant to 40 CFR 72.6(b)(1), the Acid Rain regulations do not apply to the Essex Unit No. 9 simple-cycle combustion turbine, because it commenced commercial operation on July 1, 1990, before the November 15, 1990 applicability date.

N.J.A.C. 7:27-18 Netting Analysis and General Operating Permit Determination

Attachment 2 provides a current N.J.A.C. 7:27-18 Netting Analysis, which demonstrates that no significant net emission increases have occurred at the facility pursuant to N.J.A.C. 7:27-18.7. A completed netting analysis using the Department’s eNAT form is also included with this submittal.

Regarding General Operating Permits (GOPs), none have been obtained for the facility during the permit term.

Section 2 – Application Certification

PSEG Fossil is electronically certifying the application through NJDEP Online, so the Section 2 certification need not be completed.

Section 3 – Seven-Day-Notice Changes

No Seven-Day-Notice changes to the Title V permit have been submitted to the Department during the permit term.

Section 4 – Summary of the Results from Testing and Monitoring

Section 4 contains a summary of all stack testing, Continuous Emissions Monitoring (CEM), and Continuous Opacity Monitoring (COM) requirements in the permit, and a determination of whether the facility has been in compliance with those requirements.

Attachment 3 provides a summary of the results of stack testing for NO_x and CO emissions performed on U1 during the permit term.

Section 5 – Compliance Status

Section 5 summarizes the compliance status for all applicable requirements listed in the permit. Each Subject Item is listed along with the compliance status for that Subject Item. The methods used to determine compliance for the requirements associated with each Subject Item are consistent with all methods listed in monitoring and recordkeeping requirements. Per the application instructions, the requirements associated with each individual Reference Number do not need to be listed if all of these requirements are in compliance, which is the case for this facility. In addition, no compliance schedules are attached, because the facility is in compliance with all applicable requirements.

Pending Operating Permit Modification Applications

Currently, there are no pending operating permit modification applications for the facility.

Proposed Changes to the Approved Operating Permit

With this Title V renewal application, some additional changes to the permit are requested, including:

- Ultra Low Sulfur Distillate (ULSD) – Now that ULSD use is fully implemented at the facility, PSEG Fossil requests removal of old or obsolete references to non-ULSD, and revisions to SO₂ emission rates to reflect the full use of ULSD for U1;

- New HAP reporting thresholds – PSEG Fossil has evaluated the revised, and in many cases lowered, HAP reporting thresholds in N.J.A.C. 7:27-17.9 that become operative in February 2018. Several previously unreportable HAPs have become reportable for U1.

Markups of the requested changes are provided in **Attachment 4**.

RADIUS Renewal Application

Attachment 5 contains a hard copy of the RADIUS Title V permit renewal application. PSEG Fossil is submitting this Title V permit renewal application electronically through the NJDEP Online Business Portal.

Renewal Fees

The application fee for this Title V permit renewal is \$125.00 per significant source operation. PSEG Fossil estimates the renewal fees will be \$250.00, because there are two (2) significant source operations at the facility. Please invoice PSEG Fossil for the applicable renewal fees.

If you have any questions regarding this application, please contact me at (908) 412-3034.

Sincerely,

A handwritten signature in black ink, appearing to read "Doug Gordon", written in a cursive style.

Douglas Gordon
Air Permitting Program Manager

Enclosures

- Attachment 1 – Permit Renewal Application Forms
- Attachment 2 – Subchapter 18 Netting Analysis
- Attachment 3 – Stack and Emissions Testing Summaries
- Attachment 4 – Markups of Proposed Permit Changes
- Attachment 5 – pdf of RADIUS File

Mr. David Owen
April 14, 2020

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bcc: E. Gorman
S. Leon
J. Perry (ERM)

Attachment 1

Permit Renewal Application Forms



**New Jersey Department of Environmental Protection
Division of Air Quality**

**Attachment to the
RADIUS Air Operating Permit Renewal
Application**

Submittal Date: 04/14/2020

Facility Name: PSEG Fossil LLC Essex Generating Station

PI#: 07627

This package must be submitted as an attachment to the RADIUS Air Operating Permit Renewal Application. The forms contained in this package must not be altered. Use of any non-standard forms will require resubmittal of the renewal application. If the file is too large to submit, please perform a Save As to optimize the file for Fast Web View using Adobe PDF software. Contact the Department if this does not solve the problem, and you still have issues submitting this package.

**New Jersey Department of Environmental Protection
401 East State Street, 2nd Floor, P.O. Box 420, Mail Code 401-02, Trenton, NJ 08625-0420**

Operating Permits Helpline 609-633-8248

Revised Jun 29, 2018

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Applying for an Air Operating Permit Renewal

This summary was prepared to assist you in renewing an operating permit. To continue lawful operation of a facility that has obtained an approved operating permit, a permittee must initiate the renewal of the operating permit by submitting a timely and administratively complete permit application. A complete operating permit renewal application consists of the RADIUS Air Operating Permit Renewal application forms and all forms contained in this package, along with any supporting documents (if needed).

1. **Timely**

To be considered timely pursuant to N.J.A.C. 7:27-22.30(c), the Department must receive an administratively complete renewal application at least 12 months prior to expiration of the operating permit. The applicant is encouraged to voluntarily submit the renewal application at least 15 months prior to expiration of the operating permit, so that any deficiencies in the application can be addressed prior to the application due date. Only applications, which are administratively complete by the application deadline, will be eligible for coverage by an application shield.

2. **Administratively Complete**

To be deemed administratively complete pursuant to N.J.A.C. 7:27-22.30(d), an operating permit renewal application must include all information requested in the RADIUS Air Operating Permit Renewal application forms and all forms contained in this package.

3. **Application Shield**

The Department will grant an application shield when a timely and administratively complete application is received pursuant to N.J.A.C. 7:27-22.30(g). An application shield grants the right to operate the facility upon the expiration of its operating permit. If an operating permit has expired, the conditions of the operating permit remain enforceable until the operating permit is reissued. Unless a facility obtained an application shield, the right to operate the facility terminates upon the expiration of its operating permit pursuant to N.J.A.C. 7:27-22.30(i).

4. **Permit Changes During Renewal Process**

Minor changes, such as those that would qualify for a seven-day-notice change or administrative amendment, may be made with the renewal pursuant to N.J.A.C. 7:27-22.30(d). Significant changes, such as those qualifying for a minor or significant modification, must be submitted as a separate permit application. The Department at its discretion may include approval of these proposed changes along with the approval of the renewal application.

5. **New HAP Reporting Thresholds**

Pursuant to N.J.A.C. 7:27-22.30(l), for any operating permit expiring on or after February 12, 2021, HAP emissions from a source operation that equal or exceed the reporting threshold specified in N.J.A.C. 7:27-17.9(a) must be included during this operating permit renewal process. Any HAP that is not authorized in the operating permit in effect must be included through the submittal of a permit modification application pursuant to N.J.A.C. 7:27-22.23 or N.J.A.C. 7:27-22.24 as applicable.

Attachment to the RADIUS Air Operating Permit Renewal Application

Section 1 **Compliance Requirements**

A. Compliance Assurance Monitoring (CAM) Applicability Determination

EPA developed 40 CFR 64 (Compliance Assurance Monitoring or "CAM") in order to provide reasonable assurance that facilities comply with emission limitations by monitoring the operation and maintenance of their control devices. In general, CAM applies to emission units that meet all of the following conditions:

1. The emission unit is located at a major source for which a Title V permit is required;
2. The emission unit is subject to an emission limitation or standard for a specific contaminant;
3. The emission unit uses a control device to achieve compliance with that specific contaminant's federally enforceable limit or standard;
4. The emission unit has potential pre-control or post-control emissions (of that specific contaminant) of at least 100% of the major source amount (see 40 CFR 64.2 - "Major facility"); and
5. The emission unit is not otherwise exempt from CAM (for exemptions, see 40 CFR 64.2(b)).

To learn more about the CAM program and for guidance on how to prepare a CAM plan, check EPA's website: <https://www.epa.gov/air-emissions-monitoring-knowledge-base/compliance-assurance-monitoring>.

After reviewing the information above, check the following boxes as applicable:

☒ **NO**, my facility **does not** have any emission units subject to CAM requirements.

☐ **YES**, my facility **does** have one or more emission units subject to CAM requirements, and

☐ A CAM plan is provided with this operating permit renewal application.

☐ A CAM plan will be submitted during the technical review of this renewal application.

B. Health Risk Assessment

1. Consistent with N.J.A.C. 7:27-22.3(cc), the Department will review each operating permit renewal application to ensure that emissions of Hazardous Air Pollutants (HAPs) do not pose a public health risk.
2. After receipt of the renewal application, the Department will notify applicants if a Facility-Wide Risk Assessment must be performed. A plot plan and air dispersion modeling protocol will be required in that case.
3. Previous Facility-Wide Risk Assessment, additions and changes in toxicity values or standards, and changes in the air model and/or the facility's location (in an Environmental Justice area, near a sensitive population etc.) will determine the need for health risk assessment.

The forms contained in this attachment must not be altered. Use of any non-standard forms will require resubmittal of the renewal application.

C. Acid Rain Program

To learn more about Acid Rain Program, check EPA's website: <https://www.epa.gov/airmarkets/acid-rain-program>.

Check the following boxes as applicable:

☒ **NO**, this facility **is not subject** to the Acid Rain Program, codified at 40 CFR 72.

☐ **YES**, this facility **is subject** to the Acid Rain Program, codified at 40 CFR 72, and

- ☐ There have been no changes affecting my facility's Acid Rain Permit and a renewal application is provided with this operating permit renewal application.
- ☐ There have been changes affecting my facility's Acid Rain Permit and a revised/updated application is provided with this operating permit renewal application.

D. N.J.A.C. 7:27-18 Netting Analysis and General Operating Permit Determination

Air permit applications requesting air emissions increases are required to include a netting analysis to determine if the resulting net emission increase at the facility constitutes a significant net emission increase pursuant to N.J.A.C. 7:27-18.7. These netting analyses must be kept on site or submitted to the Department consistent with the Department's guidance included in the memo listed under "N.J.A.C. 7:27-18 Netting Analysis" and the "General Procedures for General Operating Permits" on the Department's webpage <http://www.state.nj.us/dep/aqpp/permitguide.html> and <http://www.state.nj.us/dep/aqpp/gop.html>, respectively. The Department intends to review these analyses at least once in 5 years unless no permit modifications proposing emissions increases were made and no GOPs were obtained during the past 5-year permit term. All netting analyses corresponding to a modification to increase emissions or a GOP must be submitted to the Department. Any netting analyses submitted with a modification application during the 5-year permit term do not need to be submitted again with the permit renewal application.

Check the following boxes as applicable:

☒ **NO**, this facility **has not made** permit changes resulting in emissions increases, including GOPs, since the last permit renewal.

☐ **YES**, this facility **has made** permit changes resulting in emissions increases, including GOPs, since the last permit renewal, and

- ☐ One or more netting analyses, prepared consistent with N.J.A.C. 7:27-18.7 during this permit term, were provided with a modification application during the 5-year permit term.
- ☐ One or more netting analyses, prepared consistent with N.J.A.C. 7:27-18.7 during this permit term, are provided with this permit renewal application.
- ☐ One or more netting analyses, prepared consistent with N.J.A.C. 7:27-18.7 during this permit term, will be submitted during the technical review of this permit renewal application.

Attachment to the RADIUS Air Operating Permit Renewal Application

Section 2
Certification

No additional certification is required when submitting the operating permit renewal application through NJDEP Online: <http://www.nj.gov/dep/online/>.

Complete the information below when submitting the operating permit renewal application on an electronic storage device, through the mail. Click on the icon on the signature line to add an image of a signature saved on your computer. If you do not have one, print the form out and manually sign on the line.

Facility PI#: 07627

Facility Name: PSEG Fossil LLC Essex Generating Station

Responsible Official: (As defined in N.J.A.C. 7:27-1.4)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attached documents and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including the possibility of fine or imprisonment or both, for submitting false, inaccurate or incomplete information.

Name: Clint Bogan **Signature:** _____ **Date:** _____

Individuals with Direct Knowledge:

I certify under penalty of law that I believe the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including the possibility of fine or imprisonment or both, for submitting false, inaccurate or incomplete information.

Name: _____ **Signature:** _____ **Date:** _____

Section Being Certified: _____

Name: _____ **Signature:** _____ **Date:** _____

Section Being Certified: _____

Name: _____ **Signature:** _____ **Date:** _____

Section Being Certified: _____

Name: _____ **Signature:** _____ **Date:** _____

Section Being Certified: _____

The forms contained in this attachment must not be altered. Use of any non-standard forms will require resubmittal of the renewal application.

Attachment to the RADIUS Air Operating Permit Renewal Application

Section 3
Summary of 7-Day Notice Changes

Instructions

Complete this form if any 7-day notice changes were submitted to the NJDEP since the approval of the initial operating permit or most recent renewal thereof. With this information, the NJDEP will include the provisions of any eligible 7-day notice changes into the renewed permit.

No.	Date of 7-Day Notice	Brief Description of Change
		No 7-Day Notice Changes have been submitted during the permit term.


The forms contained in this attachment must not be altered. Use of any non-standard forms will require resubmittal of the renewal application.

Attachment to the RADIUS Air Operating Permit Renewal Application

Section 4
Summary of the results from Stack Testing and Monitoring

Instructions

Complete this form if the permit required stack emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance?	
						Yes	No
U1	OS Summ ary Ref #1						

Make additional copies of this form if needed.

The forms contained in this attachment must not be altered. Use of any non-standard forms will require resubmittal of the renewal application.

Attachment to the RADIUS Air Operating Permit Renewal Application

Section 5 **Compliance Status**

Instructions

Please read these instructions prior to completing the following form.

