

STATEMENT OF BASIS for Cape May County MUA Landfill

TITLE V OPERATING PERMIT SIGNIFICANT MODIFICATION

Program Interest (PI): 73258 /Permit Activity Number: BOP220001

I. FACILITY INFORMATION

Cape May County MUA Landfill is located at Rt. 610 and Rt. 550, Woodbine, NJ and consists of a sanitary landfill with a gas recovery system. The facility is owned by Cape May County and is operated by Cape May County Municipal Utilities Authority.

The facility is classified as a major facility based on its potential to emit 36.3 tons per year of nitrogen oxides, 174 tons per year of carbon monoxide, and 4,583 tons per year of methane.

This permit allows individual hazardous air pollutants to be emitted at a rate not to exceed: 840 pounds per year of Acrolein, 10 pounds per year of Benzene, 8,680 pounds per year of Formaldehyde, 500 pounds per year of Hydrogen Chloride, and 69,400 pounds per year of Hydrogen Sulfide,

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 includes: landfill operations, including an enclosed flare and standby candle flare, two leachate storage tanks, two mobile wood grinders powered by diesel engines, six electric generators driven by internal combustion engines powered by landfill gas, and an emergency generator. Methane, VOC, HAPs and odor emissions from landfill operations are controlled by an enclosed flare and/or a candle flare. SO₂ emissions from the generators' engines are reduced by adsorption of hydrogen sulfide from the landfill gas (on iron sponges). Nitrogen oxides emissions from the engines are controlled by Lean Burn combustion technology.

This permit modification also incorporates one general operating permit (Activity # BOP210001) for an emergency diesel generator with a heat input rate of 1.55 MMBTU/hr (HHV). The total increase in facility emissions due to the addition of this new source is 0.00664 tons of NO_x, 0.0031 tons of VOC and 0.0578 tons of CO per year.

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

This Permit Modification includes the following:

- added a new wood tub grinder operation as Emission Unit U12. The tub grinder operation includes a grinder (E411), a 1,000 HP EPA Tier 4 diesel fired engine (E412), and a conveyor (E413),
- added insignificant source auxiliary engine (IS11) as supplemental equipment to the U12 Tub grinder, and
- incorporated 1.55 MMBtu/hr Emergency Generator (E11) from BOP210001 (GOP-003) as Emission Unit U11, with an increase in the hours of operation for testing and maintenance to 100 hours/year.

There are no other changes to facility wide emissions.

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This modification will also change the facility-wide emission limits as listed in the following table:

Allowable Emission Limits	Facility's Potential Emissions (tons per year)*									
	VOC (total)	NO _x	CO	SO ₂	TSP (total)	PM ₁₀ (total)	PM _{2.5} (total)	Pb	HAPs (total)	CO _{2e} (total)
Current Permit	22.4	31.8	170	69.5	22.9	14.7	NA	NA	5.00	88,546
Proposed Permit	22.7	36.3	174	69.5	24.3	15.2	0.39	NA	5.01	89,365
Change (+ / -)	+0.3	+4.5	+4	0	+1.3	+0.5	+0.39	NA	+0.01	+819

VOC Volatile Organic Compounds

NO_x Nitrogen Oxides

CO Carbon Monoxide

SO₂ Sulfur Dioxide

TSP Total Suspended Particulates

PM₁₀ Particulates under 10 microns

PM_{2.5} Particulates under 2.5 microns

Pb Lead

HAPs Hazardous Air Pollutants

CO_{2e} Carbon Dioxide equivalent

* There is no change to hydrogen sulfide or methane emissions.

IV. CASE-BY-CASE DETERMINATIONS

No case-by-case determinations were required for this modification.

V. EMISSION OFFSET REQUIREMENTS

This modification is not subject to Emission Offset requirements. This modification is not subject to PSD rules at 40 CFR 52.21

VI. 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 engine(s) in Emission Units U11 and U12, the facility monitors the hours of operation via a run-time instrument as the surrogate for the long-term (TPY) emission limits for VOC, NO_x, CO, TSP, PM-10, PM-2.5, and HAPs (Total). Surrogate monitoring for the short-term (lb/hr) emission limits are based on the engine manufacturers certification emission rates for TSP, VOC, NO_x 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,

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- Not a pollutant of concern for this piece of equipment,
- Agreements with EPA on the frequency of testing and monitoring for combustion sources.

VII. APPLICABLE STATE AND FEDERAL RULES

This modification 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>

This modification is also subject to the Federal regulations listed below.

NSPS 40 CFR 60 Subpart A	General Provisions
NSPS 40 CFR Part 60 Subpart IIII	Stationary Compression Ignition Internal Combustion Engines
NESHAP 40 CFR 63 Subpart ZZZZ	Stationary Reciprocating Internal Combustion Engines

The Greenhouse Gas (GHG) emissions from this facility are 88,546 TPY CO₂e and there is no GHG emission increase.

VIII. 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.

This operating permit 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.

Prior to the expiration of the Operating Permit's five-year term, the facility will be required to apply for a renewal, at which time the Department will evaluate the facility and issue a public notice with its findings.

This operating permit 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.

IX. 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, 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