



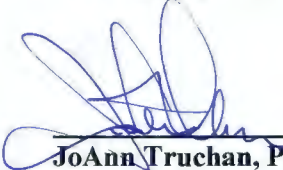
AIR QUALITY PROGRAM
301 39th Street, Bldg. #7
Pittsburgh, PA 15201-1811

Title V Operating Permit
& Federally Enforceable State Operating Permit

Issued To: Ashland LLC **ACHD Permit #:** 0037

Facility: Ashland LLC **Date of Issuance:** October 15, 2018
2650 Neville Road
Pittsburgh, PA 15225

Expiration Date: October 14, 2023
Renewal Date: April 15, 2023

Issued By: 
JoAnn Truchan, P.E.
Section Chief, Engineering

Prepared By: 
Bernadette Lipari
Air Quality Engineer

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AMENDMENTS:

DATE SECTION(S)

I. CONTACT INFORMATION

Facility Location: Ashland LLC
2650 Neville Road
Pittsburgh, PA 15225

Permittee/Owner: Ashland LLC
2650 Neville Road
Pittsburgh, PA 15225

Permittee/Operator: same as owner
(if not Owner)

Responsible Official: Keith Silverman, PhD
Title: Vice-President EH&S and Product Registry
Company: Ashland LLC
Address: 1005 State Route 202/206
Bridgewater, NJ 08807
Telephone Number: (908) 243-3551
Fax Number: n/a

Facility Contact: John Greer
Title: Plant Manager
Telephone Number: (412) 778-6203
Fax Number: (412) 778-6225
E-mail Address: jegreer@ashland.com

AGENCY ADDRESSES:

ACHD Engineer: Bernadette Lipari
Title: Air Quality Engineer
Telephone Number: 412-578-8142
Fax Number: 412-578-8144
E-mail Address: bernadette.lipari@alleghenycounty.us

ACHD Contact: Chief Engineer
Allegheny County Health Department
Air Quality Program
301 39th Street, Building #7
Pittsburgh, PA 15201-1811

EPA Contact: Enforcement Programs Section (3AP12)
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029

II. FACILITY DESCRIPTION

[This section is provided for informational purposes only and is not intended to be an applicable requirement.]

The Ashland LLC Neville Island facility, located at 2650 Neville Road, Neville Township, PA, is a manufacturer of polyester resins. The Polyester Resins Plant consists of two (2) reactors, three (3) cooling tanks, and three (3) thinning tanks. Emissions from the Polyester Resins process are controlled by a 9 MMBtu/hr thermal oxidizer, which also acts as an incinerator for aqueous wastes. The Terminal portion of the facility loads, stores, and off-loads various materials (including plasticizers and 2-ethyl hexanol). No plasticizers are produced on-site. In addition to numerous above-ground storage tanks, the facility also has three 10.206 MMBtu/hr natural gas-fired boilers, one temporary 28.8 MMBtu/hr natural gas-fired boiler, two 20.085 MMBtu/hr natural gas-fired boilers, one 16.5 MMBtu/hr natural gas-fired hot oil heater, and a 3,000 gallon/minute cooling tower.

The facility is a synthetic minor source of hazardous air pollutants (HAPs); and a minor source of particulate matter (PM), particulate matter less than 10 µm in diameter (PM₁₀), particulate matter less than 2.5 µm in diameter (PM_{2.5}), nitrogen oxides (NO_x), and sulfur oxides (SO_x), carbon monoxide (CO), and volatile organic compounds (VOCs) as defined in Article XXI, §2101.20. Synthetic minor status will be maintained with a limit on resin production in the Polyester Resins Plant and throughput limits on all HAPs in the PR Plant and Plasticizer Terminal. Although the facility is not a major source of any criteria pollutants, it is still subject to Title V under 40 CFR Part 62, §62.14830. The facility is also a minor source of greenhouse gas emissions (CO₂e) as defined in the U.S. EPA Greenhouse Gas Tailoring Rule.

The emission units regulated by this permit are summarized in Table II-1:

TABLE II-1: Emission Unit Identification

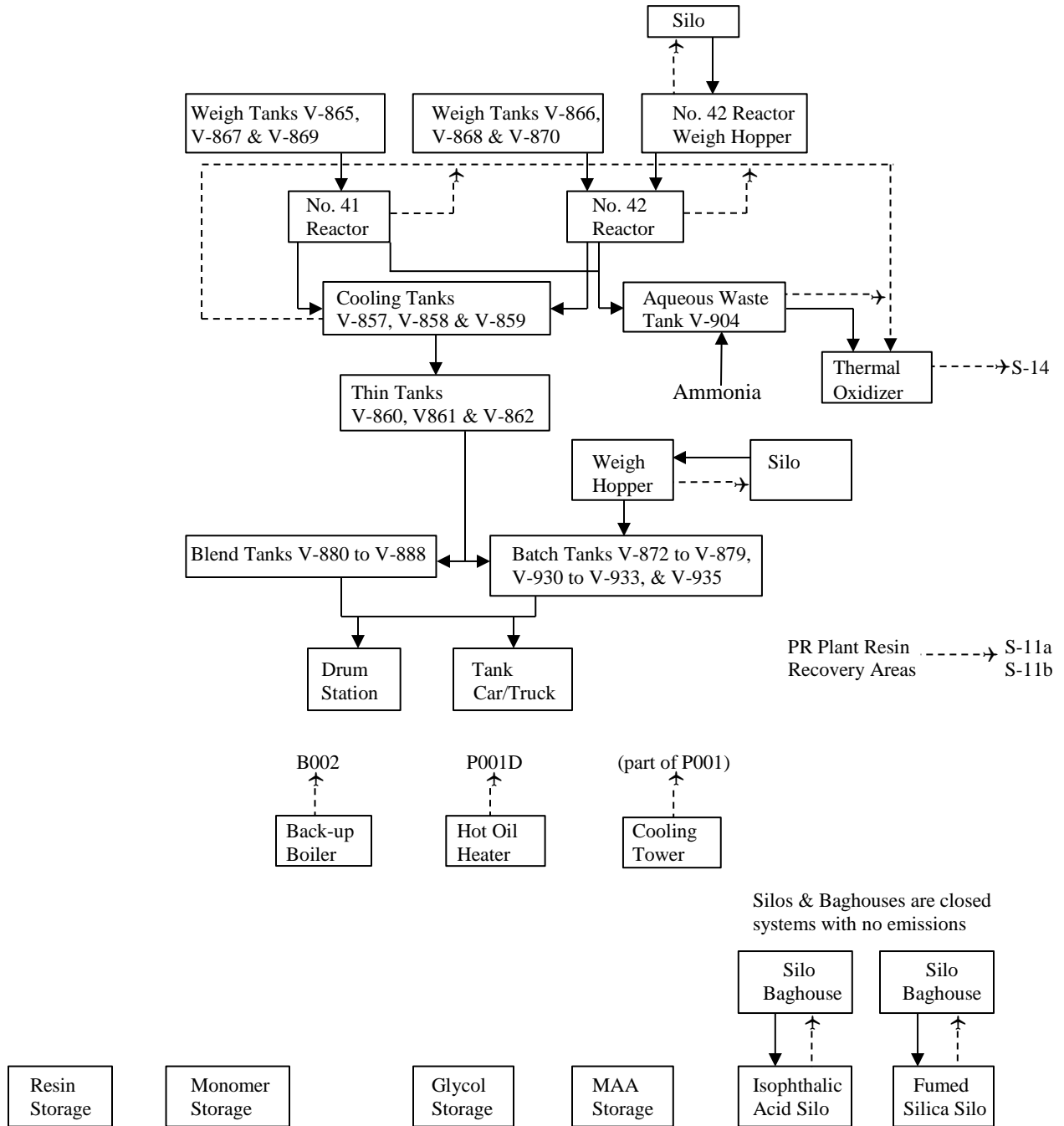
I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
Polyester Resins Plant					
P001	2 – Reactors #41 & #42	thermal oxidizer	6,000 gal. ea.	phthalic anhydride, maleic anhydride, glycols, dicyclopentadiene	S-14
P001a	2 – Reactor Weigh Tanks V-865 & V-866	none	3,400 gal. ea.	phthalic anhydride	--
P001a	2 – Reactor Weigh Tanks V-867 & V-868	none	3,700 gal. ea.	maleic anhydride	--
P001a	2 – Reactor Weigh Tanks V-869 & V-870	none	4,200 gal. ea.	glycols, dicyclopentadiene	--
P001a	#42 Reactor Weigh Hopper	closed system	n/a	isophthalic acid	
P001a	3 – Cooling Tanks V-857, V-858, & V-859	thermal oxidizer	6,500 gal. ea.	polyester resin	S-14
P001a	3 – Thin Tanks V-860, V-861, & V-862	none	12,000 gal. ea.	polyester resin, styrene & vinyl toluene monomers	--
P001a	13 – Batch Tanks V-872 to V-879, V-930 to V-933, & V-935	nitrogen blanketing	12,500 gal. ea.	polyester resin; styrene, vinyl toluene, & methyl methacrylate monomers, misc. additives	--
P001a	9 – Blend Tanks V-880 to V-888	nitrogen blanketing	25,000 gal. ea.	polyester resin, monomers	--

