

STATEMENT OF BASIS for E F KENILWORTH LLC

TITLE V OPERATING PERMIT RENEWAL

Program Interest (PI): 41741 / Permit Activity Number: BOP190001

I. FACILITY INFORMATION

E F Kenilworth, LLC is located at 2000 Galloping Hill Rd, Kenilworth, Union County, NJ and consists of a cogeneration plant. The facility is owned by Atlantic Power Corporation and is operated by EF Kenilworth LLC.

The facility is classified as a major facility based on its potential to emit 171 tons per year of oxides of nitrogen and 26.2 tons per year of volatile organic compounds.

This permit allows individual hazardous air pollutants to be emitted at a rate not to exceed 0.00700 tons per year of acrolein, 0.000675 tons per year of arsenic, 0.773 tons per year of formaldehyde, 0.118 tons per year of manganese, 0.00475 tons per year of polynuclear aromatic hydrocarbons and 0.0157 tons per year of benzene. Total HAPs emissions from insignificant sources and/or non-source fugitives are estimated values and are not speciated.

VOC emissions are being corrected to include formaldehyde emissions previously not accounted for. This emission increase is meant to capture emissions already present and no new actual emissions are being generated. As a result, the Department is not revisiting the applicability of State of The Art (N.J.A.C. 7:27-22.35) and Federal New Source Review (40 CFR 52.21-PSD and N.J.A.C. 7:27-18).

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 (SO₂), nitrogen dioxide (NO₂), 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: 25 MW Dual Fuel (NG and #2 FO) combined cycle stationary gas turbine with inlet air cooling system, equipped with water injection to control NO_x emissions and equipped with CO catalytic oxidizer to control CO emissions.

No changes were made to 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.

Health 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:

Reduced backup distillate fuel oil usage for the U2 Turbine from 1,200 to 500 hours per any consecutive 12-month period, and removed the associated requirement to install a COM if distillate fuel oil operation exceeds 500 hours in a calendar year. In addition, removed the requirement of annual stack emission testing for TSP and PM-10 if distillate fuel oil operation exceeds 500 hours per year.

Added an emergency operating scenario for Turbine U2:OS9 which allows fuel oil operation in accordance with N.J.A.C. 7:27-19.25 "Exemption for emergency use of fuel oil".

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Corrected HAPs and Pb emissions rates for U2:OS1 based on AP-42 emissions factors for fuel oil (emissions rates were previously based on natural gas emissions factors).

Hourly PTE emissions limits were added to the startup, shutdown and transfer operations within U2 (OS3-8); no changes were made to annual tons/year as a result.

Included PM-2.5 PTE emission limits for U2 in accordance with N.J.A.C. 7:27-22.

The changes made during this permitting action result in allowable annual emissions changes as follows:

Annual emissions limits were updated accordingly: NOx emissions were reduced from 187 tons/year to 171 tons/year; TSP and PM-10 emissions were reduced from 18.8 tons/year to 16.8 tons/year; SO2 emissions were reduced from 31.2 tons/year to 0.922 tons/year; VOC emissions were reduced from 27.6 tons/year to 26.1 tons/year. Pb emissions were reduced from 0.00210 tons/year to 0.0009 tons/year; HAPs emissions were reduced from 0.930 tons/year to 0.912 tons/year; Arsenic were reduced from 0.000700 tons/year to 0.000675 tons/year; Manganese emissions were reduced from 0.173 tons/year to 0.00 tons/year; Polycyclic Organic Matter emissions were reduced from 0.008 tons/year to 0.00475 tons/year; Benzene was added at 0.0157 tons/year to incorporate new AP-42 emissions factors for both natural gas and fuel oil.

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.

For combustion turbine U1, the facility monitors the hours of operation as the surrogate for the long-term (TPY) emissions limits for SO2, Pb, TSP and PM-10 while firing fuel oil. Surrogate monitoring for the short-term (lb/hr) emission limits are the combustion process adjustment for NOx and CO and fuel oil sulfur content for SO2.

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:

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NSPS Subpart A
NSPS Subpart GG

General Provisions
Stationary Gas Turbines

The Greenhouse Gas (GHG) emissions from this facility are 115,577 TPY CO₂e 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.

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.

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