1. **Subject Item:** List each subject item from Section D, Compliance Plan and Inventories, of the operating permit in this column. Subject items include Facility (FC), Group (GR), Non-Source Fugitive Emissions (FG), Insignificant Source (IS), Batch Process (BP), and Emission Unit (U). (Operating Scenario and Reference Numbers are required only for Non-Compliance permit requirements. See item 2 below).
2. **Compliance Status:** Provide compliance status for each subject item in this column. If all the permit requirements for a subject item (for example an emission unit) are in compliance, write "In Compliance". If one or more permit requirements are out of compliance for a particular subject item, provide the Operating Scenario and Reference Number for each out of compliance requirement in the first column and write "Non-Compliance" in the 2nd column. (Reference Numbers for each applicable requirement are located in the first column of Facility Specific Requirements, Section D of the permit).
3. **Method Used to Determine Compliance:** Describe how compliance was determined in this column. If all the permit requirements for a subject item (for example an emission unit) are in compliance, write "Consistent with all methods listed in monitoring and recordkeeping permit requirements". If one or more permit requirements are out of compliance for a particular subject item, provide the Operating Scenario and Reference Number for each out of compliance requirement in the first column and provide specific method used to determine compliance in the 3rd column.
4. **Compliance Schedule:** insert a "No" if there are no compliance schedules included in this application to address non-compliance issues for which "Non-Compliance" was inserted in the 2nd column. Insert a "Yes" if a compliance schedule is included in this renewal application to address non-compliance issues in the approved permit or non-compliance issues disclosed in this application.

Attachment to the RADIUS Air Operating Permit Renewal Application

Section 5 Compliance Status

Instructions

Read the instructions on the previous page before completing this form.

Subject Item	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
OS / Ref #			
<i>Subject Item</i> FC	In Compliance	Consistent with all methods listed in monitoring and recordkeeping permit requirements.	No
<i>OS / Ref #</i> All			
<i>Subject Item</i> IS1	In Compliance	Consistent with all methods listed in monitoring and recordkeeping permit requirements.	No
<i>OS / Ref #</i> All			
<i>Subject Item</i> IS2	In Compliance	Consistent with all methods listed in monitoring and recordkeeping permit requirements.	No
<i>OS / Ref #</i> All			

Make additional copies of this form if needed.

The forms contained in this attachment must not be altered. Use of any non-standard forms will require resubmittal of the renewal application.

Attachment to the RADIUS Air Operating Permit Renewal Application

Section 5 Compliance Status

Instructions

Read the instructions on the previous page before completing this form.

Subject Item	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
OS / Ref #			
<i>Subject Item</i> IS8	In Compliance	Consistent with all methods listed in monitoring and recordkeeping permit requirements.	No
<i>OS / Ref #</i> All			
<i>Subject Item</i> GR1	In Compliance	Consistent with all methods listed in monitoring and recordkeeping permit requirements.	No
<i>OS / Ref #</i> All			
<i>Subject Item</i> GR2	In Compliance	Consistent with all methods listed in monitoring and recordkeeping permit requirements.	No
<i>OS / Ref #</i> All			

Make additional copies of this form if needed.

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Attachment to the RADIUS Air Operating Permit Renewal Application

Section 5 Compliance Status

Instructions

Read the instructions on the previous page before completing this form.

Subject Item	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
OS / Ref #			
<i>Subject Item</i> U1	In Compliance	Consistent with all methods listed in monitoring and recordkeeping permit requirements.	No
<i>OS / Ref #</i> All			
<i>Subject Item</i> U3000	In Compliance	Consistent with all methods listed in monitoring and recordkeeping permit requirements.	No
<i>OS / Ref #</i> All			
<i>Subject Item</i>			
<i>OS / Ref #</i>			

Make additional copies of this form if needed.

The forms contained in this attachment must not be altered. Use of any non-standard forms will require resubmittal of the renewal application.

Attachment to the RADIUS Air Operating Permit Renewal Application

Section 5 Compliance Schedules

Instructions

Complete this form if the permit included any compliance schedules (Section D of the permit) or if there are any non-compliance issues at the time of completing this application form. Check the appropriate box to indicate whether the compliance schedule has been updated, removed, or added.

Subject Item	Requirement	Compliance Schedule	Compliance Schedule		
OS / Ref #			Updated	Removed	Added
<i>Subject Item</i>					
<i>OS / Ref #</i>					
<i>Subject Item</i>					
<i>OS / Ref #</i>					
<i>Subject Item</i>					
<i>OS / Ref #</i>					

Make additional copies of this form if needed.

The forms contained in this attachment must not be altered. Use of any non-standard forms will require resubmittal of the renewal application.

Attachment 2

Subchapter 18 Netting Analysis

**PSEG FOSSIL LLC
ESSEX GENERATING STATION
SUBCHAPTER 18 APPLICABILITY ANALYSIS
APRIL 2020**

N.J.A.C. 7:27-18 (“Subchapter 18”) applies to new or altered sources located in both attainment and non-attainment areas. A facility is subject to N.J.A.C. 7:27-18 when an application for authorization to construct, reconstruct, or modify control apparatus or equipment is submitted to the New Jersey Department of Environmental Protection (“NJDEP”) pursuant to N.J.A.C. 7:27-8 or N.J.A.C. 7:27-22 and two (2) criteria are met. The first criterion is that the facility must be a “major facility”, with the potential to emit any of the air contaminants listed in N.J.A.C. 7:27-18.2(a)(1) in an amount which is equal to or exceeds the following threshold levels:

Air Contaminant	Threshold Level (tons per year)
CO	100
PM-10	100
Total Suspended Particulates (TSP)	100
SO ₂	100
NO _x	25
VOC	25
Lead (Pb)	10

The second criterion is that any allowable emissions proposed in the application must result in a “significant net emission increase” of any air contaminant, pursuant to N.J.A.C. 7:27-18.7, Table 3.

I. Background

N.J.A.C. 7:27-18 applies when a “significant net emissions increase” occurs as a result of a proposed increase in allowable emissions at a facility in which potential emissions of one or more pollutants exceed the thresholds in N.J.A.C. 7:27-18.2(a)(1). The determination of whether a significant net emission increase has occurred involves calculating the net change in emissions at the facility, taking into consideration any emission decreases and increases that may have occurred during the “contemporaneous” period.

At Essex Generating Station, potential emissions of NO_x exceed the 25 tons/yr major source thresholds in N.J.A.C. 7:27-18.2(a)(1). Hence, the facility is a “major facility” under Subchapter 18, and a netting analysis was performed to demonstrate that no “significant net emissions increase” of any Subchapter 18-regulated air contaminants has occurred at the facility. The analysis was performed as outlined in N.J.A.C. 7:27-18.7.

**PSEG FOSSIL LLC
ESSEX GENERATING STATION
SUBCHAPTER 18 APPLICABILITY ANALYSIS
APRIL 2020**

II. Pollutant Attainment Status

The facility is located in Newark, Essex County, New Jersey. The attainment status at this location for each Subchapter 18-regulated pollutant is shown in **Table 1**, as specified in 40 CFR 81.331.

**Table 1
Attainment Status**

Pollutant	Attainment or Unclassifiable	Non-Attainment
Nitrogen Oxides (NO _x) ¹	X	X
Carbon Monoxide (CO)	X	
Sulfur Dioxide (SO ₂)	X	
Total Suspended Particulate Matter (TSP) ²	X	
Particulate Matter (PM ₁₀) ²	X	
Ozone ³		X
Lead (Pb) ²	X	
¹ NO _x is regulated as both a precursor to ozone and as a criteria pollutant (NO ₂). ² Lead, PM ₁₀ , and TSP are not listed in 40 CFR 81.331, and are assumed to be attainment/unclassifiable. ³ VOC and NO _x are regulated as precursors to ozone formation.		

III. Applicability Analysis

The “significant net emissions increase” thresholds in Subchapter 18 are shown below in **Table 2**, in tons per year (“tons/yr”).

**PSEG FOSSIL LLC
ESSEX GENERATING STATION
SUBCHAPTER 18 APPLICABILITY ANALYSIS
APRIL 2020**

**Table 2
Significant Net Emission Increase Thresholds**

Pollutant	Threshold (tons/yr)
NO _x	25
CO	100
SO ₂	40
TSP	25
PM ₁₀	15
VOC	25
Pb	0.6

The net emission increase at the facility was assessed using the following equation from N.J.A.C. 7:27-18.7:

$$NI = IP + INP + IF + IA - DO - DC$$

where:

NI = net emission increase at the facility.

IP = any increase(s) in the allowable emissions of the air contaminant that occurred during the “contemporaneous” period and that were authorized by permits issued by the Department.

INP = any increase(s) in the allowable emissions of the air contaminant that occurred during the “contemporaneous” period and that came from any equipment for which no permit was in effect at the time of the increase.

IF = any increase in the fugitive emissions of the air contaminant from the facility during the “contemporaneous” period.

IA = any proposed increase in allowable emissions of the air contaminant from the new or altered equipment or control apparatus that is the subject of the permit application.

DO = any increase(s) in the allowable emissions of the air contaminant that occurred during the “contemporaneous” period, if emission offsets were secured for these increases from the facility or from another facility.

**PSEG FOSSIL LLC
ESSEX GENERATING STATION
SUBCHAPTER 18 APPLICABILITY ANALYSIS
APRIL 2020**

DC = the sum of all creditable emission reductions at the facility during the "contemporaneous" period, not including any creditable emission reductions previously used as emission offsets at the facility or any other facility.

The term "contemporaneous" is defined in N.J.A.C. 7:27-18.1 as the period that includes the five (5) years prior to initiating construction on a proposed modification, and the period between the initiation of construction and the initiation of operation of the new or altered equipment. For the purposes of this analysis, construction and operation are both assumed to occur in April 2020. Therefore, the contemporaneous period is assumed to be from April 2015 through April 2020.

The following determinations (positive, negative, no change) have been made for each term in the above equation:

IP	=	0	There have been no allowable emission increases associated with air permits obtained during the contemporaneous period.
INP	=	0	There were no increases in allowable emissions of a criteria pollutant during the contemporaneous period that came from any equipment for which air permits were not in effect at the time of the increase.
IF	=	0	There were no increases in fugitive emissions of any criteria pollutant from the facility during the contemporaneous period.
IA	=	0	There are no increases in allowable emissions associated with this application, which is strictly for the renewal of the Title V permit.
DO	=	0	Emission offsets were not secured (or needed) for increases in allowable emissions from the facility during the contemporaneous period, as there were no known increases in allowable emissions of a criteria pollutant during the contemporaneous period.
DC	=	0	There were creditable emission reductions at the facility during the contemporaneous period from the permanent retirement of 24 simple-cycle combustion turbines owned and operated by PSEG Fossil LLC. These combustion turbines (U2, U3, & U4) were permanently retired effective May 1, 2015, and removed from the Title V permit with BOP150003, approved on March 1, 2016.

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Per the emissions banking applications submitted on October 29, 2015 and approved by NJDEP on January 27, 2016, the creditable emission reductions from the retirement of U2, U3, and U4 were:

NO_x = 68.01 tons/yr
CO = 401.31 tons/yr
VOC = 46.18 tons/yr
TSP = 12.39 tons/yr
PM₁₀ = 32.29 tons/yr
PM_{2.5} = 32.29 tons/yr
SO₂ = 0.64 tons/yr
Pb = 0.0005 tons/yr

IV. Results/Conclusion

The results of the Subchapter 18 analysis are summarized in **Table 3**, and demonstrate that the subject air permit application does not trigger a significant net emissions increase of any Subchapter 18-regulated air contaminants. Therefore, Subchapter 18 does not apply.

**Table 3
Subchapter 18 Applicability Summary (tons/yr)**

Pollutant	Emissions (tons/yr)								Sub. 18 Applicable (Yes/No)
	IP	INP	IF	IA	DO	DC	NI	Significant Net Emission Increase Level	
NO _x	0.00	0.00	0.00	0.00	0.00	68.01	-68.01	25	No
CO	0.00	0.00	0.00	0.00	0.00	401.31	-401.31	100	No
SO ₂	0.00	0.00	0.00	0.00	0.00	0.64	-0.64	40	No
TSP	0.00	0.00	0.00	0.00	0.00	12.39	-12.39	25	No
PM ₁₀	0.00	0.00	0.00	0.00	0.00	32.29	-32.29	15	No
PM _{2.5}	0.00	0.00	0.00	0.00	0.00	32.29	-32.29	10	No
VOC	0.00	0.00	0.00	0.00	0.00	46.18	-46.18	25	No
Pb	0.00	0.00	0.00	0.00	0.00	0.0005	-0.0005	0.6	No

NJ01 - NETTING ANALYSIS RESULTS - Consistent with N.J.A.C. 7:27-18.7

Facility Information → Facility PI: 07627 Facility Name: PSEG FOSSIL LLC ESSEX GENERATING STATION BOP Activity: BOP190002

Calculation of NI for this Permit Action - NO DATA ENTRY REQUIRED

This table is automatically populated after Table 1 and Table 2 below are completed.

Air Contaminant	IP Emission Increase from Permitted Sources	INP Emission Increase from Non-Permitted Sources	IF Emission Increase from Fugitive Emissions	IA Emission Increase from the Current Modification	DO Emission Decrease from Emission Offsets	DC Emission Decrease from Creditable Emission Reductions	NI Net Emission Increase at the Facility	Significant Net Emission Increase Thresholds (N.J.A.C. 7:27-18.7 Table 3)	Significant Net Emission Increase? Yes/No
VOC	0.00	0.00	0.00	0.00	0.00	46.18	-46.18	25	No
NOx	0.00	0.00	0.00	0.00	0.00	68.01	-68.01	25	No
CO	0.00	0.00	0.00	0.00	0.00	401.31	-401.31	100	No
SO2	0.00	0.00	0.00	0.00	0.00	0.64	-0.64	40	No
TSP	0.00	0.00	0.00	0.00	0.00	12.39	-12.39	25	No
PM10	0.00	0.00	0.00	0.00	0.00	32.29	-32.29	15	No
PM2.5	0.00	0.00	0.00	0.00	0.00	32.29	-32.29	10	No

Table 1 - Calculation of Total IA for this Permit Action (Modification or GOP) - ENTER ALL DATA FOR THIS PERMIT ACTION

Equipment ID	Emission Unit / Batch Process	Equipment Description	Start of Constr. Date	Start of Operation Date	VOC TPY	NOx TPY	CO TPY	SO2 TPY	TSP TPY	PM10 TPY	PM2.5 TPY
		FC	4/26/2020	4/26/2020							
Totals for this Permit Action (IA):					0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 2 - Total IP, INP, IF, DO, & DC for the Contemporaneous Period – ENTER ALL DATA FOR THE CONTEMPORANEOUS PERIOD SHOWN BELOW

Contemporaneous Period Start:	1/1/2015	Contemporaneous Period End:	4/26/2020
-------------------------------	----------	-----------------------------	-----------

Use the Equipment ID drop-down filter to uncheck blank rows before printing.