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
P001c	PR Plant Loading Racks	none	200 MMlbs/yr	polyester resin	--
P001d	PR Plant Hot Oil Heater	none	16.5 MMBtu/hr	natural gas	B-003
P001f	PR Plant Cooling Tower	drift eliminators	3,000 gal/min	cooling water	--
P001h	PR Plant Resin Recovery Areas	none	n/a	n/a	S-11a, S11b
P001	Aqueous Waste Tank V-904	thermal oxidizer	15,000 gal.	aqueous waste	S-14
PR Plant Storage Tanks					
P001g	V-2002 ¹	chiller	500,000 gal.	styrene monomer	--
P001g	V-300	none	11,000 gal.	ethylene glycol	--
P001g	V-650 & V-651	nitrogen blanketing	12,000 gal. ea.	polyester resin, styrene	--
P001g	V-846 & V-847	none	30,000 gal. ea.	dicyclopentadiene, vinyl toluene monomer	--
P001g	V-848	none	550,000 gal.	propylene glycol	--
P001g	V-849, V-850, & V-851	none	30,000 gal. ea.	diethylene glycol, neopentyl glycol, dipropylene glycol	--
P001g	V-852	none	10,000 gal.	2-ethyl hexanol	--
P001g	V-916	none	30,000 gal.	Propylene Glycol/digested Polyethylene terephthalate (PET) mixture	--
P002d	F-4506	none	20,000 gal.	maleic anhydride	--
P002d	F-4602	none	150,000 gal.	maleic anhydride	--
D001	V-963	none	500 gal.	gasoline	--
Other Processes					
P002	Plasticizer Distribution (4 Loading Stations)	none	600 MMlbs/yr	plasticizer	--
P003	Phthalic Anhydride Unloading (2 Unloading Stations)	none	36MMlbs/yr	phthalic anhydride	--
P004	2-Ethyl Hexanol Distribution (1 Loading Station)	none	394.2 MMlb/yr	2-ethyl hexanol	--
P005	Maleic Anhydride Pastillator	baghouse and scrubber	15 MMlbs/yr	maleic anhydride	--
B004	Boiler	none	10.206 MMBtu/hr	natural gas	B-004
B005	Boiler	none	10.206 MMBtu/hr	natural gas	B-004
B006	Boiler	none	10.206 MMBtu/hr	natural gas	B-006
B007	Temporary Boiler	none	28.8 MMBtu/hr	natural gas	B-007
B008	New Boiler	none	20.085 MMBtu/hr	natural gas	B-008

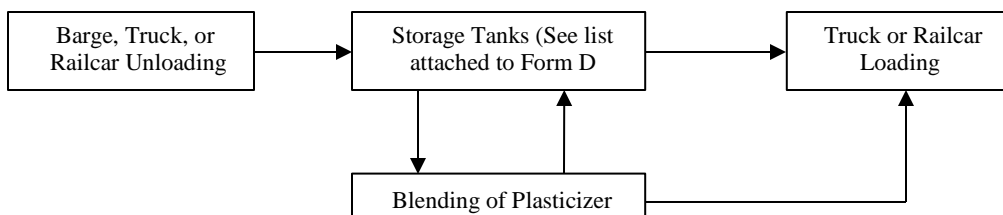
I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
B009	New Boiler	none	20.085 MMBtu/hr	natural gas	B-009
F001	Parking Lots & Roadways	none	n/a	n/a	--
G001	Laboratory Emissions Sources	none	n/a	acetone, styrene, polyester resin, misc. laboratory chemicals	--
G002	Painting Operations	none	7,700 lbs/yr	misc. paints	--
G003	Parts Cleaning	none	6,150 lbs/hr	misc. solvents	--
G004	Turnaround Maintenance	none	2,000 gal/yr	#2 fuel oil	--
G005	Blend Tanks Weigh Hopper	closed system	n/a	fumed silica	
G005	Isophthalic Acid Silo	closed system	n/a	isophthalic acid	
G005	Fumed Silica Silo	closed system	n/a	fumed silica	
Terminal Storage Tanks					
D002	T-11, T-12 & T-22	none	500,000 gal. ea.	plasticizer	--
D002	T-13 & T-14	none	250,000 gal. ea.	plasticizer	--
D002	T-15, T-16, & T-17	none	125,000 gal. ea.	plasticizer	--
D002	T-201	none	102,000 gal.	plasticizer	--
D002	T-203	none	80,000 gal.	plasticizer	--
D002	T-204	none	50,000 gal.	plasticizer	--
D002	T-205	none	12,000 gal	plasticizer	
D002	T-208	none	25,000 gal.	plasticizer	--
D002	T-209 to T-211	none	11,000 gal. ea.	plasticizer	--
D002	T-222	none	10,000 gal	plasticizer	--
D002	T-227, T-231, & T-232	none	100,000 gal. ea.	plasticizer	--
D002	T-228, T-229, & T-230	none	200,000 gal. ea.	plasticizer	--
D002	T-501	none	13,000 gal.	plasticizer	--
D002	T-511 to T-516, T-521 to T-524, T-531, T-532, & T-534	none	40,000 gal. ea.	plasticizer	--
D002	T-517	none	80,000 gal.	plasticizer	--
D002	T-525 & T-533	none	50,000 gal. ea.	plasticizer	--
D002	T-540 to T-542	none	100,000 gal. ea.	plasticizer	--
D002	T-543	none	79,000 gal.	plasticizer	--

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
D002	T-551 & T-552	none	200,000 gal. ea.	plasticizer	--
D008	T-109 to T-112	none	200,000 gal. ea.	2-ethyl hexanol	--
D008	T-113	none	50,000 gal.	2-ethyl hexanol	--
D008	T-119 & T-120	none	100,000 gal. ea.	2-ethyl hexanol	--
D008	T-121 & T-122	none	400,000 gal. ea.	2-ethyl hexanol	--
D009	MF-402C	solidification box	49,000 gal.	phthalic anhydride	--

