I. FACILITY INFORMATION
Ocean County Utilities Authority, Water Pollution Control Facility-North Service Area is located at 255 Mantoloking Road, Brick Township, Ocean County, NJ 08723 and consists of publicly owned wastewater treatment plant having a capacity to treat 32 million gallons per day of sewage. The plant is owned and operated by Ocean County Utilities Authority.

The facility is classified as a major facility based on its potential to emit 36.57 tons per year of nitrogen oxides.

This permit allows individual hazardous air pollutant to be emitted at a rate to not exceed: 4360 pounds per year of formaldehyde and 424 pounds per year of acrolein.

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 sludge handling equipment, primary digesters, secondary digester, internal combustion (IC) engines, emergency generators, HVAC heaters and gasoline storage tank. The digester gas generated from the sludge digesters is combusted in three IC Engines which produce electricity. The digester gas, before combustion, is routed through a gas cleaning system for reducing particulate and siloxane. The digester gas can be combusted in two enclosed flares having destruction efficiency of greater than 95% for methane, at times when engines are under maintenance or emergency repair.

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 an Operating Permit Renewal and there are no proposed changes to air contaminant emissions except for the change to VOC emissions and the addition of formaldehyde emissions as outlined in Section I. above.

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, monitoring of fuel consumption is required for all three digesters gas fueled reciprocating engines and for two flares. The pressure drop for all bughouses is also required to monitor performance of control devices.

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/airaeromobile/rules27.html

The facility is also subject to Federal regulations listed below.
MACT Subpart A: General Provisions
MACT SUBPART ZZZZ: Reciprocating Internal Combustion Engines, for Emergency use

The Greenhouse Gas (GHG) emissions from this facility are 37276 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.
Table 1 - Operating Permit Revision History

New Jersey Department of Environmental Protection

Operating Permit Revision History

<table>
<thead>
<tr>
<th>Permit Activity Number</th>
<th>Type of Revision</th>
<th>Description of Revision</th>
<th>Final Action Date</th>
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</thead>
<tbody>
<tr>
<td>BOP200001</td>
<td>Minor Modification</td>
<td>Acrolein and formaldehyde are the only HAP emissions over the reporting thresholds for significant source emissions that exceed the applicable threshold in Table A of the Subchapter 17. The facility is providing the following information for Acrolein: Each engine operating scenarios (U1 OS12 through OS17) will have a maximum emission rate of 141.03 lb/yr (0.016 lb/hr). Since each engine can only operate via one fuel operating scenario or another, the total acrolein emissions for the significant sources with emissions over the applicable reporting threshold are 423.09 lb/yr (for the emission unit and the facility). For Formaldehyde: Each engine operating scenarios (U1 OS12 through OS17) will have a maximum emission rate of 1,448.73 lb/yr (0.165 lb/hr). Since each engine can only operate via one fuel operating scenario or another, the total formaldehyde emissions for the significant sources with emissions over the applicable reporting threshold are 4,346.19 lb/yr (for the emission unit and the facility). For Ammonia: 0.25 TPY for U1 significant sources; 4.5 TPY for U2 significant sources, 0.023 TPY for U3 significant sources, and 0.03 TPY for U4 significant sources.</td>
<td>11/9/2021</td>
</tr>
</tbody>
</table>
Ocean County Utilities Authority (OCUA) submitted Title V minor modification for wastewater treatment plant as follows:

1. U1/CD1 and CD2: removal of orifice plate from open flares #1 & #2 to increase the maximum short-term digester gas flow rate from 200 cfm (restricted flow rate) to 370 cfm for each flare (U1/OS1 thru OS11, Ref. #7). The short-term emissions to flares are updated accordingly.

The total annual facility-wide gaseous fuel limitation for all combustion equipment (U1) of 210.24 MMCF/yr will not change.

The self-imposed NOx and VOC annual emissions cap over all combustion equipment in U1 will not change as a result of the digester gas flow increase to flares. This permit modification includes monitoring and recordkeeping sufficient to demonstrate compliance with the annual emission limits (U1/OS Summary, Ref. #8 thru #14).

2. U1/OS Summary: Revised annual emission limits based on revised emission factors for CO, SO2, TSP/PM-10 and Methane as follows:

Updated CO emission factor of 0.31 lb/MMBtu per USEPA's AP-42 Section 13.5;
Updated SO2 emissions reflected a TRS concentration of 11.79 grains/100 dscf;
Updated particulate matter (PM-10) emission factor of 0.017 lb/MMBtu for flares burning landfill gas (i.e., a biogas consistent with digester gas) per AP-42 Section 2.4; and revised permitted methane (design) destruction efficiency from 70% to 96% (U1/OS Summary/Ref. #14) to reflect typical (open flare) estimates provided by the U.S. Environmental Protection Agency and the Climate Action Reserve- Landfill Project Protocol (Page 66 of 71)-Table C.3.

3. U2/OS12-OS13/Ref #2: Increase a feed rate of digested sludge cake from 1500 lb/hr to 3,000 lb/hr to the belt filter press and screw conveyor, after processing in digesters. The emission rate after the change continues to be below the reporting threshold (BRT).

4. HVAC 7 (U4): Deleted equipment E402, PT402 and operating scenario OS2. No change in PTE.

5. Updated IS1 and IS3 compliance plan.

| BOP170001 | Minor Modification | 12/11/2017 |
### New Jersey Department of Environmental Protection

#### Facility Specific Requirements

**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.

<table>
<thead>
<tr>
<th>Ref.#</th>
<th>Applicable Requirement</th>
<th>Monitoring Requirement</th>
<th>Recordkeeping Requirement</th>
<th>Submittal/Action Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>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)]</td>
<td>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)].</td>
<td>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)].</td>
<td>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)]</td>
</tr>
</tbody>
</table>

**Rule citation for applicable requirement**

**Rule citation for monitoring requirement**

**Rule citation for recordkeeping requirement**

**Rule citation for submittal/action requirement**

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**Explanation Sheet for Facility Specific Requirements**