[illegible]

Equipment ID	Emission Unit / Batch Process	Equipment Description	BOP Activity	Permit Approval Date	Netting Term	VOC TPY	NOx TPY	CO TPY	SO2 TPY	TSP TPY	PM10 TPY	PM2.5 TPY

Attachment 3

Stack and Emissions Testing Summaries

Five Year Stack Compliance Test Report

PSEG Essex Generating Station Unit Number 9

Report Number ESS 9 3Q2019 5 YR SC NG
July 2019

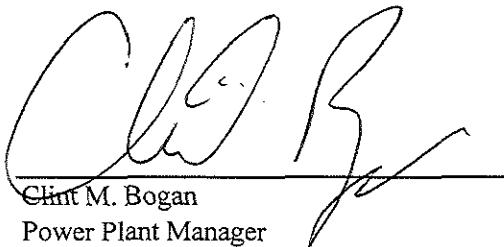
*Prepared by
Jonathan Sobel
Manny Janela
PSEG Laboratory & Testing Services
South Plainfield, New Jersey*

Report Certification

Report No. ESS 9 3Q2019 5YR SC NG

PSEG Power LLC
PSEG Essex Generating Station
155 Raymond Blvd.
Newark, NJ 07105

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attached documents and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including the possibility of fine or imprisonment or both, for submitting false, inaccurate or incomplete information.



Clint M. Bogan
Power Plant Manager
PSEG Essex Generating Station

8-27-19

Date

LABORATORY & TESTING SERVICES



Report Certification

Report No.: ESS 9 3Q2019 5YR SC NG

PSEG Fossil LLC
Laboratory & Testing Services
South Plainfield, NJ

I certify under penalty of law that I believe the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including the possibility of fine or imprisonment or both, for submitting false, inaccurate or incomplete information.

A handwritten signature in black ink, appearing to read "Lawrence Berko", written over a horizontal line.

Lawrence Berko
Manager Mechanical Division
PSEG Laboratory & Testing Services

8/21/19

Date

PSEG
CIH CERTIFICATION
PSEG Essex Generating Station
Report No. ESS 3Q2019 5YR SC NG

TRC Project No. 219902.000032
Unit Number 9 – Essex, New Jersey

“I have personally examined and am familiar with the information submitted in this document all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. “



Date: 08-15-19

Gary L. Ritter, CIH #5015



american board of industrial hygiene®

**organized to improve the practice of industrial hygiene
proclaims that**

Gary L. Ritter

**having met all requirements of
education, experience and examination, and
ongoing maintenance,
is hereby certified in the**

**COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE**

and has the right to use the designations

CERTIFIED INDUSTRIAL HYGIENIST

CIH

Certificate Number 5015 CP

Awarded: December 14, 1990

Expiration Date: June 1, 2023



Julius A. Miller
Chair, ABIH

John E. Miller
Chief Executive Officer, ABIH

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Appendix 1	Field Data
Appendix 2	Plant Process Data
Appendix 3	Fuel Data
Appendix 4	Calibration Data
Appendix 5	Quality Assurance / Quality Control

Introduction

PSEG Laboratory & Testing Services (LTS) was contracted to perform stack compliance testing to determine the amount of pollutant emissions from Essex Generating Station Peaking Unit Number 9 and to verify compliance with the emission limits listed in BOP Permit Number BOP190001. LTS adhered to all applicable testing requirements listed in the permit under U1 OS Summary, U1 OS1. Testing was conducted on July 24, 2019.

Source Information

Facility Name	PSEG Fossil LLC, Essex Generating Station Peaking
Facility Address	155 Raymond Boulevard, Newark, NJ 07105
Source Designation(s)	U1 - Unit 9
Permit Number	BOP190001
Program Interest Number	07627
Protocol Number	ESS 9 2019 SCPROT
Test Number	TST190001
Test Project Coordinator	Steve Leon, Environmental Health & Safety Manager, PSEG Essex Generating Station, (201) 314-7683
Test Consultant Firm	PSEG Laboratory & Testing Services 40 Cragwood Road South Plainfield, NJ 07080
Testing Team	Manny Janela, Paul Dynak, Andrew Ehret

Source Operation and Description

Essex Generating Station Unit No. 9 is a simple cycle General Electric PG7001EA gas turbine driving a generator with a nominal output rating of approximately 78.91 MW at 59°F. Unit No. 9 is served by a continuous emissions monitoring system (CEMS) that continuously monitors carbon monoxide (CO) and nitrogen oxides (NOx) emissions. Testing for this project was limited to natural gas operation.

Summary of Test Program

On July 24th, 2019 the Mechanical Division of Laboratory and Testing Services conducted testing at Essex Generating Station Unit No. 9 to determine emissions during natural gas operations on a General Electric PG7001EA gas turbine. All testing was conducted in accordance with protocol (TST 190001) approved on March 20th, 2019.

Testing was CEMS based and consisted of three 60-minute consecutive runs that started at 12:00 hours as previously agreed upon with NJDEP-EMS. All testing was completed within the allotted time with no aborted runs or irregularities.

Table 1 includes the stack testing and referenced permit conditions that were performed. The module is served by an extractive CEMS. The CEMS met all performance specifications under 40 CFR Part 60 Appendix B, and all requirements for CEMS under NJDEP Technical Manual 1005. The CEMS data includes natural gas fuel flow values which allows for calculation of emissions in lb/hr. Lb/MMBtu values for NO_x were calculated by using Equation F-5 in Appendix F to Part 75. Testing was performed in triplicate for this operating scenario. Each run consisted of a 60-minute average of CEMS data. Emissions were determined in units of measure corresponding to the emission limits requiring stack testing under the permit monitoring requirements. Table 2 lists CEMS monitor information. All testing was conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition.

Table 1 Essex 9 Test Program

Pollutant	Unit of Measure	U1 – OS1, Natural Gas Firing		Test Method
		Limit	Ref#	
NO _x	lb/hr	111	5	Certified CEMS
	lb/MMBtu	0.1	7	
	ppm@15%O ₂	25	9	
CO	lb/hr	60	15	
	lb/MMBtu	0.055	11	
	ppm@15%O ₂	25	13	

Table 2 CEMS Monitor Information

Parameter	Analyzer	Analytical Technique	Monitor Span
CO	Thermo Scientific Model 48i	NDIR with GFC	200ppm
O ₂	Siemens Oxymat	Paramagnetism	20% O ₂
NO _x	Thermo Scientific Model 42i-LS	Chemiluminescence	50/300ppm

Description of Test Changes and Anomalies

None.

Summary of Test Results

The following tables show emissions test results and permit limits. All test results were **below** the allowable emission permit limits.

Table 3 Essex 9 Methods 7E & 10 Results^{1,2}

Pollutant	Units	Method	Run 1	Run 2	Run 3	Average	Permit Limit
			7/24/2019	7/24/2019	7/24/2019		
			12:00-12:59	13:00-13:59	14:00-14:59		
NO_x	lb/hr	7E	74.4	73.8	73.3	73.9	111
	lb/MMBtu		0.08	0.07	0.07	0.07	0.1
	ppmvd@15%O ₂		20.2	20.1	20.0	20.1	25
CO	lb/hr	10	11.7	11.9	11.9	11.8	60
	lb/MMBtu		0.0120	0.0120	0.0120	0.0120	0.055
	ppmvd@15%O ₂		5.2	5.3	5.3	5.3	25

Note:

1. Testing was completed on natural gas operations.
2. CEM time is 1 hour earlier than real time.

Quality Assurance/Quality Control

Essex Unit 9 met all performance specifications under 40 CFR Part 60 Appendix B, and all requirements for CEMS under NJDEP Technical Manual 1005. Please see Table 4 for Part 60 RATA and CGA completion dates and Table 5 for fuel meter calibration dates.

Table 4 Essex 9 RATA & CGA Completion Dates

Unit	Part 60 RATA	CGA
Essex 9	7/24/2019	4/9/2019

Table 5 Essex 9 Fuel Meter Calibration Completion Date

Unit	Date
Essex 9	6/19/2019



Larwrence Berko
Mechanical Division Manager
PSEG Laboratory & Testing Services

Attachment 4

Markups of Proposed Permit Changes



State of New Jersey

Department of Environmental Protection

Air Quality, Energy and Sustainability

Division of Air Quality

Bureau of Stationary Sources

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

Trenton, NJ 08625-0420

PHILIP D. MURPHY

Governor

CATHERINE R. McCABE

Commissioner

SHEILA Y. OLIVER

Lt. Governor

Air Pollution Control Operating Permit Administrative Amendment

Permit Activity Number: BOP190002

Program Interest Number: 07627

Mailing Address	Plant Location
CLINT BOGAN POWER PLANT MGR - PEAKING PSEG FOSSIL KEARNY GENERATING STATION 118 N HACKENSACK AVE Kearny, NJ 07032	PSEG FOSSIL LLC ESSEX GENERATING STATION 155 Raymond Blvd Newark Essex County

Initial Operating Permit Approval Date: July 27, 2001

Operating Permit Approval Date: September 11, 2019

Operating Permit Expiration Date: July 26, 2021

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.

New Jersey has elected to integrate its Title I New Source Review (NSR) preconstruction permits with the new Title V operating permits instead of issuing separate permits.

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

PERMIT SHIELD

Equipment at the facility referenced by this modification **is not covered by** the permit shield, pursuant to the provisions of N.J.A.C. 7:27-22.17.

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

COMPLIANCE SCHEDULES

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

COMPLIANCE CERTIFICATIONS AND DEVIATION REPORTS

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

ACCESSING PERMITS

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

HELPLINE

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

RENEWING YOUR OPERATING PERMIT AND APPLICATION SHIELD

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

COMPLIANCE ASSURANCE MONITORING

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

ADMINISTRATIVE HEARING REQUEST

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

If you have any questions regarding this permit approval, please call Aliya M. Khan at (609) 292-2169.

Approved by:

A handwritten signature in black ink, appearing to read "David J. Owen". The signature is fluid and cursive, with the first name "David" and last name "Owen" clearly distinguishable.

David J. Owen

Enclosure

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

Facility Name: PSEG FOSSIL LLC ESSEX GENERATING STATION
Program Interest Number: 07627
Permit Activity Number: BOP190002

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<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• EMISSION POINT INVENTORY• EMISSION UNIT / BATCH PROCESS INVENTORY• SUBJECT ITEM GROUP INVENTORY• <u>ATTACHMENTS</u><ul style="list-style-type: none">CSAPR ATTACHMENT

Section A

Facility Name: PSEG FOSSIL LLC ESSEX GENERATING STATION

Program Interest Number: 07627

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	11.4	112	61.6	9.52	7.2	7.2	7.2	0.0021	0.936	
Batch Process Summary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.07	
Group Summary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Total Emissions	11.4	112	61.6	9.52	7.2	7.2	7.2	0.0021	0.936 1.07	132,700

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	1.5	2.0	0.5	0.0213	0.2	0.33	0.33	N/A	0.54
Non-Source Fugitive Emissions ³	2.4	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 FOSSIL LLC ESSEX GENERATING STATION

Program Interest Number: 07627

Permit Activity Number: BOP190002

POLLUTANT EMISSIONS SUMMARY

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

1,3-Butadiene = 0.00276 tpy
Acetaldehyde = 0.0446 tpy
Benzene = 0.0186 tpy
Beryllium = 0.0000463 tpy
Cadmium = 0.000718 tpy
Ethyl benzene = 0.0357 tpy
Naphthalene = 0.00635 tpy
Nickel = 0.000688 tpy
Propylene Oxide = 0.0323 tpy

HAP	TPY
Acrolein	0.00714
Arsenic compounds	0.0016
Formaldehyde	0.792
Lead Compounds	0.0021
Manganese Compounds	0.118
Polycyclic organic matter	0.008
Polycyclic Aromatic	0.008

Please add the HAPs as shown based on the reporting thresholds in N.J.A.C. 7:27-17.9.

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

Other Air Contaminant	TPY
N/A	

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: PSEG FOSSIL LLC ESSEX GENERATING STATION

Program Interest Number: 07627

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 the affirmative defense afforded by N.J.A.C. 7:27-22.16(l), the violation shall be reported by 5:00 PM of the second full calendar day following the occurrence, or of becoming aware of the occurrence, consistent with N.J.A.C. 7:27-22.16(l). [N.J.A.C. 7:27-22.19(g)1]
3. The permittee shall comply with all conditions of the operating permit including the approved compliance plan. Any non-compliance with a permit condition constitutes a violation of the New Jersey Air Pollution Control Act N.J.S.A. 26:2C-1 et seq., or the CAA, 42 U.S.C. §7401 et seq., or both, and is grounds for enforcement action; for termination, revocation and reissuance, or for modification of the operating permit; or for denial of an application for a renewal of the operating permit. [N.J.A.C. 7:27-22.16(g)1]
4. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of its operating permit. [N.J.A.C. 7:27-22.16(g)2]
5. This operating permit may be modified, terminated, or revoked for cause by the EPA pursuant to 40 CFR 70.7(g) and revoked or reopened and modified for cause by the Department pursuant to N.J.A.C. 7:27-22.25. [N.J.A.C. 7:27-22.16(g)3]

6. The permittee shall furnish to the Department, within a reasonable time, any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this operating permit; or to determine compliance with the operating permit. [N.J.A.C. 7:27-22.16(g)4]
7. The filing of an application for a modification of an operating permit, or of a notice of planned changes or anticipated non-compliance, does not stay any operating permit condition. [N.J.A.C. 7:27-22.16(g)5]
8. The operating permit does not convey any property rights of any sort, or any exclusive privilege. [N.J.A.C. 7:27-22.16(g)6]
9. Upon request, the permittee shall furnish to the Department copies of records required by the operating permit to be kept. [N.J.A.C. 7:27-22.16(g)7]
10. The Department and its authorized representatives shall have the right to enter and inspect any facility 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]
11. 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]
12. 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)]
13.
 - a. For emergencies (as defined at 40 CFR 70.6(g)(1)) that result in non-compliance with any promulgated federal technology-based standard such as NSPS, NESHAPS, or MACT, a federal affirmative defense is available, pursuant to 40 CFR 70. To assert a federal affirmative defense, the permittee must use the procedures set forth in 40 CFR 70. The affirmative defense provisions described below may not be applied to any situation that caused the Facility to exceed any federally delegated regulation, including but not limited to NSPS, NESHAP, or MACT.
 - b. For situations other than those covered above, an affirmative defense is available for a violation of a provision or condition of the operating permit only if:
 - i. The violation occurred as a result of an equipment malfunction, an equipment startup or shutdown, or during the performance of necessary equipment maintenance; and
 - ii. The affirmative defense is asserted and established as required by N.J.S.A. 26:2C-19.1 through 19.5 and any implementing rules. [N.J.A.C. 7:27-22.16(l)]
14. 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 contacting the Emission Measurement Section to determine the need for recertification and/or to initiate the recertification process. 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)]
15. 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]

16. 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)]
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. 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)]
19. 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.
20. 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.
21. 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)].