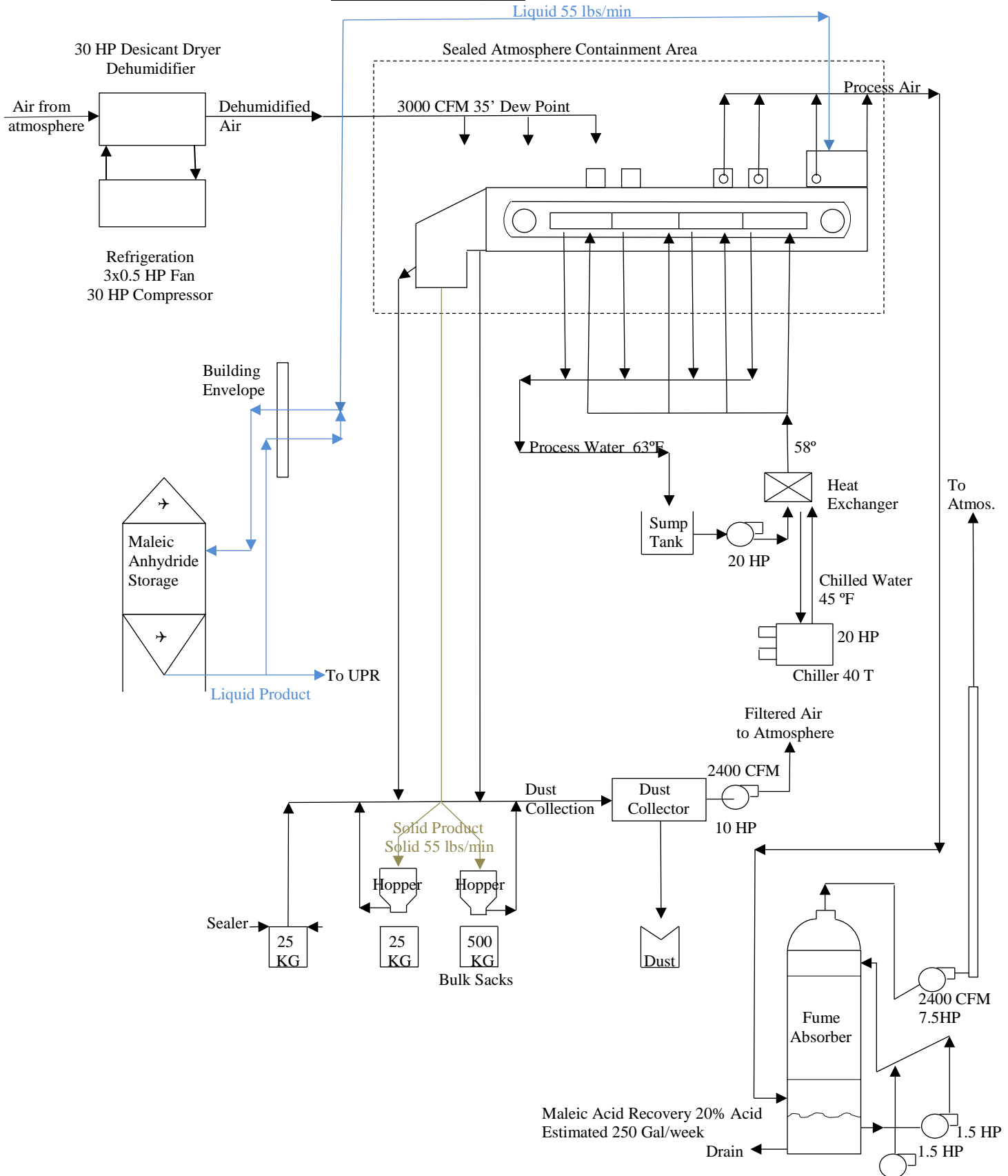
Ashland LLC Neville Island Process Flow Diagram



Terminal Operations



Process Flow Diagram



DECLARATION OF POLICY

Pollution prevention is recognized as the preferred strategy (over pollution control) for reducing risk to air resources. Accordingly, pollution prevention measures should be integrated into air pollution control programs wherever possible, and the adoption by sources of cost-effective compliance strategies, incorporating pollution prevention, is encouraged. The Department will give expedited consideration to any permit modification request based on pollution prevention principles.

The permittee is subject to the terms and conditions set forth below. These terms and conditions constitute provisions of Allegheny County Health Department Rules and Regulations, Article XXI Air Pollution Control. The subject equipment has been conditionally approved for operation. The equipment shall be operated in conformity with the plans, specifications, conditions, and instructions which are part of your application, and may be periodically inspected for compliance by the Department. In the event that the terms and conditions of this permit or the applicable provisions of Article XXI conflict with the application for this permit, these terms and conditions and the applicable provisions of Article XXI shall prevail. Additionally, nothing in this permit relieves the permittee from the obligation to comply with all applicable Federal, State and Local laws and regulations.

III. GENERAL CONDITIONS – Major Source

1. Prohibition of Air Pollution (§2101.11)

It shall be a violation of this permit to fail to comply with, or to cause or assist in the violation of, any requirement of this permit, or any order or permit issued pursuant to authority granted by Article XXI. The permittee shall not willfully, negligently, or through the failure to provide and operate necessary control equipment or to take necessary precautions, operate any source of air contaminants in such manner that emissions from such source:

- a. Exceed the amounts permitted by this permit or by any order or permit issued pursuant to Article XXI;
- b. Cause an exceedance of the ambient air quality standards established by Article XXI §2101.10; or
- c. May reasonably be anticipated to endanger the public health, safety, or welfare.

2. Definitions (§2101.20)

- a. Except as specifically provided in this permit, terms used retain the meaning accorded them under the applicable provisions and requirements of Article XXI or the applicable federal or state regulation. Whenever used in this permit, or in any action taken pursuant to this permit, the words and phrases shall have the meanings stated, unless the context clearly indicates otherwise.
- b. Unless specified otherwise in this permit or in the applicable regulation, the term “year” shall mean any twelve (12) consecutive months.

3. Conditions (§2102.03.c)

It shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02, for any person to fail to comply with any terms or conditions set forth in this permit.

4. Certification (§2102.01)

Any report, or compliance certification submitted under this permit shall contain written certification by a responsible official as to truth, accuracy, and completeness. This certification and any other certification required under this permit shall be signed by a responsible official of the source, and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

5. Transfers (§2102.03.e)

This permit shall not be transferable from one person to another, except in accordance with Article XXI §2102.03.e and in cases of change-in-ownership which are documented to the satisfaction of the Department, and shall be valid only for the specific sources and equipment for which this permit was issued. The transfer of permits in the case of change-in-ownership may be made consistent with the administrative permit amendment procedure of Article XXI §2103.14.b. The required documentation and fee must be received by the Department at least 30 days before the intended transfer date.

6. Term (§2103.12.e, §2103.13.a)

- a. This permit shall remain valid for five (5) years from the date of issuance, or such other shorter period if required by the Clean Air Act, unless revoked. The terms and conditions of an expired permit shall automatically continue pending issuance of a new operating permit provided the permittee has submitted a timely and complete application and paid applicable fees required under Article XXI Part C, and the Department through no fault of the permittee is unable to issue or deny a new permit before the expiration of the previous permit.
- b. Expiration. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with the requirements of Article XXI Part C.

7. Need to Halt or Reduce Activity Not a Defense (§2103.12.f.2)

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

8. Property Rights (§2103.12.f.4)

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to Provide Information (§2103.12.f.5)

- a. The permittee shall furnish to the Department in writing within a reasonable time, any information that the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Department copies of any records required to be kept by the permit.
- b. Upon cause shown by the permittee the records, reports, or information, or a particular portion thereof, claimed by the permittee to be confidential shall be submitted to the Department in accordance with the requirements of Article XXI, §2101.07.d.4. Information submitted to the

Department under a claim of confidentiality, shall be available to the US EPA and the PADEP upon request and without restriction. Upon request of the permittee the confidential information may be submitted to the USEPA and PADEP directly. Emission data or any portions of any draft, proposed, or issued permits shall not be considered confidential.

