

# STATEMENT OF BASIS for PSEG FOSSIL KEARNY GENERATING STATION

## TITLE V OPERATING PERMIT SIGNIFICANT MODIFICATION

Program Interest (PI): 12200 / Permit Activity Number: BOP150001

### I. FACILITY INFORMATION

PSEG Fossil Kearny Generating Station is located at 118 Hackensack Ave, Town of Kearny, Hudson County, New Jersey, 07032. It is an electric generating plant owned and operated by PSEG Fossil LLC.

The facility is classified as a major facility based on its potential to emit (PTE) of 1,075 tons per year (tons/yr) of Carbon Monoxide (CO), 329 tons/yr of Nitrogen Oxides (NO<sub>x</sub>), 149 tons/yr of Volatile Organic Compounds (VOC), 17.6 tons/yr of Sulfur Dioxide (SO<sub>2</sub>), 86.6 tons/yr of Total Suspended Particulates (TSP), 99.4 tons/yr of Particulate Matter less than 10 microns (PM<sub>10</sub>), 99.4 tons/yr of Particulate Matter less than 2.5 microns (PM<sub>2.5</sub>), and 1,681,034 tons per year of Greenhouse Gases as carbon dioxide equivalent (CO<sub>2</sub>e) to the atmosphere.

The facility is not a major hazardous air pollutant (HAP) facility. A major HAP emitting facility is designated as major when the allowed emissions exceed 10 tons per year of any individual hazardous air pollutant or 25 tons per year of any combination of individual hazardous air pollutants that may be emitted simultaneously.

This permit allows any individual HAP to be emitted at a rate to not exceed: 24 pounds per year of acrolein; 6 pounds per year of arsenic; 3070 pounds per year of formaldehyde; 6 pounds per year of lead; 22 pounds per year of polycyclic aromatic hydrocarbons; 14 pounds per year of polycyclic organic matter and 6.0E-4 pounds per year of dioxin & furans.

### II. AREA ATTAINMENT CLASSIFICATION

The Federal Clean Air Act (CAA) sets National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These commonly found air pollutants (also known as "criteria pollutants") are particulate matter, ground-level ozone, carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), and lead. The US Environmental Protection Agency (USEPA) also classifies areas as "attainment" or "nonattainment" for each criteria pollutant, based on the magnitude of an area's problem. Nonattainment classifications are used to specify what air pollution reduction measures an area must adopt, and when the area must reach attainment. Currently, the entire State of New Jersey is designated as nonattainment for the 8-hour ozone NAAQS and portions of the State are designated as nonattainment for the daily SO<sub>2</sub> NAAQS. This facility is located in a nonattainment area of the State in which the ambient air concentration exceeds 8-hour ozone NAAQS.

### III. BACKGROUND AND HISTORY

The facility's current operating permit was approved on February 23, 2015. Please refer to the attached explanation sheet for the structure and configuration of conditions of approval, included in the Facility Specific Requirements section of this permit. This modification would allow the following changes to the facility's approved operating permit:

1. Exchange any of the six GE LM6000PC turbines at PSEG Kearny Generating Station with other GE LM6000PC turbines, with a maximum heat input rate of no greater than 493 MMBtu/hr, subject to the following conditions:
  - a. The exchange turbine will have identical horsepower, heat rate, and allowable emissions as the original turbine that is exchanged.
  - b. The exchange program shall not exceed a 15-year period from the date of issue of this modification, i.e. BOP150001
2. Include the Cross-State Air Pollution Rule (CSAPR) requirements.

There are no proposed changes to annual air contaminant allowable emission rates.

### IV. CASE-BY-CASE DETERMINATIONS

No case-by-case determinations were required for this modification.

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#### V. EMISSION OFFSET REQUIREMENTS

[This modification is not subject to Emission Offset requirements.](#)

#### VI. BASIS FOR MONITORING AND RECORDKEEPING REQUIREMENTS

The facility's operating permit includes monitoring, recordkeeping and reporting requirements that are sufficient to demonstrate the facility's continued compliance with the applicable requirements consistent with the following:

