

# STATEMENT OF BASIS for KEAN UNIVERSITY

## TITLE V OPERATING PERMIT RENEWAL

Program Interest (PI): 41735 / Permit Activity Number: BOP180004

### I. FACILITY INFORMATION

Kean University is located at 1000 Morris Avenue, Union Township, NJ 07083, Union County and consists of education buildings, office buildings, on-campus housing for university students and maintenance facilities. The facility is owned and operated by Kean University.

The facility is classified as a major facility based on its potential to emit 42 tons per year of nitrogen oxides.

This permit does not contain any hazardous air pollutants.

### 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: a 4,000 Gallon Underground Gasoline Storage Tank, 3 dual fueled boilers fired by natural gas and #2 fuel oil, 11 boilers fired by natural gas, 2 boilers fired by #2 fuel oil and 13 emergency generators, 10 diesel-fired and 3 natural gas-fired.

This permit incorporates 8 new general operating permit (Activity # BOP180001, BOP190001, BOP190002, BOP200001, BOP200002, BOP200003, BOP200004 and BOP200005) that the facility obtained for 2 emergency generators with a heat input rate of 1.4 and 1.6 MMBTU/hr (HHV) respectively and 6 natural gas fired boilers with heat input rate in the range between 1 and 1.6 MMBtu/hr. The generators are permitted to operate up to 100 hours per year on fuel oil for testing and maintenance. The boilers are permitted to operate 8760 hours per year on natural gas. The total increase in facility emissions due to the addition of these new equipment is 3.353 tons of NO<sub>x</sub>, 0.095 tons of VOC, 2.94 tons of CO, 0.007 tons of TSP, 0.007 tons of PM-10, 0.007 tons of PM-2.5, and 0.00042 tons of SO<sub>2</sub> per year.

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.

This is a Permit Renewal and includes the following changes:

This renewal permit removed the cogeneration unit and turbine (equipment # E5 and E6) from the permit. This permit also incorporates twenty-one (21) insignificant sources (boilers and emergency generators with heat input less than 1 Million Btu per hour). Also, the applicable requirement for gasoline transfer with stage II vapor recovery system for the underground storage tank in U16 was removed due to the rule change in N.J.A.C. 7:27-16.3(e), which does not require stage II vapor recovery system any longer. Also, this renewal permit includes 2 emergency generators and 6 boilers from the new eight (8) GOPs obtained by the facility since the most recent renewal.

The changes made during this permitting action result in allowable annual emissions changes as follows: The total decrease in facility emissions is 9.75 tons of NO<sub>x</sub>, 0.715 tons of VOC, 5.95 tons of CO, 1.513 tons of TSP, 1.513 tons of PM-10, 0.929 tons of SO<sub>2</sub> per year.

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### 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.

#### **Equipment/Emission Unit**

##### **Boilers:**

For boilers in U17, U21, U22, U23, and U24, the facility monitors fuel use as the surrogate for the long-term (TPY) emission limits for VOC, NO<sub>x</sub>, CO, SO<sub>2</sub>, TSP, PM-10 and PM-2.5. Surrogate monitoring for the short-term (lb/hr) emission limits are combustion process adjustment for NO<sub>x</sub> and CO (for boilers over 5 MMBtu/hr), the fuel oil sulfur content for SO<sub>2</sub>, and the maximum gross heat input.

##### **Storage Tank:**

For gasoline underground storage tank in U16, the facility monitors the total throughput (MMgal/yr) as surrogates for the long-term (TPY) annual emission limits.

##### **Emergency Generators:**

For emergency generators in U25, U26, U27, U44, U47 and U305, the facility monitors the hours of operation for testing and maintenance as the surrogate for the long-term (TPY) emission limits for VOC, NO<sub>x</sub>, CO, TSP, PM-10 and PM-2.5. Surrogate monitoring of the sulfur content of the fuel oil ensures SO<sub>2</sub> emissions.

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.

Based on the above criteria, there is no direct or surrogate monitoring for the following pieces of equipment:

Boilers E45, E46, E48, E49, E50, E51, E52, E53, E100, E101, E102, E201 and E202 (all are less than 5 Million Btu/hr and are permitted at maximum rated capacity).

### 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>

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The facility is also subject to Federal regulations listed below.

NSPS Subpart A: General Provisions  
NSPS Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam  
Generating Units  
NSPS Subpart IIII: Stationary Compression Ignition Internal Combustion Engines  
MACT Subpart A: General Provisions  
MACT Subpart ZZZZ: Stationary Reciprocating Internal Combustion Engines

The Greenhouse Gas (GHG) emissions from this facility are 74,218 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.

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

KEAN UNIVERSITY PI 41735

Permit Activity Number	Type of Revision	Description of Revision	Final Action Date
BOP200005	General Operating Permit	1.25 Million Btu/hr Natural Gas Fired Boiler, Hynes Building, Emission Unit U301.	6/17/20
BOP200004	General Operating Permit	1.25 Million Btu/hr Natural Gas Fired Boiler, Hynes Building, Emission Unit U301.	6/17/20
BOP200003	General Operating Permit	1.6 Million Btu/hr (HHV) natural gas-fired Emergency Generator (150 kW), 100 hr/yr for testing and maintenance, Emission Unit U305.	6/17/20
BOP200002	General Operating Permit	1.6 Million Btu/hr Natural Gas Fired Boiler, Hynes Building, Emission Unit U301.	6/17/20
BOP200001	General Operating Permit	1.6 Million Btu/hr Natural Gas Fired Boiler, Hynes Building, Emission Unit U301.	Pending
BOP190002	General Operating Permit	1 Million Btu/hr Natural Gas Fired Boiler, Wilkins Building, Emission Unit U101.	9/27/2019
BOP190001	General Operating Permit	1 Million Btu/hr Natural Gas Fired Boiler, Wilkins Building, Emission Unit U101.	9/27/2019
BOP180002	Administrative Amendment	Mr. Philip Connelly has retired, and Mr. Andrew Brennan will be replacing him as a Responsible Official.	6/21/2018
BOP180001	General Operating Permit	1.4 Million Btu/hr (HHV) natural gas-fired Emergency Generator (115 kW), 100 hr/yr for testing and maintenance, Emission Unit U47.	3/12/2018
BOP150002	Minor Modification	This minor modification added two (2) 2.0 Million Btu natural gas-fired boilers for the NAAB building to Emission Unit 100 (U100), Boiler 1 as OS5, E45, P45 & Boiler 2 as OS6, E46, and P46.  In addition, this permit adds general operating permit (Activity # BOP150001) for emergency diesel generator E44 (3.13 MMBTU/hr) as U44. The emission increases for this unit are 0.0159 tons of VOC, 0.148 tons of NOx, and 0.0513 tons of CO per year.	12/2/2015
BOP150001	General Operating Permit	3.13 Million Btu/hr (HHV) Emergency Generator (300 kW) Diesel fuel, 100 hr/yr for testing and maintenance, Emission Unit U44.	10/1/2015

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**