10. Modification of Section 112(b) Pollutants which are VOCs or PM₁₀ (§2103.12.f.7)

Except where precluded under the Clean Air Act or federal regulations promulgated under the Clean Air Act, if this permit limits the emissions of VOCs or PM₁₀ but does not limit the emissions of any hazardous air pollutants, the mixture of hazardous air pollutants which are VOCs or PM₁₀ can be modified so long as no permit emission limitations are violated. A log of all mixtures and changes shall be kept and reported to the Department with the next report required after each change.

11. Right to Access (§2103.12.h.2)

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized Department and other federal, state, county, and local government representatives to:

- a. Enter upon the permittee's premises where a permitted source is located or an emissions-related activity is conducted, or where records are or should be kept under the conditions of the permit;
- b. Have access to, copy and remove, at reasonable times, any records that must be kept under the conditions of the permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- d. As authorized by either Article XXI or the Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements.

12. Certification of Compliance (§2103.12.h.5,)

- a. The permittee shall submit on an annual basis, certification of compliance with all terms and conditions contained in this permit, including emission limitations, standards, or work practices. The certification of compliance shall be made consistent with General Condition 4 above and shall include the following information at a minimum:
 - 1) The identification of each term or condition of the permit that is the basis of the certification;
 - 2) The compliance status;
 - 3) Whether any noncompliance was continuous or intermittent;
 - 4) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with the provisions of this permit; and
 - 5) Such other facts as the Department may require to determine the compliance status of the source.
- b. All certifications of compliance must be submitted to the Administrator as well as the Department by March 2 of each year for the time period beginning January 1 of the previous year and ending December 31 of the same year. Compliance certifications may be emailed to the Administrator at R3_APD_Permits@epa.gov in lieu of mailing a hard copy.

13. Record Keeping Requirements (§2103.12.j.1)

- a. The permittee shall maintain records of required monitoring information that include the following:
 - 1) The date, place as defined in the permit, and time of sampling or measurements;
 - 2) The date(s) analyses were performed;
 - 3) The company or entity that performed the analyses;
 - 4) The analytical techniques or methods used;
 - 5) The results of such analyses; and
 - 6) The operating parameters existing at the time of sampling or measurement.
- b. The permittee shall maintain and make available to the Department, upon request, records including computerized records that may be necessary to comply with the reporting and emission statements in Article XXI §2108.01.e. Such records may include records of production, fuel usage, maintenance of production or pollution control equipment or other information determined by the Department to be necessary for identification and quantification of potential and actual air contaminant emissions.

14. Retention of Records (§2103.12.j.2)

The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

15. Reporting Requirements (§2103.12.k)

- a. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by the Responsible Official.
- b. Prompt reporting of deviations from permit requirements is required, including those attributable to upset conditions as defined in this permit and Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.
- c. All reports submitted to the Department shall comply with the certification requirements of General Condition III.4 above.
- d. Semiannual reports required by this permit shall be submitted to the Department as follows:
 - 1) One semiannual report is due by February 1 of each year for the time period beginning July 1 and ending December 31.
 - 2) One semiannual report is due by July 31 of each year for the time period beginning January 1 and ending June 30.
- e. Reports may be submitted electronically to AQReports@AlleghenyCounty.us. Certification by the responsible official in accordance with General Condition III.4 above shall be provided separately via hard copy.

16. Severability Requirement (§2103.12.1)

The provisions of this permit are severable, and if any provision of this permit is determined by a court of competent jurisdiction to be invalid or unenforceable, such a determination will not affect the remaining provisions of this permit.

17. Existing Source Reactivations (§2103.13.d)

The permittee shall not reactivate any source that has been out of operation or production for a period of one year or more unless the permittee has submitted a reactivation plan request to, and received a written reactivation plan approval from, the Department. Existing source reactivations shall meet all requirements of Article XXI §2103.13.d.

18. Administrative Permit Amendment Procedures (§2103.14.b)

An administrative permit amendment may be made consistent with the procedures of Article XXI §2103.14.b and §2103.24.b. Administrative permit amendments are not authorized for any amendment precluded by the Clean Air Act or the regulations there under.

19. Revisions and Minor Permit Modification Procedures (§2103.14.c)

Sources may apply for revisions and minor permit modifications on an expedited basis in accordance with Article XXI §2103.14.c and §2103.24.a.

20. Significant Permit Modifications (§2103.14.d)

Significant permit modifications shall meet all requirements of the applicable subparts of Article XXI, Part C, including those for applications, fees, public participation, review by affected States, and review by EPA, as they apply to permit issuance and permit renewal. The approval of a significant permit modification, if the entire permit has been reopened for review, shall commence a new full five (5) year permit term. The Department shall take final action on all such permits within nine (9) months following receipt of a complete application.

21. Duty to Comply (§2103.12.f.1)

The permittee shall comply with all permit conditions and all other applicable requirements at all times. Any permit noncompliance constitutes a violation of the Clean Air Act, the Air Pollution Control Act, and Article XXI and is grounds for any and all enforcement action, including, but not limited to, permit termination, revocation and reissuance, or modification, and denial of a permit renewal application.

22. Renewals (§2103.13.b.)

Renewal of this permit is subject to the same fees and procedural requirements, including those for public participation and affected State and EPA review, that apply to initial permit issuance. The application for renewal shall be submitted at least six (6) months but not more than eighteen (18) months prior to expiration of this permit. The application shall also include submission of a supplemental compliance review as required by Article XXI §2102.01.

23. Reopenings for Cause (§2103.15, §2103.12.f.3)

- a. This permit shall be reopened and reissued under any of the following circumstances:
- 1) Additional requirements under the Clean Air Act become applicable to a major source with a remaining permit term of three (3) or more years. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended solely due to the failure of the Department to act on a permit renewal application in a timely fashion.
 - 2) Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into this permit.
 - 3) The Department or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.
 - 4) The Administrator or the Department determines that this permit must be reissued or revoked to assure compliance with the applicable requirements.
- b. This permit may be modified; revoked, reopened, and reissued; or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes, for changes that are provided for in this permit.

24. Reopenings for Cause by the EPA (§2103.25.b)

This permit may be modified, reopened and reissued, revoked or terminated for cause by the EPA in accordance with procedures specified in Article XXI §2103.25.b.

25. Annual Operating Permit Administration Fee (§2103.40)

In each year during the term of this permit, on or before the last day of the month in which the application for this permit was submitted, the permittee shall submit to the Department, in addition to any other applicable administration fees, an Annual Operating Permit Administration Fee in accordance with §2103.40. by check or money order payable to the "Allegheny County Air Pollution Control Fund" in the amount specified in the fee schedule applicable at that time.

26. Annual Major Source Emissions Fees Requirements (§2103.41)

No later than September 1 of each year, the permittee shall pay an annual emission fee in accordance with Article XXI §2103.41 for each ton of a regulated pollutant (except for carbon monoxide) actually emitted from the source. The permittee shall not be required to pay an emission fee for emissions of more than 4,000 tons of each regulated pollutant. The emission fee shall be increased in each year after 1995 by the percentage, if any, by which the Consumer Price Index for the most recent calendar year exceeds the Consumer Price Index for the previous calendar year.

27. Other Requirements not Affected (§2104.08, §2105.02)

Compliance with the requirements of this permit shall not in any manner relieve any person from the duty to fully comply with any other applicable Federal, State, or County statute, rule, regulation, or the like, including but not limited to the odor emission standards under Article XXI §2104.04, any applicable NSPSs, NESHAPs, MACTs, or Generally Achievable Control Technology (GACT) standards now or hereafter established by the EPA, and any applicable requirements of BACT or LAER as provided by Article XXI, any condition contained in any applicable Installation or Operating Permit and/or any additional or more stringent requirements contained in an order issued to such person pursuant to Article XXI Part I.