22. The operating permit renewal application consists of a RADIUS application and the application attachment available at the Department's website <http://www.nj.gov/dep/aqpp/applying.html> (Attachment to the RADIUS Operating Permit Renewal Application). Both the RADIUS application and the Application Attachment, along with any other supporting documents must be submitted using the Department's Portal at: <http://njdeponline.com/>. The application is considered timely if it is received at least 12 months before the expiration date of the operating permit. To be deemed administratively complete, the renewal application shall include all information required by the application form for the renewal and the information required pursuant to N.J.A.C. 7:27-22.30(d). However, consistent with N.J.A.C. 7:27-22.30(c), the permittee is encouraged to submit the renewal application at least 15 months prior to expiration of the operating permit, so that any deficiencies can be identified and addressed to ensure that the application is administratively complete by the renewal deadline. Only renewal applications which are timely and administratively complete are eligible for an application shield.
23. Except as allowed in Technical Manual 1005, or otherwise allowed by the Department in this permit or in written guidelines/ procedures issued or approved by the Department, process monitors required by the Compliance Plan included in this permit must be operated at all times when the associated process equipment is operating. The permittee must keep a service log to document any outage.
24. 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.
25. 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.
26. 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]
27. 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).

Section C

Facility Name: PSEG FOSSIL LLC ESSEX GENERATING STATION

Program Interest Number: 07627

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	---	13b	---
D	FC	---	3
D	FC	---	9

Section D

Facility Name: PSEG FOSSIL LLC ESSEX GENERATING STATION

Program Interest Number: 07627

Permit Activity Number: BOP190002

FACILITY SPECIFIC REQUIREMENTS AND INVENTORIES

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ULSD

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

Permit Being Modified

Permit Class: BOP **Number:** 190001

Description of Modifications: Pursuant to N.J.A.C. 7:27-22.20(b)(1), PSEG Fossil LLC ("PSEG Fossil") is submitting a Title V administrative amendment application to reflect the recent change in Power Plant Manager at the PSEG Fossil Essex Generating Station ("Essex"). Mr. Clint Bogan is the new Power Plant Manager, replacing Mr. Hector Bustamante. The Power Plant Manager meets the definition of Responsible Official" in N.J.A.C. 7:27-1.4.

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.

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

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

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**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]

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**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]

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

Subject Item: IS1 Insignificant Liquid Storage Tanks & Vessels

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	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- 9.2(b)]	Other: Keep certificate of analysis showing fuel sulfur content. Per Delivery.[N.J.A.C. 7:27- 9.2(b)].	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 1B. [N.J.A.C. 7:27- 9.2(b)]	Monitored by review of fuel delivery records upon occurrence of event and date of storage. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event of fuel sulfur content (ppmw or % by weight) and date of storage. [N.J.A.C. 7:27-22.16(o)]	None.

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

Subject Item: IS2 Commercial Fuel Burning Equipment < 1 MMBtu/hr & Non-emergency Electric Generators <37KW

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Smoke emissions from stationary internal combustion engines no greater than 20% opacity, exclusive of visible, condensed water vapor, for more than 10 consecutive seconds. Opacity <= 20 %. [N.J.A.C. 7:27-3.5]	Other: Periodic visual inspections.[N.J.A.C. 7:27- 3.5].	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- 9.2(b)]	Other: Keep certificate of analysis showing fuel sulfur content. Per Delivery.[N.J.A.C. 7:27- 9.2(b)].	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 1B. [N.J.A.C. 7:27- 9.2(b)]	Monitored by review of fuel delivery records upon occurrence of event and date of storage. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event of fuel sulfur content (ppmw or % by weight) and date of storage. [N.J.A.C. 7:27-22.16(o)]	None.

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

Subject Item: IS8 Welding equipment < 12lb/calendar day of welding rod or wire

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	No person shall allow particles to be emitted from any source operation through a stack or chimney into the outdoor air in excess of the maximum allowable emission rate as determined by N.J.A.C. 7:27-6.2(a). [N.J.A.C. 7:27- 6.2(a)]	None.	None.	None.
2	Opacity <= 20 %. No person shall cause, suffer, allow or permit particles to be emitted from any stack or chimney into the outdoor air the shade or appearance of which is greater than 20 percent 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)] and. [N.J.A.C. 7:27- 6.2(e)]	None.	None.	None.

BOP190002

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

Subject Item: GR1 All Natural Gas Operating Scenarios for Unit 9

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. Smoke emissions from stationary turbine engines no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	The combustion turbine shall not be operated in a manner which will cause visible emissions, excluding condensed water vapor, except for equipment startup and shutdown periods, for more than 10 consecutive seconds. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
3	<p>Natural Gas Usage: Maximum fuel use limit from preconstruction permit is 2,230,000 MMBtu/any consecutive 365 days.</p> <p>Fuel consumption per 365 consecutive days 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. Heating value of the natural gas shall be determined using the methods prescribed in 40 CFR 75 Appendix D.</p> <p>Natural gas limits shall be discounted at a rate of 1.7 MMBTU for each 1MMBTU of distillate oil combusted. [N.J.A.C. 7:27-22.16(a)]</p>	Natural Gas Usage: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis). [N.J.A.C. 7:27-22.16(e)]	Natural Gas Usage: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Compliance shall be determined based on a 365 consecutive day period computed with daily sums. [N.J.A.C. 7:27-22.16(e)]	None.

ULSD

Please revise as shown to reflect full implementation of ULSD.

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New Jersey Department of Environmental Protection Facility Specific Requirements

Subject Item: GR2 All ~~Distillate Oil Fired~~ Operating Scenarios for Unit 9

ULSD

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. Visual observations should be conducted by a certified smoke reader once every 100 hours or less of oil firing operation. 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- 3.5]</p>	<p>Other: Periodic Visual Observations. Once every 100 hours or less of oil firing operation. Visual observations shall be conducted by a certified observer once every 100 hours or less of oil firing operation. Installation and operation of a continuous opacity monitor on a given turbine would be required only if distillate oil operation exceeds 500 hours in a calendar year. If a monitor is required, submittal of a monitoring protocol, pursuant to N.J.A.C. 7:27-22.18(a), to the Bureau of Technical Services would be required within 90 days of exceeding the 500 hour threshold. Installation and operation of the monitor would be 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- 3.5].</p>	<p>Other: Manual Logging of Visual Observations (Permanently Bound). Once every 100 hours of oil firing operation.[N.J.A.C. 7:27- 3.5].</p>	None.
2	<p>Fuel Oil Usage: Maximum fuel use limit from preconstruction permit is 2.99 E5 MMBtu/any consecutive 365 days.</p> <p>Fuel consumption per 365 consecutive days 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. Heating Value of the distillate oil shall be determined using the methods prescribed in 40 CFR 75 Appendix D.</p> <p>Natural gas limits shall be discounted at a rate of 1.7 MMBTU for each 1.0 MMBTU of distillate oil combusted. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Fuel Oil Usage: Monitored by fuel flow/firing rate instrument continuously, based on a consecutive 365 day period (rolling 1 day basis). [N.J.A.C. 7:27-22.16(e)]</p>	<p>Fuel Oil Usage: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously , compliance shall be determined based on a 365 consecutive day period computed with daily sums. [N.J.A.C. 7:27-22.16(e)]</p>	None.

ULSD

Please revise as shown to reflect full implementation of ULSD.

ULSD

ULSD

GR2 All ~~Distillate Oil Fired~~ Operating Scenarios for Unit 9

ULSD

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New Jersey Department of Environmental Protection

Facility Specific Requirements

Please delete. This condition is no longer necessary with the full implementation of ULSD.

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	Sulfur Content in Fuel: Only ULSD with a sulfur content of 0.0015% or less may be added to the distillate oil storage tank supplying fuel to Emission Unit U1 (Unit No. 9) turbine. [N.J.A.C. 7:27-22.16(a)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. The permittee shall check the fuel oil sulfur content on the invoices/bills of lading. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by fuel certification receipts per delivery. [N.J.A.C. 7:27-22.16(o)]	None.
4	<p>Fuel limited to natural gas and/or low sulfur distillate oil (LSD) defined as No.2 fuel oil or lighter, or ultra low sulfur distillate (ULSD) oil with a sulfur content of 0.0015% or less sulfur by weight.</p> <p>To address the transition from low sulfur distillate oil (LSD) to ULSD, the facility may fire the LSD remaining in the tank. On and after the date of approval of BOP100001 (March 26, 2013), only ULSD with a sulfur content of 0.0015% by weight or less may be added to the distillate oil storage tank supplying fuel to the Emission Unit U1 (Unit No. 9) turbine.</p> <p>Since the Permittee will continue to combust LSD distillate fuel oil that remains in the fuel storage tank and this remaining fuel may mix with the ULSD fuel, creating a fuel mixture with a sulfur content higher than ULSD fuel, the Permittee may emit SO₂ at the previously approved maximum emission rate of 9.52 tons per year and 73 lb/hr. The SO₂ emission rate would be 0.73 tons per year and 1.825 lb/hr when firing ULSD with a sulfur content of 0.0015% or less. [N.J.A.C. 7:27-22.16(a)]</p>	None.	Recordkeeping by invoices / bills of lading / certificate of analysis per delivery. [N.J.A.C. 7:27-22.16(o)]	None.
5	Operating hours limit is 300 hours per calendar year. [N.J.A.C. 7:27-22.16(e)]	Other: Hour/Time Monitor. Continuously. [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.

ULSD

Please delete. The tons/yr and lb/hr SO₂ emission rates when firing ULSD are addressed in U1 OS Summary Ref. #20 and U1 OS2 Ref. #21, respectively.

ULSD

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

Emission Unit: U1 Simple-cycle stationary gas turbine used for electric power generation (Unit 9 - 1221 MMBtu/hr)

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>STACK TESTING SUMMARY The permittee shall conduct a stack test at least 18 months prior to the expiration date of the renewed Operating Permit using an approved protocol to demonstrate compliance with emission limits for NO_x, and CO as specified in the compliance plan for OS1 when combusting natural gas if the capacity factor (in terms of operating hours) of the unit is more than average 10% during the previous 3 calendar years and more than 20% in any of those calendar years.</p> <p>In addition, the permittee shall conduct a stack test to demonstrate compliance with the emission limits for NO_x, CO, VOC, TSP, and PM10 as specified in the compliance plan for OS2 emission limits for distillate oil firing. Stack tests shall be conducted on oil within 180 calendar days after the turbine (E35) reaches 200 operating hours on distillate oil, or ultra low sulfur distillate (ULSD) oil, or a mixture of distillate oil and ULSD, in a given calendar year for the first time during the 5 year permit term. The turbine shall be tested a maximum of once per permit term. The permittee shall provide EMS with the turbine load performance curve with the protocol. 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 scenarios (See Applicable Requirement).</p> <p>The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NO_x and CO, with EMS approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above.[N.J.A.C. 7:27-22.16(e)] &[N.J.A.C. 7:27-22.16(o)].</p>	<p>Other: Recordkeeping as required under the applicable operating scenarios[N.J.A.C. 7:27-22.16(o)].</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 as follows:</p> <p>Stack emission test protocol must be submitted within 6 months of exceeding 10% capacity factor during the previous 3 calendar years or exceeds 20% in any of those calendar years; or stack emission test protocol must be submitted within 30 calendar days after a turbine reaches 200 operating hours on distillate oil and/or ULSD in a given calendar year.</p> <p>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, as described in the protocol, must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist.</p> <p>Test results shall be reported in lb/hr, lb/MMBTU (HHV) and ppm_{dv} @ 15% oxygen (except TSP and PM10). [N.J.A.C. 7:27-22.18(e)], [N.J.A.C. 7:27-22.18(h)] and. [N.J.A.C. 7:27-22.16(o)]</p>