1. Provisions to implement the testing and monitoring requirements of N.J.A.C. 7:27-22.18, the recordkeeping and reporting requirements of N.J.A.C. 7:27-22.19, and all emissions monitoring and analysis procedures or compliance assurance methods required under the applicable requirements, including any procedures and methods promulgated pursuant to 40 CFR 64; and
2. Where the applicable requirement does not require direct periodic monitoring of emissions, the Department requires periodic monitoring of surrogate parameters sufficient to yield reliable data from the relevant time period that are representative of the facility's compliance with the permit.
3. In situations where the underlying applicable requirement did not specify any periodic testing or monitoring, the following factors were considered in the evaluation and determination of the appropriate methodology for compliance demonstration for each emission unit:
  - Pollutant's potential impact on public health and environment.
  - Emission unit and control device (older, less reliable equipment generally require more monitoring to ensure ongoing compliance).
  - Compliance history and margin of compliance.
  - Emissions variability and process stability (emissions units with highly variable process rates or materials generally require more monitoring to ensure ongoing compliance)
  - Quantity of emissions (emissions units that will have more impact on the environment generally require more monitoring to ensure ongoing compliance).

#### VII. APPLICABLE STATE AND FEDERAL RULES

This modification is subject to New Jersey Air Pollution Control Regulations, codified in N.J.A.C. 7:27-1 through 34, as applicable. A complete text of these regulations is available at:  
<http://www.nj.gov/dep/aqm/rules27.html>

This modification is also subject to the following Federal regulations  
40CFR 97                                  Cross-State Air Pollution Rule (CSAPR)

The Greenhouse Gas (GHG) emissions from this facility are 1,681,034 TPY CO<sub>2</sub>e

#### VIII. FACILITY'S COMPLIANCE STATUS

The Responsible Official at the facility has certified that the facility currently meets all applicable requirements of the Federal Clean Air Act and the New Jersey Air Pollution Control Act. Based on this certification, the Department's evaluation of the information included in the facility's application, and a review of the facility's compliance status, the Department has concluded that this air pollution control operating permit should be approved.

This operating permit includes a permit shield, pursuant to the provisions of N.J.A.C. 7:27-22.17. A permit shield provides that compliance with the relevant conditions of the operating permit shall be deemed compliance with the specific applicable requirements that are in effect on the date of issuance of the draft operating permit, and which form the basis for the conditions in the operating permit.

Prior to the expiration of the Operating Permit's five-year term, the facility will be required to apply for a renewal, at which time the Department will evaluate the facility and issue a public notice with its findings.

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### **IX. EXEMPT ACTIVITIES**

The facility's operating permit does not include exempt activities such as office and interior maintenance activities, maintenance shop activities, food preparation facilities, cafeterias and dining rooms, etc. A complete list of exempt activities, as allowed by the Operating Permit rule, can be found at N.J.A.C. 7:27-22.1.

FACILITY NAME (FACILITY ID NUMBER)

BOPO50001

Activity Number  
(assigned by the  
Department)

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

Emission unit number  
(assigned by the  
facility)

Brief description of emission unit

Emission Unit: U1 25 MM BTU/hour Boiler burning Fuel Oil and Natural Gas  
 Operating Scenario: OS Summary OR OSXX Boiler burning Fuel Oil

OSXX denotes the operating scenario number and lists the rules and requirements that apply to a particular scenario. An operating scenario represents various ways (or scenarios) a piece of equipment can operate.

OS Summary lists all rules and requirements that apply to an emission unit, regardless of operating scenarios. Emission unit may contain one or more pieces of equipment and the corresponding operating scenarios

Records to be kept

Submittal requirement

Item Number

Description of applicable requirement

Air contaminants

Monitoring method to ensure compliance

Actions to be taken by the facility

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Conduct a comprehensive stack test at emission point PTXX at least 18 months prior to the expiration of the approved operating permit to demonstrate compliance with the <u>CO, NOx, TSP and VOC</u> emission limits.[N.J.A.C. 7:27-22.16(e)]	Other: <u>Stack emission testing.</u> Stack test shall be conducted for CO, NOx, TSP, and VOC emissions (add language as needed). Based on any 60-minute period. [N.J.A.C. 7:27-22.16(e)]	Other: <u>Stack test results</u> . [N.J.A.C. 7:27-22.16(e)]	Stack Test - <u>Submit a protocol, conduct stack tests, submit results:</u> As per the approved schedule. <u>Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit.</u> [N.J.A.C. 7:27-22.18(e)] and [N.J.A.C. 7:27-22.18(h)]

Rule citation (subchapter, section, and paragraph) for the applicable requirement

Rule citation for the monitoring requirement

Rule citation for the recordkeeping requirement

Rule citations for the submittal/action requirement