28. Termination of Operation (§2108.01.a)

In the event that operation of any source of air contaminants is permanently terminated, the person responsible for such source shall so report, in writing, to the Department within 60 days of such termination.

29. Emissions Inventory Statements (§2108.01.e & g)

- a. Emissions inventory statements in accordance with Article XXI §2108.01.e shall be submitted to the Department by March 15 of each year for the preceding calendar year. The Department may require more frequent submittals if the Department determines that more frequent submissions are required by the EPA or that analysis of the data on a more frequent basis is necessary to implement the requirements of Article XXI or the Clean Air Act.
- b. The failure to submit any report or update within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

30. Tests by the Department (§2108.02.d)

Notwithstanding any tests conducted pursuant to Article XXI §2108.02, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the person responsible for such source or equipment shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.

31. Other Rights and Remedies Preserved (§2109.02.b)

Nothing in this permit shall be construed as impairing any right or remedy now existing or hereafter created in equity, common law or statutory law with respect to air pollution, nor shall any court be deprived of such jurisdiction for the reason that such air pollution constitutes a violation of this permit.

32. Enforcement and Emergency Orders (§2109.03, §2109.05)

- a. The person responsible for this source shall be subject to any and all enforcement and emergency orders issued to it by the Department in accordance with Article XXI §2109.03, §2109.04 and §2109.05.
- b. Upon request, any person aggrieved by an Enforcement Order or Emergency Order shall be granted

a hearing as provided by Article XXI §2109.03.d; provided however, that an Emergency Order shall continue in full force and effect notwithstanding the pendency of any such appeal.

- c. Failure to comply with an Enforcement Order or immediately comply with an Emergency Order shall be a violation of this permit thus giving rise to the remedies provided by Article XXI §2109.02.

33. Penalties, Fines, and Interest (§2109.07.a)

A source that fails to pay any fee required under this permit when due shall pay a civil penalty of 50% of the fee amount, plus interest on the fee amount computed in accordance with Article XXI §2109.06.a.4 from the date the fee was required to be paid. In addition, the source may have this permit revoked for failure to pay any fee required.

34. Appeals (§2109.10)

In accordance with State Law and County regulations and ordinances, any person aggrieved by an order or other final action of the Department issued pursuant to Article XXI or any unsuccessful petitioner to the Administrator under Article XXI Part C, Subpart 2, shall have the right to appeal the action to the Director in accordance with the applicable County regulations and ordinances.

35. Risk Management (§2104.08, 40 CFR Part 68)

Should this stationary source, as defined in 40 CFR Part 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in Part 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by General Condition III.12 above.

36. Operational Flexibility (§2103.14.a)

- a. The owner or operator shall not make any changes at this source, including trades of increases and decreases in emissions within the permitted source, without first obtaining a permit revision for such changes, unless:
- 1) The changes do not require an Installation Permit under §2102.04 of this Article or violate the terms of an Operating Permit or an Installation Permit;
 - 2) The permit specifically allows for changes that do not cause specific emissions increases greater than a de minimis emission increase, and the changes do not exceed such emissions increase allowed under the permit, in accordance with General Condition III.37 below;
 - 3) The changes do not violate major source applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements; and
 - 4) By no later than seven (7) days prior to the date on which the implementation of the proposed change is commenced, a written notification is submitted to the Department, for attachment to the Department's copy of the relevant permit, which includes:
 - a) A brief description of the change within the permitted source;
 - b) The date on which the change will occur;
 - c) The pollutants emitted; and

d) Any change in emissions.

37. De Minimis Emission Increases (§2103.14.e)

- a. The Department may allow, as a condition of an Operating Permit, *de minimis* emission increases from a new or existing source up to the amounts authorized in condition III.37.d below.
- b. A *de minimis* increase may not occur at a source if it either:
- 1) Increases the emissions of a pollutant regulated under Section 112 of the Clean Air Act (42 U.S.C.A. §7412) except as authorized in conditions III.37.d.4) and 5) below;
 - 2) Subjects the source to the permit requirements of Article XXI, §§2102.05, 2102.06, or 2102.07 (relating to prevention of significant deterioration of air quality and major new source and major modification review); or
 - 3) Violates an applicable requirement of this Article, the state Air Pollution Control Act, the Clean Air Act, or the regulations promulgated under the Air Pollution Control Act or the Clean Air Act.
- c. The permittee shall provide the Department with 7 days prior written notice of any *de minimis* emission increase. The notice shall identify and describe the pollutants that will be emitted as a result of the *de minimis* emissions increase and provide emission rates in tons/year and in terms necessary to establish compliance consistent with any applicable requirement. The Department may disapprove or condition the *de minimis* emission increase at any time.
- d. Except as provided in condition III.37.e below, the maximum *de minimis* emission rate increases, as measured in tons/year, that may be authorized in the permit during the term of the permit are:
- 1) Four tons of carbon monoxide from an emissions unit during the term of the permit and 20 tons of carbon monoxide at the source during the term of the permit;
 - 2) One ton of NO_x from an emissions unit during the term of the permit and 5 tons of NO_x at the source during the term of the permit;
 - 3) One and six-tenths tons of oxides of sulfur from an emissions unit during the term of the permit and 8.0 tons of oxides of sulfur at the source during the term of the permit;
 - 4) Six-tenths of a ton of PM₁₀ from an emissions unit during the term of the permit and 3.0 tons of PM₁₀ at the source during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act, the regulations thereunder, or Article XXI; and
 - 5) One ton of VOC's from an emissions unit during the term of the permit and 5 tons of VOC's at the source during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act, the regulations thereunder, or Article XXI.
- e. The Department may allow, as a condition of an operating permit, installation of the minor sources exempted under §2102.04.a.5 of Article XXI.
- f. *De minimis* emission threshold levels cannot be met by offsetting emission increases with emission decreases at the same emissions unit.

38. Circumvention (§2101.14)

For purposes of determining compliance with the provisions of this permit and Article XXI, no credit shall

be given to any person for any device or technique, including but not limited to the operation of any source with unnecessary amounts of air, the combining of separate sources except as specifically permitted by Article XXI and the Department, the use of stacks exceeding Good Engineering Practice height as defined by regulations promulgated by the US EPA at 40 CFR §§51.100 and 51.110 and Subpart I, and other dispersion techniques, which without reducing the amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise violate the provisions of this Article; except that, for purposes of determining compliance with Article §2104.04 concerning odors, credit for such devices or techniques, except for the use of a masking agent, may be given.

39. Duty to Supplement and Correct Relevant Facts (§2103.12.d.2)

- a. The permittee shall provide additional information as necessary to address requirements that become applicable to the source after the date it files a complete application but prior to the Department taking action on the permit application.
- b. The permittee shall provide supplementary fact or corrected information upon becoming aware that incorrect information has been submitted or relevant facts were not submitted.
- c. Except as otherwise required by this permit and Article XXI, the Clean Air Act, or the regulations thereunder, the permittee shall submit additional information as necessary to address changes occurring at the source after the date it files a complete application but prior to the Department taking action on the permit application.
- d. The applicant shall submit information requested by the Department which is reasonably necessary to evaluate the permit application.

40. Effect (§2102.03.g.)

- a. Except as specifically otherwise provided under Article XXI, Part C, issuance of a permit pursuant to Article XXI Part B or Part C shall not in any manner relieve any person of the duty to fully comply with the requirements of this permit, Article XXI or any other provision of law, nor shall it in any manner preclude or affect the right of the Department to initiate any enforcement action whatsoever for violations of this permit or Article XXI, whether occurring before or after the issuance of such permit. Further, except as specifically otherwise provided under Article XXI Part C the issuance of a permit shall not be a defense to any nuisance action, nor shall such permit be construed as a certificate of compliance with the requirements of this permit or Article XXI.

