

STATEMENT OF BASIS for Polymer Additives

TITLE V OPERATING PERMIT SIGNIFICANT MODIFICATION

Program Interest (PI): 55707 / Permit Activity Number: BOP220001

I. FACILITY INFORMATION

Polymer Additives is located at 170 Route 130, Bridgeport, NJ 08014, Gloucester County and consists of a chemical manufacturer involved primarily in the manufacturing of organic intermediates. The facility is owned and is operated by Valtris Specialty Chemicals.

The facility is classified as a major facility based on its potential to emit of 179.43 tons of volatile organic compounds.

It is also classified as a major hazardous air pollutant (HAP) facility. A HAP emitting facility is designated as major when the allowed emissions exceed 10 tons per year of any individual hazardous air pollutant or 25 tons per year of any combination of individual hazardous air pollutants that may be emitted simultaneously.

This permit allows individual hazardous air pollutants to be emitted at a rate not to exceed 0.40 tons per year of Benzene, 1.29 tons per year of Benzyl chloride, 0.00001 tons per year of Beryllium, 1.31 tons per year of Chlorine, 0.0000634 tons per year of Cobalt, 0.00001211 tons per year of Dimethylbenz(a)anthracene, 41.07 tons per year of Ethyl chloride, 0.0568 tons per year of Formaldehyde, 4.704 tons per year of Hydrogen chloride, 0.63 tons per year of Methylene chloride, 0.000434 tons per year of Nickel, 0.716 tons per year of Phenol, 6.321 tons per year of Phthalic anhydride, 0.15 tons per year of Propylene oxide, 16.96 tons per year of Toluene, and 9.16 tons per year of Triethylamine.

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 manufacturing and material handling equipment for chemical production, a wastewater treatment plant, boilers firing natural gas and #2 fuel oil for emergency usage, a vertical fixed roof tank storing #2 fuel oil, and diesel emergency generators and fire pumps.

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 Modification and includes the following changes:

1. Increasing the capacity of the Vogt Boiler (E602, Emission Unit U7 OS2 and 3) from 44 million British Thermal Unit per hour (MMBTU/hr) to 46.4 MMBTU/hr when firing natural gas and 44.1 MMBTU/hr when firing #2 fuel oil; and
2. Increasing the capacity of the Murray Boiler (E603, Emission Unit U7 OS4 and 5) from 49 MMBTU/hr to 84.6 MMBtu/hr when firing natural gas and 80.3 MMBtu/hr when firing #2 fuel oil.

Both boilers will fire natural gas as the primary fuel and #2 fuel oil for emergency usage only. Both boilers are being retrofit with low NO_x burners and Flue Gas Recirculation to achieve compliance with State of the Art (SOTA) requirements for NO_x (for the Murray Boiler) and CO (for both boilers). Both boilers are subject to the requirements of 40 CFR 60 Subpart Dc: "Standards of Performance for Small Industrial-

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Commercial-Institutional Steam Generating Units” and 40 CFR 63 Subpart DDDDD “Institutional, Commercial, and Industrial Boilers and Process Heaters” (operating under the Gas 1 subcategory).

The changes made during this permit activity result in an increase of allowable annual emissions of VOC by 0.43 tons, PM-2.5 by 2.91 tons, Methane by 0.36 tons, Beryllium by 0.00001 tons, Cobalt by 0.0000462 tons, Dimethylbenz(a)anthracene (7,12-) by 0.00000879 tons, and Nickel by 0.00116 tons.

The changes made during this permit activity result in a decrease of allowable annual emissions of NOx by 38.2 tons, CO by 10.9 tons, SO₂ by 41.3 tons, TSP by 1.53 tons, PM-10 by 1.53 tons, total HAPs by 3.2 tons, Formaldehyde by 0.048 tons, and Polycyclic Organic Matter by 0.0048 tons.

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	179	56.1	45.2	42.1	9.33	7.86	1.57	N/A	86.0	106,615
Proposed Permit	179.43	17.9	34.3	0.8	7.8	6.33	4.48	N/A	82.8	92,707
Change (+ / -)	+0.43	-38.2	-10.9	-41.3	-1.53	-1.53	+2.91	N/A	-3.2	-13,908

VOC Volatile Organic Compounds

NO_x Nitrogen Oxides

CO Carbon Monoxide

SO₂ Sulfur Dioxide

TSP Total Suspended Particulates

* Other Any other air contaminant regulated under the Federal Clean Air Act.

PM₁₀ Particulates under 10 microns

PM_{2.5} Particulates under 2.5 microns

Pb Lead

HAPs Hazardous Air Pollutants

CO_{2e} Carbon Dioxide equivalent

This modification will increase permitted Methane emissions from 0.919 to 1.28 tons per year.

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.

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:

- 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
- 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 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,

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- 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.

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 Federal regulations listed below.

NSPS Subpart A	General Provisions
NSPS Subpart Dc	Small Industrial-Commercial-Institutional Steam Generating Units
MACT Subpart A	General Provisions
MACT Subpart DDDDD	Institutional, Commercial, and Industrial Boilers and Process Heaters

The Greenhouse Gas (GHG) emissions from this facility are 92,707 TPY CO₂e and there is no GHG emissions increase. This modification is not subject to PSD rules at 40 CFR 52.21.

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.

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 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