

STATEMENT OF BASIS for JERSEY SHORE UNIVERSITY MEDICAL CENTER

TITLE V OPERATING PERMIT RENEWAL

Program Interest (PI): 21324 / Permit Activity Number: BOP190001

I. FACILITY INFORMATION

Jersey Shore University Medical Center is located at 1945 Corlies Ave, Neptune, Monmouth County, NJ 07753 and consists of a regional medical center and a university hospital. The facility is owned by Hackensack Meridian Health, Inc. and is operated by Jersey Shore University Medical Center.

The facility is classified as a major facility based on its potential to emit 34.1 tons per year of oxides of nitrogen.

This permit allows individual hazardous air pollutants to be emitted at a rate not to exceed: 0.108 tons per year of formaldehyde.

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: one boiler burning natural gas or #2 fuel oil with a maximum heat input of 40.35 MMBtu/hr, two boilers burning natural gas or #2 fuel oil each with a maximum heat input of 40.82 MMBtu/hr, five emergency generators burning diesel fuel, one fire pump burning diesel fuel, two cogeneration units burning natural gas with a maximum heat input of 20.7 MMBtu/hr controlled by 2 selective catalytic reduction units.

This permit also incorporates two general operating permit(s) (Activity # BOP220001 and BOP220002) that the facility obtained for two diesel emergency generators with a heat input rate of 24.4 MMBtu/hr (HHV). These generator are permitted to operate up to 75 hours per year for testing and maintenance. The total increase in facility emissions due to the addition of these new generators is 3.84 tons of NO_x, 0.0840 tons of VOC, 0.456 tons of CO, 0.0300 tons each of TSP, PM-10 and PM-2.5.

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.

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 with Minor Modification and includes the following changes:

PM-2.5 emissions limits were added to generators, engines and boilers in U6, U12, U14, U15, U20, U21, U22 and U23 consistent with N.J.A.C. 7:27-22.

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The distance to property line for the cogeneration engines stacks (PT2004 and PT2005) was updated from 75ft to 169ft.

The bulb crusher (U5, E5, PT5) and controlling filters (CD1, CD2, CD3 and CD4) were removed.

The 25.11 MMBtu/hr dual-fuel boiler (U15, E1503, PT1503) was removed.

Emission limits for the 20.7 MMBtu/hr cogeneration engines (U21) were updated based on stack test TST190001: Formaldehyde was reduced from 0.876 to 0.0560 tons/year (from 0.100 to 0.007 lb/hr for each engine). VOC emissions limits for U21 were adjusted to incorporate formaldehyde and annual VOC emissions were corrected based on the existing fuel usage limit: annual VOC emissions were decreased from 7.74 to 7.10 tons/year and hourly emissions rates were increased from 0.880 to 0.894 lbs/hr.

Periodic monitoring frequency requirement was updated for 20.7 MMBTU/hr cogeneration engines (U21). Periodic flue gas oxygen monitoring frequency requirement was corrected from monthly to quarterly per periodic monitoring procedure (PMP) requirements.

Temperature monitoring and operational conditions for the selective catalytic reduction (CD5, CD7) and oxidation catalysis (CD6, CD8) for U21 were added.

U10 (5.7 MMBtu/hr emergency generator, E1201, PT12) and U13 (9.5 MMBtu/hr emergency generator, E100, PT1) were removed from the permit.

Fuel allowance for U20 (40.82 MMBtu/hr dual-fuel boiler) was reduced. Natural gas allowance was reduced from 360,000 to 200,000 MMscf/yr; fuel oil allowance was reduced from 450,000 to 200,000 gallons/year. Annual emissions were updated as follows: VOC was reduced from 3.89 to 2.05 tons/yr, NOx was reduced from 12.3 to 6.23 tons/yr, CO was reduced from 8.91 to 4.72 tons/yr, TSP/PM10/PM2.5 were reduced from 2.46 to 1.30 tons/yr.

Fuel oil allowance for U14 was reduced from 350,000 to 325,000 gal/yr. No changes were made to annual emissions rates.

SO2 hourly emission limits were updated based on the fuel oil sulfur content regulations of N.J.A.C. 7:27-9: U12 annual limit of 0.11 tons/year was removed; U14 annual limit was reduced from 5.25 to 0.308 tons/year, U14:OS2 hourly limit was reduced from 8.28 lb/hr to 0.062 lb/hr; U20 annual limit was reduced from 6.57 to 0.220 tons/year, U20:OS1 hour limit of 0.08 lb/hr was removed, U20:OS2 hourly limit was reduced from 8.28 to 0.062 lb/hr; U22 annual limit of 0.015 tons/year was removed; U23 annual limit of 0.227 tons/year was removed.