41. Installation Permits (§2102.04.a.1.)

It shall be a violation of this permit giving rise to the remedies set forth in Article XXI Part I for any person to install, modify, replace, reconstruct, or reactivate any source or air pollution control equipment which would require an installation permit or permit modification in accordance with Article XXI Part B or Part C.

IV. SITE LEVEL TERMS AND CONDITIONS

1. Reporting of Upset Conditions (§2103.12.k.2)

The permittee shall promptly report all deviations from permit requirements, including those attributable to upset conditions as defined in Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.

2. Visible Emissions (§2104.01.a)

Except as provided for by Article XXI §2108.01.d pertaining to a cold start, no person shall operate, or allow to be operated, any source in such manner that the opacity of visible emissions from a flue or process fugitive emissions from such source, excluding uncombined water:

- a. Equal or exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
- b. Equal or exceed an opacity of 60% at any time.

3. Odor Emissions (§2104.04) (County-only enforceable)

No person shall operate, or allow to be operated, any source in such manner that emissions of malodorous matter from such source are perceptible beyond the property line.

4. Materials Handling (§2104.05)

The permittee shall not conduct, or allow to be conducted, any materials handling operation in such manner that emissions from such operation are visible at or beyond the property line.

5. Operation and Maintenance (§2105.03)

All air pollution control equipment required by this permit or any order under Article XXI, and all equivalent compliance techniques approved by the Department, shall be properly installed, maintained, and operated consistently with good air pollution control practice.

6. Open Burning (§2105.50)

No person shall conduct, or allow to be conducted, the open burning of any material, except where the Department has issued an Open Burning Permit to such person in accordance with Article XXI §2105.50 or where the open burning is conducted solely for the purpose of non-commercial preparation of food for human consumption, recreation, light, ornament, or provision of warmth for outside workers, and in a manner which contributes a negligible amount of air contaminants.

7. Shutdown of Control Equipment (§2108.01.b)

- a. In the event any air pollution control equipment is shut down for reasons other than a breakdown, the person responsible for such equipment shall report, in writing, to the Department the intent to shut down such equipment at least 24 hours prior to the planned shutdown. Notwithstanding the submission of such report, the equipment shall not be shut down until the approval of the Department is obtained; provided, however, that no such report shall be required if the source(s)

served by such air pollution control equipment is also shut down at all times that such equipment is shut down.

- b. The Department shall act on all requested shutdowns as promptly as possible. If the Department does not take action on such requests within ten (10) calendar days of receipt of the notice, the request shall be deemed denied, and upon request, the owner or operator of the affected source shall have a right to appeal in accordance with the provisions of Article XI.
- c. The prior report required by Site Level Condition IV.7.a above shall include:
 - 1) Identification of the specific equipment to be shut down, its location and permit number (if permitted), together with an identification of the source(s) affected;
 - 2) The reasons for the shutdown;
 - 3) The expected length of time that the equipment will be out of service;
 - 4) Identification of the nature and quantity of emissions likely to occur during the shutdown;
 - 5) Measures, including extra labor and equipment, which will be taken to minimize the length of the shutdown, the amount of air contaminants emitted, or the ambient effects of the emissions;
 - 6) Measures which will be taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impracticable to shut down or curtail the affected source(s) during the shutdown; and
 - 7) Such other information as may be required by the Department.

8. Breakdowns (§2108.01.c)

- a. In the event that any air pollution control equipment, process equipment, or other source of air contaminants breaks down in such manner as to have a substantial likelihood of causing the emission of air contaminants in violation of this permit, or of causing the emission into the open air of potentially toxic or hazardous materials, the person responsible for such equipment or source shall immediately, but in no event later than sixty (60) minutes after the commencement of the breakdown, notify the Department of such breakdown and shall, as expeditiously as possible but in no event later than seven (7) days after the original notification, provide written notice to the Department.
- b. To the maximum extent possible, all oral and written notices required shall include all pertinent facts, including:
 - 1) Identification of the specific equipment which has broken down, its location and permit number (if permitted), together with an identification of all related devices, equipment, and other sources which will be affected.
 - 2) The nature and probable cause of the breakdown.
 - 3) The expected length of time that the equipment will be inoperable or that the emissions will continue.
 - 4) Identification of the specific material(s) which are being, or are likely to be emitted, together with a statement concerning its toxic qualities, including its qualities as an irritant, and its potential for causing illness, disability, or mortality.
 - 5) The estimated quantity of each material being or likely to be emitted.
 - 6) Measures, including extra labor and equipment, taken or to be taken to minimize the length of the breakdown, the amount of air contaminants emitted, or the ambient effects of the emissions, together with an implementation schedule.
 - 7) Measures being taken to shut down or curtail the affected source(s) or the reasons why it is

impossible or impractical to shut down the source(s), or any part thereof, during the breakdown.

- c. Notices required shall be updated, in writing, as needed to advise the Department of changes in the information contained therein. In addition, any changes concerning potentially toxic or hazardous emissions shall be reported immediately. All additional information requested by the Department shall be submitted as expeditiously as practicable.
- d. Unless otherwise directed by the Department, the Department shall be notified whenever the condition causing the breakdown is corrected or the equipment or other source is placed back in operation by no later than 9:00 AM on the next County business day. Within seven (7) days thereafter, written notice shall be submitted pursuant to Paragraphs a and b above.
- e. Breakdown reporting shall not apply to breakdowns of air pollution control equipment which occur during the initial startup of said equipment, provided that emissions resulting from the breakdown are of the same nature and quantity as the emissions occurring prior to startup of the air pollution control equipment.
- f. In no case shall the reporting of a breakdown prevent prosecution for any violation of this permit or Article XXI.

9. Cold Start (§2108.01.d)

In the event of a cold start on any fuel-burning or combustion equipment, except stationary internal combustion engines and combustion turbines used by utilities to meet peak load demands, the person responsible for such equipment shall report in writing to the Department the intent to perform such cold start at least 24 hours prior to the planned cold start. Such report shall identify the equipment and fuel(s) involved and shall include the expected time and duration of the startup. Upon written application from the person responsible for fuel-burning or combustion equipment which is routinely used to meet peak load demands and which is shown by experience not to be excessively emissive during a cold start, the Department may waive these requirements and may instead require periodic reports listing all cold starts which occurred during the report period. The Department shall make such waiver in writing, specifying such terms and conditions as are appropriate to achieve the purposes of Article XXI. Such waiver may be terminated by the Department at any time by written notice to the applicant.

10. Monitoring of Malodorous Matter Beyond Facility Boundaries (§2104.04)

The permittee shall take all reasonable action as may be necessary to prevent malodorous matter from becoming perceptible beyond facility boundaries. Further, the permittee shall perform such observations as may be deemed necessary along facility boundaries to insure that malodorous matter beyond the facility boundary in accordance with Article XXI §2107.13 is not perceptible and record all findings and corrective action measures taken.

11. Orders (§2108.01.f)

In addition to meeting the requirements of General Conditions III.28 & III.29, and Site Level Conditions IV.7 through IV.9 above, inclusive, the person responsible for any source shall, upon order by the Department, report to the Department such information as the Department may require in order to assess the actual and potential contribution of the source to air quality. The order shall specify a reasonable time in which to make such a report.