ULSD

Please revise as shown to reflect full implementation of ULSD.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	Continuously monitor NO _x , CO and O ₂ as specified in the compliance plan for U1 OS Summary, U1OS1, and U1OS2 when combusting fuel, using a Continuous Emission Monitoring (CEM) system that complies with USEPA performance and siting specifications (40 CFR Part 60, Appendix B. Continuous monitors and recorders shall be operated, calibrated, and maintained. Emissions shall be monitored during all operation of the turbine whether combusting natural gas or distillate oil #2 (low sulfur distillate oil LSD) or ultra low sulfur distillate oil (ULSD) with a sulfur content of 0.0015 percent by weight sulfur. [N.J.A.C. 7:27-22.16(a)]	Monitored by continuous emission monitoring system continuously. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	CEMS/COMS - Submit equipment protocol, submit a PST protocol, conduct PST and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]
	Please revise as shown to reflect full implementation of ULSD.			
3	Do not exceed 250 ppmvd CO at 15% Oxygen. CO ≤ 250 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	Other: Continuous Emissions Monitor and Stack Emission Testing (See Applicable Requirement in OS Summary, Ref. 1 & 2). [N.J.A.C. 7:27-16.9(f)].	Other: Data Acquisition System (DAS)/Electronic Data Storage and Stack Test Results (See Applicable Requirement in OS Summary, Ref. 1 & 2). [N.J.A.C. 7:27-16.9(b)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (See Applicable Requirement in OS Summary, Ref. 1 & 2). [N.J.A.C. 7:27-16.9(b)]
4	Do not exceed 50 ppmvd VOC at 15% Oxygen. VOC (Total) ≤ 50 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	Other: Stack Emission Testing. [N.J.A.C. 7:27-16.9(c)].	Other: Stack Test Results. [N.J.A.C. 7:27-16.9(c)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-16.9(c)]
5	NO _x (Total) ≤ 1 lb/MW-hr. NO _x RACT emission limit applies during all periods of natural gas combustion. [N.J.A.C. 7:27-19.5(g)]	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 Reference #2 in U1 OS Summary. [N.J.A.C. 7:27-19.15(a)1]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously See Reference #2 in 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)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	<p>NO_x (Total) <= 1 lb/MW-hr NO_x RACT emission limit applies during operation on high electric demand days, regardless of fuel combusted, unless combusting gaseous fuel is not possible due to gas curtailment. [N.J.A.C. 7:27-19.5(g)(2), Table 7]</p> <p>"High electric demand day" or "HEDD" means the day following a day in which the next day forecast load is estimated to have a peak value of 52,000 megawatts or higher as predicted by the PJM Interconnection 0815 update to its Mid Atlantic Region Hour Ending Integrated Forecast Load, available from PJM Interconnection at http://oasis.pjm.com/doc/projload.txt. [N.J.A.C. 7:27-19.5(g)(2)]</p>	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. [N.J.A.C. 7:27-19.15(a)1]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously See Reference #2 in 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) <= 1.6 lb/MW-hr. [N.J.A.C. 7:27-19.15(g)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. [N.J.A.C. 7:27-19.15(a)1]	NO _x (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	Maximum heat input limit from preconstruction permit. Maximum Gross Heat Input <= 1,221 MMBTU/hr. [N.J.A.C. 7:27-22.16(e)]	Other: Fuel flow/firing rate instrument. Continuously.[N.J.A.C. 7:27-22.16(e)].	Other: Data Acquisition System (DAS)/ Electronic Data Storage. Hourly.[N.J.A.C. 7:27-22.16(e)].	None.
9	Hours of Operation <= 2,285 hr/yr. [N.J.A.C. 7:27-22.16(e)]	Other: Hour/Time Monitor Continuously.[N.J.A.C. 7:27-22.16(e)].	Hours of Operation: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
10	The combustion turbine shall not be operated in a manner which will cause visible emissions, excluding condensed water vapor, except for equipment startup and shutdown periods. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	Combustion Turbine Adjustment: The Permittee shall adjust the combustion process in accordance with the procedure set forth at N.J.A.C. 7:27-19.16, in order to optimize the emission of NO _x , CO and VOC. Adjustment of the combustion process shall be carried out according to manufacturer's recommended procedures and maintenance schedules for each turbine. [N.J.A.C. 7:27-19.5(e)] & [N.J.A.C. 7:27-19.16(g)]	Monitored by continuous emission monitoring system upon performing combustion adjustment Or Periodic Emission Monitoring. [N.J.A.C. 7:27-19.16(h)]	Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event or manual logging of parameter. The owner or operator shall record the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the 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 used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(h)]	None.
12	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)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	An exceedance of an emission limit that occurs during an adjustment of the combustion process under N.J.A.C. 7:27-19.16(g) is not a violation of this subchapter if it occurs as a result of the adjustment. After the combustion adjustment has been completed, the maximum emission rate of any contaminant shall not exceed the maximum allowable emission rate applicable under this subchapter or under an operating permit issued pursuant to N.J.A.C. 7:27-22 or an applicable certificate issued pursuant to N.J.A.C. 7:27-8. [N.J.A.C. 7:27-19.16(f)]	None.	None.	None.
14	The owner or operator shall develop a QA/QC plan for all CEMS/COMS required by this permit prepared in accordance with the NJDEP Technical Manual 1005 posted on the AQPP webpage at http://www.state.nj.us/dep/aqpp . [N.J.A.C. 7:27-22.16(a)]	Other: The QA/QC coordinator shall be responsible for reviewing the QA/QC plan on an annual basis.[N.J.A.C. 7:27-22.16(o)].	Other: Maintain readily accessible records of the QA/QC plan including QA date and quarterly reports.[N.J.A.C. 7:27-22.16(o)].	None.
15	The permittee shall submit an Excess Emissions and Monitoring Systems Performance Report to the appropriate Regional Enforcement Office (REO) for review and approval. This report shall be submitted to the REO whether or not an emission exceedance has occurred. [N.J.A.C. 7:27-22.16(a)]	None.	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 for review and approval. [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
16	VOC (Total) <= 11.4 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by calculations annually. VOC (Total) in tons per year = (amount of natural gas combusted by the turbine during the year MMscf/yr * MMBTU/MMscf value determined in accordance with 40 CFR 75 Appendix D* lb/MMBTU emission rate from the most recent stack test when combusting natural gas * 1 ton/2000 lb) + (amount of distillate oil combusted by the turbine during the year Mgal/yr * MMBTU/Mgal value determined in accordance with 40 CFR 75 Appendix D* lb/MMBTU emission rate from the most recent stack test when combusting distillate oil * 1 ton/2000 lb). [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. [N.J.A.C. 7:27-22.16(o)]	None.
17	CO <= 61.56 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar year. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.
18	NOx (Total) <= 112 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on one calendar year. [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)]	None.
19	NOx (Total) <= 67.2 tons/yr for Essex Unit No. 9 , when Inlet Air Fogging Systems are used during the restricted period. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on one calendar year. [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)]	None.

Please revise as shown to reflect full implementation of ULSD.

ULSD

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

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
20	<p>SO₂ ≤ 9.52 tons/yr. Annual emission rate based on maximum annual fuel use.</p> <p>The SO₂ ≤ 0.73 tpy when firing ULSD with a sulfur content of 0.0015% by weight or less. [N.J.A.C. 7:27-22.16(a)]</p>	<p>SO₂: Monitored by calculations annually. SO₂ in tons per year = (amount of natural gas combusted by the turbine during the year MMscf/yr * MMBTU/MMscf value determined in accordance with 40 CFR 75 Appendix D* lb/MMBTU emission rate from the most recent stack test when combusting natural gas * 1 ton/2000 lb) + (amount of distillate oil (and/or ULSD) combusted by the turbine during the year Mgal/yr * MMBTU/Mgal value determined in accordance with 40 CFR 75 Appendix D* lb/MMBTU emission rate from the most recent stack test when combusting distillate oil (and/or ULSD) * 1 ton/2000 lb). [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. [N.J.A.C. 7:27-22.16(o)]</p>	None.
21	<p>TSP ≤ 7.2 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(e)]</p>	<p>TSP: Monitored by calculations annually. TSP: tons per year = (amount of natural gas combusted by the turbine during the year MMscf/yr * MMBTU/MMscf value determined in accordance with 40 CFR 75 Appendix D * lb/MMBTU emission rate from the most recent stack test when combusting natural gas * 1 ton/2000 lb) + (amount of distillate oil (and/or ULSD) combusted by the turbine during the year Mgal/yr * MMBTU/Mgal value determined in accordance with 40 CFR 75 Appendix D* lb/MMBTU emission rate from the most recent stack test when combusting distillate oil (and/or ULSD) * 1 ton/2000 lb). [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. [N.J.A.C. 7:27-22.16(o)]</p>	None.

Please revise as shown to reflect full implementation of ULSD.

Please revise as shown to reflect full implementation of ULSD.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	PM-10 (Total) <= 7.2 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(e)]	PM-10 (Total): Monitored by calculations annually. PM-10: tons per year = (amount of natural gas combusted by the turbine during the year MMscf/yr * MMBTU/MMscf value determined in accordance with 40 CFR 75 Appendix D* lb/MMBTU emission rate from the most recent stack test when combusting natural gas * 1 ton/2000 lb) + (amount of distillate oil (and/or ULSD) combusted by the turbine during the year Mgal/yr * MMBTU/Mgal value determined in accordance with 40 CFR 75 Appendix D* lb/MMBTU emission rate from the most recent stack test when combusting distillate oil (and/or ULSD) * 1 ton/2000 lb). [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. [N.J.A.C. 7:27-22.16(o)]	None.
			Please revise as shown to reflect full implementation of ULSD.	
23	PM-2.5 (Total) <= 7.2 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by calculations annually. PM-2.5: tons per year = (amount of natural gas combusted by the turbine during the year MMscf/yr * MMBTU/MMscf value determined in accordance with 40 CFR 75 Appendix D* lb/MMBTU emission rate from the most recent stack test when combusting natural gas * 1 ton/2000 lb) + (amount of distillate oil (and/or ULSD) combusted by the turbine during the year Mgal/yr * MMBTU/Mgal value determined in accordance with 40 CFR 75 Appendix D* lb/MMBTU emission rate from the most recent stack test when combusting distillate oil (and/or ULSD) * 1 ton/2000 lb). [N.J.A.C. 7:27-22.16(o)]	PM-2.5 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system annually. [N.J.A.C. 7:27-22.16(o)]	None.
			Please revise as shown to reflect full implementation of ULSD.	
24	Arsenic compounds <= 0.0016 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
25	Acrolein <= 0.00714 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	Formaldehyde <= 0.792 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
27	Lead compounds <= 0.0021 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(a)]	None.	None.	<div style="border: 2px solid red; padding: 5px; background-color: yellow;"> <p>Please add the following newly reportable HAPs:</p> <p>1,3-Butadiene = 0.00276 tons/yr Acetaldehyde = 0.0446 tons/yr Benzene = 0.0186 tons/yr Beryllium = 0.0000463 tons/yr Cadmium = 0.000718 tons/yr Ethylbenzene = 0.0357 tons/yr Naphthalene = 0.0357 tons/yr Nickel = 0.000688 tons/yr Propylene Oxide = 0.0323 tons/yr</p> </div>
28	Manganese compounds <= 0.118 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(a)]	None.	None.	
29	Polycyclic organic matter <= 0.008 tons/yr. Annual emission rate based on maximum annual fuel use. [N.J.A.C. 7:27-22.16(a)]	None.	None.	
30	Polynuclear aromatic hydrocarbons (PAH's) <= 0.008 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	
31	PSEG Essex Unit No. 9 is authorized to be equipped with an Inlet Air Fogging system to introduce atomized demineralized water to cool and humidify the gas turbine inlet air. [N.J.A.C. 7:27-22.16(a)]	None.	None.	
32	The Inlet Air Fogging systems shall be only used on PSEG Essex Unit No. 9 during the the restricted period between May 1 and September 30 of each calendar year, inclusive. [N.J.A.C. 7:27-22.16(e)]	None.	Recordkeeping by manual logging of parameter at the approved frequency. [N.J.A.C. 7:27-22.19(a)]	None.
33	The total natural gas and distillate oil usage for PSEG Essex Unit No. 9 , when the Inlet Air Fogging System is used during each restricted period, shall not exceed 1.344 x 10E12 BTU and 1.000 x 10E11 BTU, respectively. [N.J.A.C. 7:27-22.16(e)]	Monitored by fuel flow/firing rate instrument continuously, based on one calendar year. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by manual logging of parameter or storing data in a computer data system continuously. [N.J.A.C. 7:27-22.19(a)1]	None.
34	The water injection system for the gas turbines shall be operated at all times that the gas turbine is combusting fuel except for start-up, shut-down, fuel transfer, and mechanical safety testing periods. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

ULSD

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
35	Combustion turbine fuel limited to natural gas, low sulfur distillate oil (LSD) defined as No.2 fuel oil or lighter, or ultra low sulfur distillate (ULSD)-oil with a sulfur content of 0.0015% or less sulfur by weight. [N.J.A.C. 7:27-22.16(a)]	None.	Other: Keep Records of Invoices/Bills of Lading Showing Materials Delivered. Per Delivery. [N.J.A.C. 7:27-22.16(e)].	None.
36	All requests, reports, applications, submittals, and other communication required by 40 CFR 60 shall be submitted to the EPA Region II Administrator. [40 CFR 60.4(a)]	None.		Submit a report: As per the approved schedule , submit reports to EPA Region II as required by 40 CFR 60. Send reports to Director, Air and Waste Management Division, US Environmental Protection Agency, Region II, 290 Broadway, New York, NY 10007-1866. [40 CFR 60.4(a)]
37	Submit copy of all requests, reports, applications, submittals, and other communication required by 40 CFR 60 to the Northern Regional Enforcement Office of NJDEP. [40 CFR 60.4(b)]	None.	None.	Submit a report: At no specified schedule , submit reports to the Northern Regional Office as required by 40 CFR 60. Submit to: Northern Regional Office 7 Ridgedale Avenue Cedar Knolls, NJ 07927. [40 CFR 60.4(b)]
38	A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in Section 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4)]	None.	None.	Comply with the requirement: Upon occurrence of event , submit the notification to EPA Region II and the Northern Regional Office per 40 CFR 60.7. [40 CFR 60.7(a)(4)]

Please revise as shown to reflect full implementation of ULSD.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
39	Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]	None.	Other: Manual logging of the parameters specified in 40 CFR 60.7(b) in a permanently bound log book. Upon occurrence of event. (See Applicable Requirement).[40 CFR 60.7(b)].	None.
40	<p>Submit excess emissions and monitoring systems performance report and/or a summary report to the EPA Region II Administrator and the Northern Regional Office.</p> <p>Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see 40 CFR 60.7(d)) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source.</p> <p>All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)]</p>	None.	<p>Other: Written reports of excess emissions shall include the following information:</p> <p>(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.</p> <p>(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.</p> <p>(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.</p> <p>(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.</p> <p>[40 CFR 60.7(c)].</p>	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. The report shall be submitted to the EPA Region II Administrator, to the NJDEP Northern Regional Office, and to the Chief, Emission Measurement Section (EMS) at at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625. [40 CFR 60.7(c)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
41	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.	Other: See Applicable Requirement.[40 CFR 60.7(f)].	None.
42	At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the administrator which may include, but is not limited to, monitoring results, opacity observations, review of operation and maintenance procedures, and inspection of the source. [40 CFR 60.11(d)]	None.	None.	None.
43	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.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
44	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.
45	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 recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O ₂ or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit. [40 CFR 60.13(h)]	None.	Other: See Applicable Requirement.[40 CFR 60.13(h)].	None.
46	NO _x (Total) <= 86 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)]	Other: Continuous Emission Monitor and Stack Emission Testing.[40 CFR 60.332(a)(1)].	Other: Data Acquisition System (DAS)/Electronic Data Storage and Stack Test Results.[40 CFR 60.332(a)(1)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
47	Operate and maintain a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. 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 +/-5.0% and approved by the Administrator. [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. [40 CFR 60.334(a)]	None.
48	Sulfur Content in Fuel <= 0.2 gr/scf for natural gas meeting the definition of natural gas under 40 CFR 60.331 (u). [40 CFR 60.331(u)]	Other: 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, 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)].	Sulfur Content in Fuel: Recordkeeping by manual logging of parameter or storing data in a computer data system at no required frequency. Maintain current, valid purchase contract, tariff sheet or transportation contract, for natural gas 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.
49	Sulfur Content in Fuel <= 0.8 % by weight. No owner or operator subject to the provisions of this subpart shall burn any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)]	Other: 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, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less. For Fuel oil: The owner or operator shall monitor the sulfur content of fuel oil using one of the total sulfur sampling options and associated frequency described in 60.334(i)(1). Test methods and procedures shall be consistent with the requirements of 40 CFR Part 60.335. A minimum of three fuel samples shall be collected during the performance test in accordance with 40 CFR Part 60.335(b)(10).[40 CFR 60.335].	Other: For natural gas: Recordkeeping by manual logging of parameter or storing data in a computer system at no required frequency. Maintain current, valid purchase contract, tariff sheet or transportation contract, for natural gas specifying that the maximum sulfur content of the fuel is 20.0 grains/100 scf or less. The Permittee shall keep a record of each analysis of fuel sulfur content. For fuel oil: Recordkeeping by certified lab analysis results at the approved frequency. The permittee shall keep a record of each analysis of fuel sulfur content[40 CFR 60.334(j)(2)].	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
50	The owner or operator of a turbine that uses steam or water injection shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water or steam to fuel being fired in the turbine. [40 CFR 60.334(a)]	Monitored by parametric monitoring system continuously. During the performance test required under 40 CFR 60.8, the ratio of water or steam to fuel shall be continuously monitored to establish acceptable values and ranges. [40 CFR 60.334(g)]	Recordkeeping by manual logging of parameter or storing data in a computer data system continuously. [40 CFR 60.334(a)]	None.
51	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.
52	The owner or operator shall submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c). 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 as in 40 CFR 60.334 (j)(1) [40 CFR 60.334(j)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [40 CFR 60.334(j)(1)]	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 steam or water to fuel ratio, average fuel consumption, ambient conditions (temperature, pressure, and humidity), gas turbine load. All reports required under 40 CFR 60.334 (j)(5) shall be postmarked by the 30th day following the end of each calendar quarter. [40 CFR 60.334(j)(1)]
53	For turbine combusting distillate fuel oil, the owner or operator shall switch to daily sampling, flow proportional sampling, or sampling from the unit's storage tank, if the sulfur content of a delivery exceeds 0.8 weight percent. When all of the fuel from the delivery has been burned, the owner or operator may resume using the as delivered sampling option. [40 CFR 60.334(j)(2)(ii)]	None.	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event. [40 CFR 60.334(j)(1)]	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
54	The permittee shall comply with the attached requirements of Cross-State Air Pollution Rule (CSAPR) for the CSAPR NOx Annual Trading Program, CSAPR NOx Ozone Season Trading Program, and CSAPR SO2 Trading Program applicable to this affected unit. [40 CFR 97]	Other: As per the CSAPR attachment.[40 CFR 97].	Other: As per the CSAPR attachment.[40 CFR 97].	Other (provide description): Other. As per the CSAPR attachment. [40 CFR 97]