BOP220001 (24.4 MMBtu/hr Diesel emergency generator) and BOP220002 (24.4 MMBtu/hr Diesel emergency generator) were incorporated into the permit under Emission Unit U1 and U2, respectively.

NSPS Subpart A and Subpart JJJJ requirements were updated for U21.

Ammonia emission limit of 2.46 tons/year was removed from U21 since emissions are below permit the reporting threshold of 0.05 lb/hr.

The changes made during this permitting action result in allowable annual emissions changes as follows: VOC emissions were reduced from 16.3 tons/year to 13.6 tons/year; NOx emissions were reduced from 40.5 tons/year to 34.1 tons/year; CO emissions were reduced from 48.5 tons/year to 42.9 tons/year; SO2 emissions were reduced from 12.7 tons/year to 0.534 tons/year; TSP emissions were reduced from 5.03 tons/year to 3.62 tons/year; PM10 emissions were reduced from 7.24 tons/year to 5.83 tons/year; PM2.5 emissions were updated from 1.25 tons/year to 5.83 tons/year; HAPs emissions were reduced from 0.876 tons/year to 0.108 tons/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.

For the emergency generators in U1, U2, U6, U12, U23 and for the emergency fire pump in U22, the facility monitors the hours of operation for testing and maintenance as the surrogate for the long-term (TPY) emission limits for VOC, NO_x, CO, TSP, PM₁₀, and PM_{2.5}.

For the boilers in U14, U19, U20 and the cogeneration unit in U21, the facility monitors the fuel usage as the surrogate for the long-term (TPY) emission limits for VOC, NO_x, CO, TSP, PM₁₀ and PM_{2.5}. Surrogate monitoring for the short-term (lb/hr) emissions limits is the combustion process adjustment performed for the boilers in U14, U19 and U20 for CO and NO_x.

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 Part 60 Subpart A:	NSPS General Provisions
40 CFR Part 63 Subpart A:	MACT General Provisions
40 CFR Part 60 Subpart Dc:	Small Industrial-Commercial-Institutional Steam Generating Units
40 CFR Part 63 Subpart JJJJJJ:	Industrial, Commercial, and Institutional Boilers Area Sources
40 CFR Part 60 Subpart JJJJ:	Stationary Spark Ignition Internal Combustion Engines
40 CFR Part 60 Subpart IIII:	Stationary Compression Ignition Internal Combustion Engines

The Greenhouse Gas (GHG) emissions from this facility are 96,840 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.

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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

Permit Activity Number	Type of Revision	Description of Revision	Final Action Date
BOP220002	General Operating Permit	24.4 MMBTU/hr (HHV) Emerg. Gen. (2500 kW) Diesel fuel, 75 hrs/yr Emission Unit U2	7/26/2022
BOP220001	General Operating Permit	24.4 MMBTU/hr (HHV) Emerg. Gen. (2500 kW) Diesel fuel, 75 hrs/yr Emission Unit U1	7/26/2022
BOP170001	Significant Modification	<p>This significant permit modification includes the following changes.</p> <ol style="list-style-type: none"> 1. Addition of (1) one 40.35 MMBtu/hr Dual-Fuel Boiler (E3001), Emission Unit U19, and emission point PT2000. The E3001 boiler uses natural gas as the primary fuel, and #2 fuel oil is used as an alternative fuel. The natural gas fuel is limited to 215 MMcuft per 12-month consecutive period and fuel oil #2 is capped at 140,000 gallons per 12-month consecutive period to limit the NOx emissions. 2. Reduction of the natural gas fuel limit for U15 OS1 Boiler #5 25.11 MMBtu/hr Dual-Fuel Boiler (E1503) from 73.8 MMcuft per 12-month consecutive period to 35MMcuft per 12-month consecutive period, and reduction of the #2 fuel oil limit for U15 OS2 Boiler #5 from 540,000 gallons for any 12-month consecutive period to 15,000 gallons for any 12-month consecutive period. 	6/17/2019
BOP160001	Administrative Amendment	<p>This Administrative Amendment updates the Responsible Official and Individual with Direct Knowledge.</p> <p>These two facility representatives have been added to the Facility Profile. Email addresses have also been updated for other contacts listed in the Facility Profile.</p>	8/3/2016

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