12. Violations (§2108.01.g)

The failure to submit any report or update thereof required by General Conditions III.28 & III.29, Site Level Conditions IV.7 through IV.9 above, and IV.11 above, inclusive, within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

13. Emissions Testing (§2108.02)

- a. **Orders.** The person responsible for any source shall, upon order by the Department, conduct, or cause to be conducted, such emissions tests as specified by the Department within such reasonable time as is specified by the Department. Test results shall be submitted in writing to the Department within 20 days after completion of the tests, unless a different period is specified in the Department's order. Emissions testing shall comply with all applicable requirements of Article XXI §2108.02.e.
- b. **Tests by the Department:** Notwithstanding any tests conducted pursuant to this permit, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the permittee shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.
- c. **Testing Requirements.** No later than 45 days prior to conducting any tests required by this permit, the person responsible for the affected source shall submit for the Department's approval a written test protocol explaining the intended testing plan, including any deviations from standard testing procedures, the proposed operating conditions of the source during the test, calibration data for specific test equipment and a demonstration that the tests will be conducted under the direct supervision of persons qualified by training and experience satisfactory to the Department to conduct such tests. In addition, at least 30 days prior to conducting such tests, the person responsible shall notify the Department in writing of the time(s) and date(s) on which the tests will be conducted and shall allow Department personnel to observe such tests, record data, provide pre-weighed filters, analyze samples in a County laboratory and to take samples for independent analysis. Test results shall be comprehensively and accurately reported in the units of measurement specified by the applicable emission limitations of this permit.
- d. Test methods and procedures shall conform to the applicable reference method set forth in this permit or Article XXI Part G, or where those methods are not applicable, to an alternative sampling and testing procedure approved by the Department consistent with Article XXI §2108.02.e.2.
- e. **Violations:** The failure to perform tests as required by this permit or an order of the Department, the failure to submit test results within the time specified, the knowing submission of false information, the willful failure to submit complete results, or the refusal to allow the Department, upon presentation of a search warrant, to conduct tests, shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

14. Abrasive Blasting (§2105.51)

- a. Except where such blasting is a part of a process requiring an operating permit, no person shall conduct or allow to be conducted, abrasive blasting or power tool cleaning of any surface, structure, or part thereof, which has a total area greater than 1,000 square feet unless such abrasive blasting

complies with all applicable requirements of Article XXI §2105.51.

- b. In addition to complying with all applicable provisions of §2105.51, no person shall conduct, or allow to be conducted, abrasive blasting of any surface unless such abrasive blasting also complies with all other applicable requirements of Article XXI unless such requirements are specifically addressed by §2105.51.

15. Asbestos Abatement (§2105.62, §2105.63)

In the event of removal, encasement, or encapsulation of Asbestos-Containing Material (ACM) at a facility or in the event of the demolition of any facility, the permittee shall comply with all applicable provisions of Article XXI §2105.62 and §2105.63.

16. Protection of Stratospheric Ozone (40 CFR Part 82)

- a. Permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - 1) All containers in which a Class I or Class II substance is stored or transported, all products containing a Class I substance, and all products directly manufactured with a process that uses a Class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106;
 - 2) The placement of the required warning statement must comply with the requirements pursuant to §82.108;
 - 3) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110; and
 - 4) No person may modify, remove or interfere with the required warning statement except as described in §82.112.
- b. Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F:
 - 1) Persons opening appliances for maintenance, service, repair or disposal must comply with the prohibitions and required practices pursuant to §82.154 and §82.156;
 - 2) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158;
 - 3) Persons maintaining, servicing, repairing or disposing of appliances, must be certified by an approved technician certification program pursuant to §82.161;
 - 4) Persons maintaining, servicing, repairing or disposing of appliances must certify to the Administrator of the U.S. Environmental Protection Agency pursuant to §82.162;
 - 5) Persons disposing of small appliances, motor vehicle air conditioners (MVAC) and MVAC-like appliances, must comply with the record keeping requirements pursuant to §82.166;
 - 6) Owners of commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156; and
 - 7) Owners or operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- c. If the permittee manufactures, transforms, destroys, imports or exports a Class I or Class II substance, the Permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A (Production and Consumption Controls).
- d. If the permittee performs a service on a motor vehicle that involves an ozone-depleting substance,

refrigerant or regulated substitute substance in the MVAC, the Permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B (Servicing of Motor Vehicle Air Conditioners).

- e. The permittee may switch from any ozone-depleting substance to any alternative that is listed as acceptable in the Significant New Alternatives Policy (SNAP) program promulgated pursuant to 40 CFR Part 82, Subpart G.

17. Volatile Organic Compound Storage Tanks (§2105.12.a)

No person shall place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure of 1.5 psia or greater under actual storage conditions in any aboveground stationary storage tank having a capacity equal to or greater than 2,000 gallons but less than or equal to 40,000 gallons, unless there is in operation on such tank pressure relief valves which are set to release at the higher of 0.7 psig of pressure or 0.3 psig of vacuum or at the highest possible pressure and vacuum in accordance with State or local fire codes, National Fire Prevention Association guidelines, or other national consensus standard approved in writing by the Department. Petroleum liquid storage vessels that are used to store produced crude oil and condensate prior to lease custody transfer are exempt from these requirements.

18. Permit Source Premises (§2105.40)

- a. **General.** No person shall operate, or allow to be operated, any source for which a permit is required by Article XXI Part C in such manner that emissions from any open land, roadway, haul road, yard, or other premises located upon the source or from any material being transported within such source or from any source-owned access road, haul road, or parking lot over five (5) parking spaces:
 - 1) Are visible at or beyond the property line of such source;
 - 2) Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or
 - 3) Have an opacity of 60% or more at any time.
- b. **Deposition on Other Premises.** Visible emissions from any solid or liquid material that has been deposited by any means from a source onto any other premises shall be considered emissions from such source within the meaning of Site Level Condition IV.18.a above.

19. Parking Lots and Roadways (§2105.42)

- a. The permittee shall not maintain for use, or allow to be used, any parking lot over 50 parking spaces or used by more than 50 vehicles in any day or any other roadway carrying more than 100 vehicles in any day or 15 vehicles in any hour in such manner that emissions from such parking lot or roadway:
 - 1) Are visible at or beyond the property line;
 - 2) Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any 60 minute period; or
 - 3) Have an opacity of 60% or more at any time.
- b. Visible emissions from any solid or liquid material that has been deposited by any means from a parking lot or roadway onto any other premises shall be considered emissions from such parking lot or roadway.

- c. Site Level Condition IV.19.a above shall apply during any repairs or maintenance done to such parking lot or roadway.
- d. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.19 may be enforced by any municipal or local government unit having jurisdiction over the place where such parking lots or roadways are located. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.19.

20. Permit Source Transport (§2105.43)

- a. No person shall transport, or allow to be transported, any solid or liquid material outside the boundary line of any source for which a permit is required by Article XXI Part C in such manner that there is any visible emission, leak, spill, or other escape of such material during transport.
- b. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.20 may be enforced by any municipal or local government unit having jurisdiction over the place where such visible emission, leak, spill, or other escape of material during transport occurs. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violation of Site Level Condition IV.20.

21. Construction and Land Clearing (§2105.45)

- a. No person shall conduct, or allow to be conducted, any construction or land clearing activities in such manner that the opacity of emissions from such activities:
 - 1) Equal or exceed 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or
 - 2) Equal or exceed 60% at any time.
- b. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.21 may be enforced by any municipal or local government unit having jurisdiction over the place where such construction or land clearing activities occur. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.21.

22. Mining (§2105.46)

No person shall conduct, or allow to be conducted, any mining activities in such manner that emissions from such activities:

- a. Are visible at or beyond the property line;
- b. Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
- c. Have an opacity of 60% or more at any time.

23. Demolition (§2105.47)

- a. No person shall conduct, or allow to be conducted, any demolition activities in such manner that the opacity of the emissions from such activities equal or exceed 20% for a period or periods aggregating more than three (3) minutes in any 60 minute period.
- b. Notwithstanding any other provisions of this permit, the prohibitions of Site Level Condition IV.23 may be enforced by any municipal or local government unit having jurisdiction over the place where such demolition activities occur. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.23.