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

Emission Unit: U1 Simple-cycle stationary gas turbine used for electric power generation (Unit 9 - 1221 MMBtu/hr)

Operating Scenario: OS1 Turbine firing natural gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 %. Smoke emissions from stationary turbine engines no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	The combustion turbine shall not be operated in a manner which will cause visible emissions, excluding condensed water vapor, except for equipment startup and shutdown periods. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
3	Water-To-Fuel Ratio: The minimum water-to-fuel ratio from preconstruction permit is 0.5 pound of water per pound of fuel during natural gas firing. [N.J.A.C. 7:27-22.16(e)]	Other: Water-to-fuel ratio monitor continuously.[N.J.A.C. 7:27-22.16(e)].	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
4	NOx (Total) <= 111 lb/hr. [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(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]
5	NOx (Total) <= 111 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(e)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(e)]
6	NOx (Total) <= 0.1 lb/MMBTU. Maximum emission rate while firing natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]

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New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	NOx (Total) <= 0.1 lb/MMBTU. Maximum emission rate while firing natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(e)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(e)]
8	NOx (Total) <= 25 ppmvd @ 15% O ₂ . Maximum emission rate while firing natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]
9	NOx (Total) <= 25 ppmvd @ 15% O ₂ . Maximum emission rate while firing natural gas from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(e)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(e)]
10	CO <= 0.055 lb/MMBTU while firing natural gas. [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(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]
11	CO <= 0.055 lb/MMBTU while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(e)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(e)]
12	CO <= 25 ppmvd @ 15% O ₂ while firing natural gas. [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(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]

U1 Simple-cycle stationary gas turbine used for electric power generation (...)

OS1

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	CO <= 25 ppmvd @ 15% O2 while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]
14	CO <= 60 lb/hr while firing natural gas. [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(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]
15	CO <= 60 lb/hr while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]
16	VOC (Total) <= 7 ppmvd @ 15% O2 while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
17	VOC (Total) <= 0.01 lb/MMBTU while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
18	VOC (Total) <= 11 lb/hr while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
19	TSP <= 5 lb/hr while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
20	TSP <= 0.005 lb/MMBTU while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
21	PM-10 (Total) <= 0.005 lb/MMBTU while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
22	PM-10 (Total) <= 5 lb/hr while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
23	PM-2.5 (Total) <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
24	SO2 <= 0.00057 lb/MMBTU while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

U1 Simple-cycle stationary gas turbine used for electric power generation (...)

OS1

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
25	SO2 <= 0.625 lb/hr while firing natural gas. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

BOP190002

New Jersey Department of Environmental Protection Facility Specific Requirements

Emission Unit: U1 Simple-cycle stationary gas turbine used for electric power generation (Unit 9 - 1221 MMBtu/hr)

Operating Scenario: OS2 Turbine firing ~~distillate oil and/or~~ ultra low sulfur distillate oil

ULSD

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Water-To-Fuel Ratio: The minimum water-to-fuel ratio from preconstruction permit is 0.5 pound water per pound of fuel during light distillate fuel oil firing. [N.J.A.C. 7:27-22.16(e)]	Other: Water-to-fuel ratio monitor continuously. [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
2	NOx (Total) <= 1.6 lb/MW-hr. NOx RACT emission limit applies during all periods of fuel oil (Low sulfur distillate and/or Ultra low sulfur distillate (ULSD)) combustion. [N.J.A.C. 7:27-19.5(g)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day roll [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): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-21.16(o)]
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. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]
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. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Recordkeeping by stack test results at the approved frequency. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]
5	NOx (Total) <= 0.185 lb/MMBTU. [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(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]

Please revise as shown to reflect full implementation of ULSD.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	NOx (Total) <= 0.185 lb/MMBTU. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on each of three Department validated stack test runs. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results at the approved frequency. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [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(e)]
7	NOx (Total) <= 191 lb/hr. [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(e)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]
8	NOx (Total) <= 191 lb/hr while combusting distillate oil #2. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing at the approved frequency, based on each of three Department validated stack test runs. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results at the approved frequency. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]
9	CO <= 0.059 lb/MMBTU. [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(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]
10	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 each of three Department validated stack test runs. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results at the approved frequency. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	CO <= 61 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. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]
12	CO <= 61 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing at the approved frequency, based on each of three Department validated stack test runs. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results at the approved frequency. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [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(e)]
13	VOC (Total) <= 0.01 lb/MMBTU. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Monitored by stack emission testing at the approved frequency, based on each of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results at the approved frequency. [N.J.A.C. 7:27-22.16(e)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(e)]
14	VOC (Total) <= 11 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
15	TSP <= 0.016 lb/MMBTU. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
16	TSP <= 15 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
17	PM-10 (Total) <= 0.016 lb/MMBTU. [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. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results at the approved frequency. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]
18	PM-10 (Total) <= 15 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. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results at the approved frequency. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to Applicable Requirement for U1, OS Summary, Reference # 1. [N.J.A.C. 7:27-22.16(o)]
19	PM-2.5 (Total) <= 15 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
20	SO₂ ≤ 0.07 lb/MMBTU while combusting distillate oil #2. SO ₂ ≤ 0.0016 lb/MMBTU when firing ULSD oil with a sulfur content of 0.0015% or less. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
21	SO₂ ≤ 73 lb/hr while combusting distillate oil #2. SO ₂ ≤ 1.923 lb/hr when firing ULSD oil with a sulfur content of 0.0015% or less. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
22	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 showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
23	Fuel stored in New Jersey that met the applicable maximum sulfur content standard of Tables 1A or 1B of N.J.A.C. 7:27-9.2 at the time it was stored in New Jersey may be used in New Jersey after the operative date of the applicable standard in 1B. [N.J.A.C. 7:27- 9.2(b)]	Monitored by review of fuel delivery records upon occurrence of event and date of storage. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by manual logging of parameter or storing data in a computer data system upon occurrence of event of fuel sulfur content (ppmw or % by weight) and date of storage. [N.J.A.C. 7:27-22.16(o)]	None.

Please revise as shown to reflect full implementation of ULSD.

BOP190002

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

Emission Unit: U1 Simple-cycle stationary gas turbine used for electric power generation (Unit 9 - 1221 MMBtu/hr)

Operating Scenario: OS3 Start-up Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	NO_x (Total) <= 111 lb/hr. The hourly mass emission rate during start-up. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	Start-up Period <= 30 minutes. Startup shall be defined as that period of time from initiation of gas turbine operation until the unit reaches steady state at 80% to 100% load conditions. [N.J.A.C. 7:27-22.16(e)]	Other: Hour/Time Monitor and Load Meter. Per Occurrence.[N.J.A.C. 7:27-22.16(e)].	Other: Manual logging of hour, time and load parameters in a permanently bound log book or storing data in a computer data system. Per Occurrence. Records shall be kept of each start-up period. Records shall show start-up start time and start-up end time, date, total start-up time and name of operator making the entry.[N.J.A.C. 7:27-22.16(e)].	None.

Please delete and replace with the proposed set of emission limits provided below and on the next page.

NO_x (Total) <= 1.0 lb/MW-hr. [N.J.A.C. 7:27-19.5(g)]

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. [N.J.A.C. 7:27-22.16(o)]

NO_x (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): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-21.16(o)]

CO \leq 250 ppmvd @ 15% O₂. [N.J.A.C. 7:27-16.9(c)]

CO: Monitored by continuous emission monitoring system continuously, based on a calendar day average. [N.J.A.C. 7:27-16.23(a)(1)]

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): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]

VOC \leq 50 ppmvd @ 15% O₂. [N.J.A.C. 7:27-16.9(b)]

None.

None.

None.

SO₂ \leq 0.625 lb/hr. [N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

TSP \leq 5 lb/hr. [N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

PM-10 \leq 5 lb/hr. [N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

PM-2.5 \leq 5 lb/hr. [N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

BOP190002

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

Emission Unit: U1 Simple-cycle stationary gas turbine used for electric power generation (Unit 9 - 1221 MMBtu/hr)

Operating Scenario: OS4 Start-up Oil

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	NO_x (Total) <= 191 lb/hr. The hourly mass emission rate during start-up. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	Start-up Period <= 30 minutes. Startup shall be defined as that period of time from initiation of gas turbine operation until the unit reaches steady state at 80% to 100% load conditions. [N.J.A.C. 7:27-22.16(e)]	Other: Hour/Time Monitor. Per Occurrence.[N.J.A.C. 7:27-22.16(e)].	Other: Manual Logging of hour, time and load parameters in a permanently bound log book or storing data in a computer data system. Per Occurrence. Records shall be kept of each start-up period. Records shall show start-up beginning time and start-up end time, date, total start-up time and name of operator making the entry.[N.J.A.C. 7:27-22.16(o)].	None.

Please delete and replace with the proposed set of emission limits provided below and on the next page.

NO_x (Total) <= 1.6 lb/MW-hr. [N.J.A.C. 7:27-19.5(g)]

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. [N.J.A.C. 7:27-22.16(o)]

NO_x (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): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-21.16(o)]

CO \leq 250 ppmvd @
15% O₂. [N.J.A.C.
7:27-16.9(c)]

CO: Monitored by
continuous emission
monitoring system
continuously, based on a
calendar day average.
[N.J.A.C. 7:27-16.23(a)(1)]

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):
Every April 30, July 30, October
30, and January 30 for the
preceding quarter year (the
quarter years begin on January
1, April 1, July 1, and October 1)
electronically through the NJDEP
online EEMPR web portal.
[N.J.A.C. 7:27-22.16(o)]

VOC \leq 50 ppmvd @
15% O₂. [N.J.A.C.
7:27-16.9(b)]

None.

None.

None.

SO₂ \leq 1.923 lb/hr.
[N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

TSP \leq 15 lb/hr. [N.J.A.C.
7:27-22.16(e)]

None.

None.

None.

PM-10 \leq 15 lb/hr.
[N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

PM-2.5 \leq 15 lb/hr.
[N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

BOP190002

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

Emission Unit: U1 Simple-cycle stationary gas turbine used for electric power generation (Unit 9 - 1221 MMBtu/hr)

Operating Scenario: OS5 Shutdown Gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	NO_x (Total) <= 111 lb/hr. The hourly mass emission rate during shut-down. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	Shutdown Period <= 30 minutes. Shutdown is the period of time from the initial lowering of turbine output from pre-existing steady state load to the cessation of turbine operation. This condition shall not preclude the continuous operation of the turbine at load ranges below 80% of the base load provided that stack tests are conducted over this load range and the turbine is in compliance with emission limits. [N.J.A.C. 7:27-22.16(e)]	Other: Hour/Time Monitor. Per Occurrence.[N.J.A.C. 7:27-22.16(e)].	Other: Manual Logging of hour, time and load parameters in a permanently bound log book or storing data in a computer data system. Per Occurrence. Records shall be kept of each shutdown period. Records shall show shutdown start time and shutdown end time, date, total shutdown time and name of operator making the entry.[N.J.A.C. 7:27-22.16(o)].	None.

Please delete and replace with the proposed set of emission limits provided below and on the next page.

NO_x (Total) <= 1.0 lb/MW-hr. [N.J.A.C. 7:27-19.5(g)]

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. [N.J.A.C. 7:27-22.16(o)]

NO_x (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): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-21.16(o)]

CO ≤ 250 ppmvd @
15% O₂. [N.J.A.C.
7:27-16.9(c)]

CO: Monitored by
continuous emission
monitoring system
continuously, based on a
calendar day average.
[N.J.A.C. 7:27-16.23(a)(1)]

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):
Every April 30, July 30, October
30, and January 30 for the
preceding quarter year (the
quarter years begin on January
1, April 1, July 1, and October 1)
electronically through the NJDEP
online EEMPR web portal.
[N.J.A.C. 7:27-22.16(o)]

VOC ≤ 50 ppmvd @
15% O₂. [N.J.A.C.
7:27-16.9(b)]

None.

None.

None.

SO₂ ≤ 0.625 lb/hr.
[N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

TSP ≤ 5 lb/hr. [N.J.A.C.
7:27-22.16(e)]

None.

None.

None.

