

# STATEMENT OF BASIS for SAYREVILLE GENERATING STATION

## TITLE V OPERATING PERMIT RENEWAL

Program Interest (PI): 17884 / Permit Activity Number: BOP200001

### I. FACILITY INFORMATION

Sayreville Generating Station is located at River Road, Sayreville, Middlesex County, NJ 08872 and is a power generating station with 4 simple cycle combustion turbines combusting natural gas or # 2 fuel oil. The facility is owned and operated by Sayreville Power LLC.

The facility is classified as a major facility based on its potential to emit 33.2 tons per year of volatile organic compounds, 468 tons per year of nitrogen oxides, 144 tons per year of carbon monoxide, and 135 tons per year of Ammonia, to the atmosphere.

This permit allows individual hazardous air pollutants to be emitted to the atmosphere at a rate not to exceed: 57 pounds per year of Acrolein, 200 pounds per year of Benzene, 31.2 pounds per year of 1,3-Butadiene, 356 pounds per year of Acetaldehyde, 2.48 pounds per year of Arsenic, 0.666 pounds per year of Beryllium, 4 pounds per year of Cadmium, 0.133 pounds per year of Chromium VI, 284 pounds per year of Ethylbenzene, 1278 pounds per year of Formaldehyde, 126.4 pounds per year of Manganese, 71.2 pounds per year of Naphthalene, 598 pounds per year of Nickel, 87.8 pounds per year of PAH/POM, and 258 pounds per year of Propylene Oxide.

### 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. New Jersey is designated attainment for all other pollutants. For nonattainment classification refer to <https://www.epa.gov/green-book/green-book-national-area-and-county-level-multi-pollutant-information>.

### III. BACKGROUND AND HISTORY

The equipment that emits air contaminants from this facility include: 4 simple cycle combustion turbines and an emergency fire pump.

Table 1 - Operating Permit Revision History (located at the end of this document) provides a summary of all the changes that have been incorporated into the operating permit through seven-day notice changes, administrative amendments, minor modifications, or significant modifications since the approval of the initial operating permit or the most recent renewal thereof. 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.

A Facility-Wide Risk Assessment was conducted as part of the review of this permit application and health risk was determined to be negligible consistent with NJDEP Technical Manual 1003.

This is a Permit Renewal and includes the following changes:

1. Increase in total HAPS and additions of thirteen (13) HAPs due to the new lowered reporting threshold in N.J.A.C 7:27-17.
2. A reduction of CO<sub>2</sub>e emissions.
3. An addition of Methane and Nitrous Oxide as "Other Air Contaminants"
4. Reclassification of Tanks #5 and #6 to insignificant sources.
5. Addition of the emission rates of Methane, Nitrous Oxide, 1,3-Butadiene, Acetaldehyde, Arsenic, Beryllium, Cadmium, Chromium VI, Ethylbenzene, Formaldehyde, Manganese, Naphthalene, Nickel, PAH/POM, and Propylene Oxide to the compliance plan.

# STATEMENT OF BASIS for SAYREVILLE GENERATING STATION

## TITLE V OPERATING PERMIT RENEWAL

Program Interest (PI): 17884 / Permit Activity Number: BOP200001

### IV. 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. In this case the monitoring of sulfur content in fuel, water injection rate, and opacity monitoring for turbine engines are required.
3. In some cases, direct periodic monitoring of emissions and/or surrogate parameters is not required due to one or more of the following:
  - Equipment size and capacity limitations,
  - Subject equipment being permitted at the maximum rated capacity,
  - There is no specific state or Federal standard that applies to this piece of equipment,
  - Not a pollutant of concern for this piece of equipment,
  - Agreements with EPA on the frequency of testing and monitoring for combustion sources.

### V. APPLICABLE STATE AND FEDERAL RULES

The facility 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>

The facility is also subject to Federal regulations listed below.

40 CFR 60 Subpart A: General Provisions.

40 CFR 60 Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal  
Combustion Engines,

40 CFR 63 Subpart A: General Provisions,

40 CFR 63 Subpart ZZZZ: Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal  
Combustion Engines,

40 CFR 97 Cross-State Air Pollution Rule (CSAPR).

The Greenhouse Gas (GHG) emissions from this facility are 630,575 TPY CO<sub>2</sub>e and there is no GHG emissions increase. This renewal is not subject to PSD rules at 40 CFR 52.21.

### VI. 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.

The facility has submitted a timely and complete application to renew their operating permit and an application shield is in effect.

## STATEMENT OF BASIS for SAYREVILLE GENERATING STATION

---

### TITLE V OPERATING PERMIT RENEWAL

Program Interest (PI): 17884 / Permit Activity Number: BOP200001

This operating permit also 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.

Also, prior to the expiration of the five-year period, the facility will be required to apply for a renewal of this operating permit, at which time the Department will evaluate the facility and issue a public notice with its findings.

### **VII. 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.

Table 1 - Operating Permit Revision History

New Jersey Department of Environmental Protection

Operating Permit Revision History

SAYREVILLE GENERATING STATION      PI 17884

Permit Activity Number	Type of Revision	Description of Revision	Final Action Date
BOP190002	Minor Modification	Title V Minor Modification application to incorporate relevant provisions of the New Jersey CO2 Budget Trading Program (N.J.A.C. 7:27C) for affected units at its Sayreville Generating Station.	1/7/2020
BOP190001	Administrative Amendment	This Administrative Amendment Application is to change the ownership of the facility as required under N.J.A.C. 7:27-22.20(b). The facility, formerly owned by NRG REMA LLC will change owners to Sayreville Power LLC on July 15, 2019. In addition, the application includes changes to the facility contacts.	7/31/2019

FACILITY NAME (FACILITY ID NUMBER)  
BOP050001

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:** U40 Sewage Sludge Incinerators  
**Operating Scenario:** OS Summary

OR

**OS2 Fluidized Bed Incinerator**

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

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

Item  
Number

Description of applicable  
requirement

Monitoring method to  
ensure compliance

Recordkeeping to show  
facility's compliance

Actions and submittals  
required for the facility

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	The permittee shall conduct an annual performance test for each pollutant in Table 2 of 40CFR62 Subpart LLL between 11 and 13 calendar months after the previous performance test or within 60 days of a process change. [40 CFR 62.16000(a)]	Other: Conduct the performance test using the test methods, averaging methods and minimum sampling volumes or durations as specified in 40CFR62 Subpart LLL and according to the testing, monitoring and calibration requirements specified in 40 CFR 62.16015(a). [40 CFR 62.16000(a)].	Other: (1) Maintain records of the results of initial, annual and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable. [40 CFR 62.16025(e)].	Submit a report: Annually to the Administrator and to the Department. The permittee shall submit an annual compliance report as specified in 40 CFR 62. [40 CFR 62.16000(d)]

Rule citation for  
applicable requirement

Rule citation for  
monitoring requirement

Rule citation for  
recordkeeping requirement

Rule citation for submittal/  
action requirement

### Explanation Sheet for Facility Specific Requirements