PM-10 ≤ 5 lb/hr.
[N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

PM-2.5 ≤ 5 lb/hr.
[N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

BOP190002

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

Emission Unit: U1 Simple-cycle stationary gas turbine used for electric power generation (Unit 9 - 1221 MMBtu/hr)

Operating Scenario: OS6 Shutdown Oil

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	NO_x (Total) ≤ 191 lb/hr. The hourly mass emission rate during shut-down. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
2	Shutdown Period ≤ 30 minutes. Shutdown is the period of time from the initial lowering of turbine output from pre-existing steady state load to the cessation of turbine operation. This condition shall not preclude the continuous operation of the turbine at load ranges below 80% of the base load provided that stack tests are conducted over this load range and the turbine is in compliance with emission limits. [N.J.A.C. 7:27-22.16(e)]	Other: Hour/Time Monitor. Per Occurrence.[N.J.A.C. 7:27-22.16(e)].	Other: Manual Logging of hour, time and load parameters in a permanently bound log book or storing data in a computer data system. Per Occurrence. Records shall be kept of each shutdown period. Records shall show shutdown start time and shutdown end time, date, total shutdown time and name of operator making the entry.[N.J.A.C. 7:27-22.16(o)].	None.

Please delete and replace with the proposed set of emission limits provided below and on the next page.

NO_x (Total) ≤ 1.6 lb/MW-hr. [N.J.A.C. 7:27-19.5(g)]

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. [N.J.A.C. 7:27-22.16(o)]

NO_x (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): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-21.16(o)]

CO \leq 250 ppmvd @
15% O₂. [N.J.A.C.
7:27-16.9(c)]

CO: Monitored by
continuous emission
monitoring system
continuously, based on a
calendar day average.
[N.J.A.C. 7:27-16.23(a)(1)]

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):
Every April 30, July 30, October
30, and January 30 for the
preceding quarter year (the
quarter years begin on January
1, April 1, July 1, and October 1)
electronically through the NJDEP
online EEMPR web portal.
[N.J.A.C. 7:27-22.16(o)]

VOC \leq 50 ppmvd @
15% O₂. [N.J.A.C.
7:27-16.9(b)]

None.

None.

None.

SO₂ \leq 1.923 lb/hr.
[N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

TSP \leq 15 lb/hr. [N.J.A.C.
7:27-22.16(e)]

None.

None.

None.

PM-10 \leq 15 lb/hr.
[N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

PM-2.5 \leq 15 lb/hr.
[N.J.A.C. 7:27-22.16(e)]

None.

None.

None.

BOP190002

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

Emission Unit: U1 Simple-cycle stationary gas turbine used for electric power generation (Unit 9 - 1221 MMBtu/hr)

Operating Scenario: OS7 Transfer Period

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 <= 20 %. [N.J.A.C. 7:27-22.16(e)]	Other: Visual Determination in Accordance with N.J.A.C.7:27B-2. Every 100 operating hours. 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(e)].	Other: Manual Logging of Visual Observations (Permanently Bound). Once every 100 hours of oil firing operation.[N.J.A.C. 7:27-22.16(e)].	None.
2	NOx (Total) <= 191 lb/hr. The hourly mass emission rate during transfers. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
3	Fuel Transfer Period <= 30 minutes. Transfer period is the period of time from the initiation of the transfer process in the gas turbine between natural gas and distillate fuel to the completion of the process, not to exceed 30 minutes. [N.J.A.C. 7:27-22.16(e)]	Other: Hour/Time Monitor. Per Occurrence.[N.J.A.C. 7:27-22.16(e)]. <div style="border: 1px solid black; padding: 2px; display: inline-block;">ULSD</div>	Other: Manual logging of hour, time and load parameters in a permanently bound log book or storing data in a computer data system. Per Occurrence. Records shall be kept of each transfer period. Records shall show transfer start time and transfer end time, date, total transfer time and name of operator making the entry.[N.J.A.C. 7:27-22.16(o)].	None.

Please add the proposed set of emission limits below and on the next page.

NO _x (Total) ≤ 1.6 lb/MW-hr. [N.J.A.C. 7:27-19.5(g)]	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. [N.J.A.C. 7:27-22.16(o)]	NO _x (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): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-21.16(o)]
CO ≤ 250 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-16.9(c)]	CO: Monitored by continuous emission monitoring system continuously, based on a calendar day average. [N.J.A.C. 7:27-16.23(a)(1)]	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): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]
VOC ≤ 50 ppmvd @ 15% O ₂ . [N.J.A.C. 7:27-16.9(b)]	None.	None.	None.
SO ₂ ≤ 1.923 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
TSP ≤ 15 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
PM-10 ≤ 15 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
PM-2.5 ≤ 15 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

BOP190002

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

Emission Unit: U1 Simple-cycle stationary gas turbine used for electric power generation (Unit 9 - 1221 MMBtu/hr)

Operating Scenario: OS9 Mechanical Safety Testing

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Mechanical safety testing shall be defined as that period of time following mechanical servicing or repair when mechanical safety tests are conducted. This period shall not exceed twelve hours per year. [N.J.A.C. 7:27-22.16(e)]	Other: Hour/Time Monitor. Per Occurrence.[N.J.A.C. 7:27-22.16(e)].	Other: Manual logging of hour, time and load parameters in a permanently bound log book or storing data in a computer data system. Per occurrence. Records shall be kept of each startup period. Records shall show mechanical safety testing start time, startup, end time, date, total startup time and name of operator making the entry.[N.J.A.C. 7:27-22.16(e)].	None.
2	The continuous emission monitors shall be operated to monitor and record emissions during mechanical safety testing periods. [N.J.A.C. 7:27-22.16(e)]	Other: Continuous Emissions Monitor. Continuously.[N.J.A.C. 7:27-22.16(e)].	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.

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

Emission Unit: U3000 PSE&G Essex Sub EDG 500 kW

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity <= 20 % , exclusive of visible condensed water vapor, except for a period of not longer than 10 consecutive seconds. [N.J.A.C. 7:27- 3.5]	None.	None.	None.
2	Particulate Emissions <= 8.61 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.
3	Sulfur Content in Fuel <= 15 ppmw (0.0015% by weight). Effective July 1, 2016. [N.J.A.C. 7:27- 9.2(b)]	Sulfur Content in Fuel: Monitored by 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 invoices / bills of lading / certificate of analysis per delivery showing fuel sulfur content. [N.J.A.C. 7:27-22.16(o)]	None.
4	Generator fuel limited to # 2 fuel oil or diesel fuel or kerosene. [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
5	<p>FOR OPERATING PERMITS ONLY</p> <p>Each emergency generator shall be located at the facility and produce mechanical or thermal energy, or electrical power exclusively for use at the facility. This emergency generator shall be operated only:</p> <p>1. During the performance of normal testing and maintenance procedures, as recommended in writing by the manufacturer and/or as required in writing by a Federal or State law or regulation,</p> <p>2. When there is power outage or the primary source of mechanical or thermal energy fails because of an emergency, or</p> <p>3. When there is a voltage reduction issued by PJM and posted on the PJM internet website (www.pjm.com) under the "emergency procedures" menu. [N.J.A.C. 7:27-19.1]</p>	<p>Monitored by hour/time monitor continuously.</p> <p>In addition, the owner or operator shall monitor, once per month, the total operating time from the generator's hour meter; hours of operation for emergency use; hours of operation for testing and maintenance; and the total fuel usage calculated by the following:</p> <p>Fuel Usage (Gallons per month) = (Hours of operation per month) x (Maximum emergency generator fuel usage rate in gallons per hour).</p> <p>Hours of operation for emergency use (per month) = (The monthly total operating time from the generator's hour meter) - (The monthly total operating time for testing or maintenance) [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system at the approved frequency. The owner or operator shall maintain on site and record the following information:</p> <p>1. Once per month, the total operating time from the generator's hour meter, the fuel usage (gallons per month) and the hours of operation for emergency use (per month). Document if the emergency use was due to internal or external loss of primary source of energy. If internal loss at the facility, document the emergency that occurred, the damages to the primary source of energy and the amount of time needed for repairs.</p> <p>2. For each time the emergency generator is specifically operated for testing or maintenance:</p> <ol style="list-style-type: none"> The reason for its operation; The date(s) of operation and the start up and shut down time; The total operating time for testing or maintenance based on the generator's hour meter; and The name of the operator; and <p>3. If a voltage reduction is the reason for the use of the emergency generator, a copy of the voltage reduction notification from PJM or other documentation of the voltage reduction.</p> <p>The owner or operator of an emergency generator shall maintain the above records for a period no less than 5 years after the record was made and shall make the records readily available to the Department or the EPA upon request. [N.J.A.C. 7:27-22.16(o)] and [N.J.A.C. 7:27-19.11]</p>	None.

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

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

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	Hours of Operation \leq 100 hr/yr for testing and maintenance. The limit on the allowable hours for testing and maintenance in accordance with the documentation from manufacturer, the vendor, or the insurance company associated with the engine. [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 upon occurrence of event. The owner or operator shall maintain on site and record the following information: For each time the emergency generator is specifically operated for testing or maintenance: i. The reason for its operation; ii. The date(s) of operation and the start up and shut down time; iii. The total operating time for testing or maintenance based on the generator's hour meter; and iv. The name of the operator. [N.J.A.C. 7:27-19.11]	None.
8	Maximum Gross Heat Input \leq 4.86 MMBTU/hr (HHV). From BOP150001. [N.J.A.C. 7:27-22.16(a)]	Other: Engine Rated Capacity. [N.J.A.C. 7:27-22.16(o)].	None.	None.
9	VOC (Total) \leq 0.0089 tons/yr. Annual emission limit based on the permitted hours per year of operation. From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	NOx (Total) \leq 0.391 tons/yr. Annual emission limit based on the permitted hours per year of operation. From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
11	CO \leq 0.025 tons/yr. Annual emission limit based on the permitted hours per year of operation. From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
12	TSP \leq 0.004 tons/yr. Annual emission limit based on the permitted hours per year of operation. From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	PM-10 (Total) <= 0.004 tons/yr. Annual emission limit based on the permitted hours per year of operation. From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
14	PM-2.5 (Total) <= 0.004 tons/yr. Annual emission limit based on the permitted hours per year of operation. From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
15	All requests, reports, applications, submittals, and other communications to the Administrator pursuant to Part 60 shall be submitted in duplicate to the Regional Office of US Environmental Protection Agency. Submit information to: Director, Division of Enforcement & Compliance Assistance, US EPA, Region 2, 290 Broadway, New York, NY 10007-1866 (NSPS Subpart A). [40 CFR 60.4(a)]	None.	None.	Submit a report: As per the approved schedule to EPA Region 2 as required by 40 CFR 60. [40 CFR 60.4(a)]
16	Copies of all information submitted to EPA pursuant to 40 CFR Part 60, must also be submitted to the appropriate Regional Enforcement Office of NJDEP (NSPS Subpart A). [40 CFR 60.4(b)]	None.	None.	Submit a report: As per the approved schedule to the appropriate Regional Enforcement Office of NJDEP as required by 40 CFR 60. [40 CFR 60.4(b)]
17	No owner or operator subject to NSPS standards in Part 60, shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere (NSPS Subpart A). [40 CFR 60.12]	None.	None.	None.

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

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

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

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

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
25	The owner or operator of a 2007 model year and later emergency generator with a displacement of < 10 liters per cylinder and a maximum engine power ≥ 37 kW (HP ≥ 50) and no greater than 3,000HP ($\leq 2,237$ kW) must comply with the certification emissions standards in 40 CFR 89.112 and smoke standards in 40 CFR 89.113 for the same model year and maximum engine power as follows: NMHC + NO _x ≤ 4 g/kW-hr, CO ≤ 3.5 g/kW-hr, PM ≤ 0.2 g/kW-hr, weighted average emissions as defined in 40 CFR 89.404. (NSPS Subpart IIII). [40 CFR 60.4205(b)]	None.	Other: The owner or operator of a 2007 model year or later engine must keep manufacturer certification showing compliance with the applicable emission standards, for the same model year and maximum engine power. [40 CFR 60.4211].	None.
26	The owner or operator of a 2007 model year and later stationary CI internal combustion engine complying with the emission standards specified in 40 CFR 60.4205(b), must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205(b), for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications (NSPS Subpart IIII). [40 CFR 60.4211(c)]	None.	Other: The owner or operator must keep documentation from the manufacturer, for the life of the equipment, that the engine is certified to meet the emission standards as applicable, for the same model year and maximum engine power. If the engine and control device is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or emission-related settings are changed in a way that is not permitted by the manufacturer, the owner or operator must demonstrate compliance as prescribed at 40 CFR 60.4211(g)(1), (2) or (3) depending on the maximum engine power. [40 CFR 60.4211(c)].	None.

BOP190002

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

Emission Unit: U3000 PSE&G Essex Sub EDG 500 kW

Operating Scenario: OS1 EssexSub EDG 4.86 MMBTU/hr (HHV) Emerg. Gen. (500 kW), Diesel fuel, 100 hrs/yr

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Visible emissions from diesel engine no greater than 20% opacity, exclusive of visible condensed water vapor, except for a period of not longer than 10 consecutive seconds. Opacity <= 20 %. [N.J.A.C. 7:27-3.5]	None.	None.	None.
2	NO _x (Total) <= 7.83 lb/hr From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	CO <= 0.5003 lb/hr From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	TSP <= 0.0807 lb/hr. From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	PM-10 (Total) <= 0.0807 lb/hr. From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
6	PM-2.5 (Total) <= 0.0807 lb/hr. From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
7	VOC (Total) <= 0.178 lb/hr. From BOP150001. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): Essex Generating Station

Facility ID (AIMS): 07627

Street ESSEX GENERATING STA
Address: 155 RAYMOND BLVD
NEWARK, NJ 07105

Mailing ESSEX GENERATING STA
Address: 155 RAYMOND BLVD
NEWARK, NJ 07105

County: Essex

Location
Description:

State Plane Coordinates:

X-Coordinate:

Y-Coordinate:

Units:

Datum:

Source Org.:

Source Type:

Industry:

Primary SIC: 4911

Secondary SIC:

NAICS: 221210

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: BOP - Operating Permits

Organization: PSEG Fossil LLC

Org. Type: Corporation

Name: Douglas Gordon

NJ EIN: 00585211015

Title: Air Permitting Program Manager

Phone: (908) 412-3034 x

Mailing Address: PSEG Fossil LLC

Fax: () - x

40 Cragwood Road

Other: () - x

South Plainfield, NJ 07080

Type:

Email: douglas.gordon@pseg.com

Contact Type: Consultant

Organization: Environmental Resources Management

Org. Type:

Name: Jon D. Perry

NJ EIN:

Title: Principal Consultant

Phone: (609) 403-7505 x

Mailing Address: 200 Princeton South Corporate Center

Fax: () - x

Suite 160

Other: () - x

Ewing, NJ 08628

Type:

Email: jon.perry@erm.com

Contact Type: Fees/Billing Contact

Organization: PSEG Fossil LLC

Org. Type: Corporation

Name: Douglas Gordon

NJ EIN: 00585211015

Title: Air Permitting Program Manager

Phone: (908) 412-3034 x

Mailing Address: PSEG Fossil LLC

Fax: () - x

40 Cragwood Road

Other: () - x

South Plainfield, NJ 07080

Type:

Email: douglas.gordon@pseg.com

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: General Contact

Organization: PSEG Fossil LLC

Org. Type: Corporation

Name: Steve G. Leon

NJ EIN: 00585211015

Title: Environmental Compliance Manager

Phone: (201) 314-7683 x

Mailing Address: Kearny Generating Station
118 Hackensack Ave
Kearny, NJ 07032

Fax: () - x

Other: () - x

Type:

Email: steve.leon@pseg.com

Contact Type: On-Site Manager

Organization: PSEG Fossil LLC

Org. Type: Corporation

Name: Clint Bogan

NJ EIN: 00585211015

Title: Power Plant Manager - Peaking

Phone: (973) 274-6873 x

Mailing Address: PSEG Fossil LLC
118 Hackensack Ave
Kearny Town, NJ 07032

Fax: () - x

Other: () - x

Type:

Email: Clint.Bogan@pseg.com

Contact Type: Operator

Organization: PSEG Fossil LLC

Org. Type: Corporation

Name: PSEG Fossil LLC

NJ EIN:

Title:

Phone: () - x

Mailing Address: 80 Park Plaza
Newark, NJ 07102

Fax: () - x

Other: () - x

Type:

Email:

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Owner (Current Primary)

Organization: PSEG Fossil LLC

Org. Type: Corporation

Name: PSEG Fossil LLC

NJ EIN: 00585211015

Title: PSEG Fossil LLC

Phone: (973) 430-7000 x

Mailing Address: 80 Park Plaza
Newark, NJ 07102

Fax: () - x

Other: () - x

Type:

Email:

Contact Type: Responsible Official

Organization: PSEG Fossil LLC

Org. Type: Corporation

Name: Clint Bogan

NJ EIN: 00585211015

Title: Power Plant Manager - Peaking

Phone: (973) 274-6873 x

Mailing Address: PSEG Fossil LLC
118 Hackensack Ave
Kearny Town, NJ 07032

Fax: () - x

Other: () - x

Type:

Email: Clint.Bogan@pseg.com

New Jersey Department of Environmental Protection
Non-Source Fugitive Emissions

FG NJID	Description of Activity Causing Emission	Location Description	Reasonable Estimate of Emissions (tpy)								
			VOC (Total)	NOx	CO	SO	TSP (Total)	PM-10	Pb	HAPS (Total)	Other (Total)
FG1	Fuel Handling Systems										
FG2	Miscellaneous Oil Systems										
FG3	Miscellaneous Solvent Uses										
Total			2.400	0.000	0.000	0.000	0.000	0.000	0.000	0.00000000	0.000

PSEG FOSSIL LLC ESSEX GENERATING STATION (07627)
BOP190002

Date: 9/11/2019

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)
IS1	Insignificant Liquid Storage Tanks & Vessels	Storage Vessel	Large White Distillate Tank - Southeast property corner Small Diesel Tank located at vehicle dispensing station, east edge of property									
IS2	Commercial Fuel Burning Equipment < 1 MMBtu/hr & Non-emergency Electric Generators < 37KW	Fuel Combustion Equipment (Other)	Portable rental heaters, when in use, stored near Unit 9 and/or Ops. Trailers									
IS3	Miscellaneous pipes, flanges, fittings	Other Equipment	Site-wide									
IS8	Welding equipment < 12lb/calendar day of welding rod or wire	Other Equipment	Near Unit 9 equipment and other site-wide general maintenance and/or construction activities.									
Total				1.500	2.000	0.500	0.021	0.200	0.330	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	035-01	Unit No. 9	Combustion Turbine	097430	7/1/1990	No		
E3000	EssexSub EDG	4.86 MMBTU/hr (HHV) Emerg. Gen. (500 kW)	Emergency Generator		10/1/2014		10/1/2014	

07627 PSEG FOSSIL LLC ESSEX GENERATING STATION BOP190002 E3000 (Emergency Generator)
Print Date: 9/4/2019

Make:	Cummins DFEK		
Manufacturer:	Cummins (2014)		
Model:	QSX15-G9 (2014) Model Year		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	4.86		
Will the equipment be used in excess of 500 hours per year?	<input type="radio"/> Yes <input type="radio"/> No		
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input type="radio"/> No	Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	<input type="radio"/> Yes <input type="radio"/> No
Comments:	500 kW 732 HP Displacement per cylinder: 2.48 L		

07627 PSEG FOSSIL LLC ESSEX GENERATING STATION BOP190002 E1 (Combustion Turbine)
Print Date: 9/4/2019

Make:			
Manufacturer:	General Electric		
Model:	Frame 7EA		
Maximum rated Gross Heat Input (MMBtu/hr-HHV):	1,221.00		
Type of Turbine:	Industrial		
Type of Cycle:	Simple-Cycle	Description:	
Industrial Application:	Electrical Generator	Description:	
Power Output:	81.00	Units:	Megawatts
Is the combustion turbine using (check all that apply):			
A Dry Low NOx Combustor:	<input type="checkbox"/>		
Steam Injection:	<input type="checkbox"/>	Steam to Fuel Ratio:	
Water Injection:	<input checked="" type="checkbox"/>	Water to Fuel Ratio:	0.50
Other:	<input type="checkbox"/>	Description:	
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:	<p>A diagram showing the location and/or configuration of this equipment was included in original November 1995 Title V Application submittal. The power output listed above is for Essex Unit 9 (Emission Unit 1, Equipment ID E1). This power output may change based on its performance in the required PJM Capacity verification tests.</p>		

PSEG FOSSIL LLC ESSEX GENERATING STATION (07627)
BOP190002

Date: 9/11/2019

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	Unit No. 9	Unit No. 9	Rectangle	169	65	430	1,000.0	944.0	1,011.0	1,500,000.0	1,350,000.0	1,700,000.0	Up	
PT3000	EssexSub EDG	Emerg. Gen. E3000 Stack	Round	10	25	210	820.0	745.0	900.0	2,730.0	1,400.0	3,625.0	Up	

PSEG FOSSIL LLC ESSEX GENERATING STATION (07627)
BOP190002

Date: 9/11/2019

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

U 1 Unit No. 9 Simple-cycle stationary gas turbine used for electric power generation (Unit 9 - 1221 MMBtu/hr)

Please delete.

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	Unit #9 - NG	Turbine firing natural gas	Normal - Steady State	E1		PT1								
OS2	Unit #9 -Oil	Turbine firing distillate oil and/or ultra low sulfur distillate oil	Normal - Steady State	E1		PT1								
OS3	Unit #9-SUG	Start-up Gas	Startup	E1		PT1								
OS4	Unit #9-SUO	Start-up Oil	Startup	E1		PT1								
OS5	Unit #9-SDG	Shutdown Gas	Shutdown	E1		PT1								
OS6	Unit #9-SDO	Shutdown Oil	Shutdown	E1		PT1								
OS7	Unit #9-Trns	Transfer Period	Maintenance	E1		PT1								
OS9	Unit #9-MST	Mechanical Safety Testing	Maintenance	E1		PT1								

U 3000 EssexSub ED PSE&G Essex Sub EDG 500 kW

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours		VOC Range	Flow (acfm)		Temp. (deg F)	
								Min.	Max.		Min.	Max.	Min.	Max.
OS1	EssexSub ED	EssexSub EDG 4.86 MMBTU/hr (HHV) Emerg. Gen. (500 kW), Diesel fuel, 100 hrs/yr	Normal - Steady State	E3000		PT3000								

Date: 9/11/2019

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

Group NJID: GR1 All Nat Gas

Members:

Type	ID	OS	Step
U	U 1	OS0 Summary	
U	U 1	OS1 Unit #9 - NG	
U	U 1	OS3 Unit #9-SUG	
U	U 1	OS5 Unit #9-SDG	
U	U 1	OS9 Unit #9-MST	

Formal Reason(s) for Group/Cap:

☒ Other

Other (explain): All natural gas operating scenarios for Unit 9

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: GR2 All Dist Oil

Members:

Type	ID	OS	Step
U	U 1	OS0 Summary	
U	U 1	OS2 Unit #9 -Oil	
U	U 1	OS4 Unit #9-SUO	
U	U 1	OS6 Unit #9-SDO	

Formal Reason(s) for Group/Cap:

☒ Other

ULSD

Other (explain): All distillate oil operating scenarios for Unit 9

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

N/A

Operating Circumstances:

N/A

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.

Attachment 5
pdf of RADIUS File

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

Permit Being Modified

Permit Class: BOP **Number:** 190002

Description of Modifications: PSEG Fossil LLC (PSEG Fossil or the Company) is submitting a renewal to the Title V Operating Permit (Title V permit, or the permit) for the Essex Generating Station (Essex, or the facility). The New Jersey Department of Environmental Protection (NJDEP or the Department) approved Essex's initial Title V permit on July 27, 2001. The current Essex Title V permit was approved by the Department on September 11, 2019 (BOP190002), and expires on July 26, 2021.

Please see the application package for further details.

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

Facility Name (AIMS): Essex Generating Station

Facility ID (AIMS): 07627

Street ESSEX GENERATING STA
Address: 115 RAYMOND BLVD
NEWARK, NJ 07105

Mailing ESSEX GENERATING STA
Address: 115 RAYMOND BLVD
NEWARK, NJ 07105

County: Essex

**Location
Description:**

State Plane Coordinates:

X-Coordinate:

Y-Coordinate:

Units:

Datum:

Source Org.:

Source Type:

Industry:

Primary SIC:

Secondary SIC:

NAICS: 221210

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

Contact Type: BOP - Operating Permits**Organization:** PSEG Fossil LLC**Org. Type:** Corporation**Name:** Douglas Gordon**NJ EIN:** 00585211015**Title:** Air Permitting Program Manager**Phone:** (908) 412-3034 x**Mailing Address:** PSEG Fossil LLC
40 Cragwood Road
South Plainfield, NJ 07080**Fax:** () - x**Other:** () - x**Type:****Email:** douglas.gordon@pseg.com

Contact Type: Consultant**Organization:** Environmental Resources Management**Org. Type:****Name:** Jon D. Perry**NJ EIN:****Title:** Principal Consultant**Phone:** (609) 403-7505 x**Mailing Address:** 200 Princeton South Corporate Center
Suite 160
Ewing, NJ 08628**Fax:** () - x**Other:** () - x**Type:****Email:** jon.perry@erm.com

Contact Type: Fees/Billing Contact**Organization:** PSEG Fossil LLC**Org. Type:** Corporation**Name:** Douglas Gordon**NJ EIN:** 00585211015**Title:** Air Permitting Program Manager**Phone:** (908) 412-3034 x**Mailing Address:** PSEG Fossil LLC
40 Cragwood Road
South Plainfield, NJ 07080**Fax:** () - x**Other:** () - x**Type:****Email:** douglas.gordon@pseg.com

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

Contact Type: General Contact**Organization:** PSEG Fossil LLC**Org. Type:** Corporation**Name:** Steve G. Leon**NJ EIN:** 00585211015**Title:** Environmental Compliance Manager**Phone:** (201) 314-7683 x**Mailing Address:** Kearny Generating Station
118 Hackensack Ave
Kearny, NJ 07032**Fax:** () - x**Other:** () - x**Type:****Email:** steve.leon@pseg.com

Contact Type: On-Site Manager**Organization:** PSEG Fossil LLC**Org. Type:** Corporation**Name:** Clint Bogan**NJ EIN:****Title:** Power Plant Manager - Peaking**Phone:** (973) 274-6873 x**Mailing Address:** PSEG Fossil LLC
118 Hackensack Ave
Kearny Town, NJ 07032**Fax:** () - x**Other:** () - x**Type:****Email:** Clint.Bogan@pseg.com

Contact Type: Operator**Organization:** PSEG Fossil LLC**Org. Type:** Corporation**Name:** PSEG Fossil LLC**NJ EIN:****Title:****Phone:** () - x**Mailing Address:** 80 Park Plaza
Newark, NJ 07102**Fax:** () - x**Other:** () - x**Type:****Email:**

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

Contact Type: Owner (Current Primary)**Organization:** PSEG Fossil LLC**Org. Type:** Corporation**Name:** PSEG Fossil LLC**NJ EIN:****Title:****Phone:** () - x**Mailing Address:** 80 Park Plaza
Newark, NJ 07102**Fax:** () - x**Other:** () - x**Type:****Email:**

Contact Type: Responsible Official**Organization:** PSEG Fossil LLC**Org. Type:** Corporation**Name:** Clint Bogan**NJ EIN:****Title:** Power Plant Manager - Peaking**Phone:** (973) 274-6873 x**Mailing Address:** PSEG Fossil LLC
118 Hackensack Ave
Kearny Town, NJ 07032**Fax:** () - x**Other:** () - x**Type:****Email:** Clint.Bogan@pseg.com

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

- | | |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 1. Is this facility classified as a small business by the USEPA? | No |
| 2. Is this facility subject to N.J.A.C. 7:27-22? | Yes |
| 3. Are you voluntarily subjecting this facility to the requirements of Subchapter 22? | No |
| 4. Has a copy of this application been sent to the USEPA? | No |
| 5. If not, has the EPA waived the requirement? | No |
| 6. Are you claiming any portion of this application to be confidential? | No |
| 7. Is the facility an existing major facility? | Yes |
| 8. Have you submitted a netting analysis? | No |
| 9. Are emissions of any pollutant above the SOTA threshold? | Yes |
| 10. Have you submitted a SOTA analysis? | No |
| 11. If you answered "Yes" to Question 9 and "No" to Question 10, explain why a SOTA analysis was not required | Title V Renewal. No new construction, reconstruction, or modification involved. |
| 12. Have you provided, or are you planning to provide air contaminant modeling? | No |