24. Fugitive Emissions (§2105.49)

The person responsible for a source of fugitive emissions, in addition to complying with all other applicable provisions of this permit shall take all reasonable actions to prevent fugitive air contaminants from becoming airborne. Such actions may include, but are not limited to:

- a. The use of asphalt, oil, water, or suitable chemicals for dust control;
- b. The paving and maintenance of roadways, parking lots and the like;
- c. The prompt removal of earth or other material which has been deposited by leaks from transport, erosion or other means;
- d. The adoption of work or other practices to minimize emissions;
- e. Enclosure of the source; and
- f. The proper hooding, venting, and collection of fugitive emissions.

25. Episode Plans (§2106.02)

The permittee shall upon written request of the Department, submit a source curtailment plan, consistent with good industrial practice and safe operating procedures, designed to reduce emissions of air contaminants during air pollution episodes. Such plans shall meet the requirements of Article XXI §2106.02.

26. New Source Performance Standards (§2105.05)

- a. It shall be a violation of this permit giving rise to the remedies provided by §2109.02 of Article XXI for any person to operate, or allow to be operated, any source in a manner that does not comply with all requirements of any applicable NSPS now or hereafter established by the EPA, except if such person has obtained from EPA a waiver pursuant to Section 111 or Section 129 of the Clean Air Act or is otherwise lawfully temporarily relieved of the duty to comply with such requirements.
- b. Any person who operates, or allows to be operated, any source subject to any NSPS shall conduct, or cause to be conducted, such tests, measurements, monitoring and the like as is required by such standard. All notices, reports, test results and the like as are required by such standard shall be submitted to the Department in the manner and time specified by such standard. All information, data and the like which is required to be maintained by such standard shall be made available to the Department upon request for inspection and copying.

27. Greenhouse Gas Reporting (40 CFR Part 98)

If the facility emits 25,000 metric tons or more of carbon dioxide equivalent (CO₂e) in any 12-month period, the facility shall submit reports to the US EPA in accordance with 40 CFR Part 98.

V. EMISSION UNIT LEVEL TERMS AND CONDITIONS**A. Process P001: Polyester Resins Plant**

Process Description: Polyester Resins Plant
Facility ID: P001
Max. Design Rate: 200 MM lbs/yr
Raw Materials: Phthalic Anhydride, Maleic Anhydride, Propylene Glycol, Ammonia & Styrene Monomer
Control Device: 9 MM Btu/hr direct flame thermal oxidizer

1. Restrictions:

- a. The polyester resin plant production shall be limited to 200 million pounds of finished resin in any consecutive 12-month period. [Installation Permit #0037-I001a, condition V.A.1.n; §2103.12.a.2.B]
- b. The permittee shall not operate or allow to be operated the reactors No. 41 & 42, condensers, cooling tanks V-857, V-858 and V-859 and aqueous waste tank V-904 unless all emissions from these units are ducted to a thermal oxidizer. [IP #0037-I001a, conditions V.A.1.a, c & j; §2103.12.a.2.B]
- c. The permittee shall at all times operate and maintain the thermal oxidizer with a minimum VOC destruction efficiency of 98% by weight or greater and a minimum residence time of 0.75 seconds. [IP #0037-I001a, conditions V.A.1.a & V.A.1.d; §2103.12.a.2.B]
- d. The thermal oxidizer shall have a minimum operating temperature of 1,450 °F at all times while processing VOC emissions. [IP #0037-I001a, condition V.A.1.e; §2103.12.a.2.B]
- e. The permittee shall not operate or allow to be operated the thermal oxidizer with an aqueous waste flow rate into the oxidizer greater than 4 gallons/minute. [IP #0037-I001a, condition V.A.1.h; §2103.12.a.2.B; 2103.12.h.1)
- f. The permittee shall not operate or allow to be operated the thermal oxidizer with an inlet waste gas flow rate greater than 750 scfm. [IP #0037-I001a, condition V.A.1.i; §2103.12.a.2.B]
- g. The permittee shall not shall operate, or allow to be operated, the thermal oxidizer in such manner that the opacity of visible emissions from such incinerator, excluding uncombined water:
 - 1) Equal or exceed an opacity of 20% at any time; and [§2105.30.d]
 - 2) Except as specified in condition V.A.1.cc below, opacity from the thermal oxidizer shall not exceed an average opacity of 10% in any six consecutive minutes at any time. [§62.14630]
- h. Emissions from the thermal oxidizer shall not exceed the following limitations in Table V-A-1 below: [IP #0037-I001a, condition V.A.1.k; §62.14630; §2103.12.a.2.B]

TABLE V-A-1: Thermal Oxidizer Emission Limitations

POLLUTANT	SHORT TERM EMISSION LIMIT ²	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
Particulate Matter	70 mg/dscm	0.23	0.99
PM ₁₀	n/a	0.23	0.99
PM _{2.5}	n/a	0.23	0.99
Nitrogen Oxides	388 ppm _{dv}	8.74	36.28
Sulfur Oxides	20 ppm _{dv}	0.50	2.00
Carbon Monoxide	157 ppm _{dv}	4.3	19.0
Volatile Organic Compounds	n/a	5.72	9.85
Total HAP	n/a	0.23	0.49
Ethylene glycol	n/a	0.2	0.36
Cadmium	0.004 mg/dscm	0.18 x 10 ⁻⁴	0.79 x 10 ⁻⁴
Dioxins/furans (toxic equivalency basis)	0.41 ng/dscm	2.37 x 10 ⁻⁸	10.39 x 10 ⁻⁸
Hydrogen chloride	62 ppm _{dv}	0.03	0.13
Lead	0.04 mg/dscm	0.17 x 10 ⁻⁴	0.74 x 10 ⁻⁴
Mercury	0.47 mg/dscm	0.61x 10 ⁻⁴	2.67 x 10 ⁻⁴

1. A year is defined as any consecutive 12-month period.

2. All short-term emission limitations are adjusted to 7 percent oxygen, dry basis at standard conditions.

- i. A physical change in, or change in the method of operation of, an emissions unit at the facility which results in a greater than *de minimus* increase in actual emissions of a hazardous air pollutant, as specified in §2103.14.e of Article XXI shall not be considered a modification, if such increase in the quantity of actual emissions of any hazardous air pollutant from the facility will be offset by an equal or greater decrease in the quantity of emissions of another hazardous air pollutant (or pollutants) from the facility which is deemed more hazardous, pursuant to guidance issued by the U.S. EPA under Section 112 of the Clean Air Act. The permittee shall submit a showing to the Department, at least 30 days prior to such change, that the increase has been offset under the preceding sentence. [IP #0037-I001a, condition V.A.1.b]
- j. Two 3-inch FIPS test sample openings located at 90° from each other shall be placed in the fume inlet ductwork to the thermal oxidizer. [IP #0037-I001a, condition V.A.1.l]
- k. The permittee shall submit a waste management plan to the EPA and the Department. The waste management plan shall be a written plan that identifies both the feasibility and the methods used to reduce or separate certain components of solid waste from the waste stream in order to reduce or eliminate toxic emissions from incinerated waste. [§62.14580; §62.14585; §62.14535(a)(2)]
- l. The waste management plan shall include consideration of the reduction or separation of waste-

- stream elements such as paper, cardboard, plastics, glass, batteries, or metals; or the use of recyclable materials. The plan shall identify any additional waste management measures and implement those measures the source considers practical and feasible, considering the effectiveness of waste management measures already in place, the costs of additional measures, the emissions reductions expected to be achieved, and any other environmental or energy impacts they might have. [§62.14590]
- m. The polyester resin CISWI unit shall not be operated unless a fully trained and qualified CISWI unit operator is accessible at all times when the unit is in operation, either at the facility or can be at the facility within 1 hour. The trained and qualified CISWI unit operator may operate the CISWI unit directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified CISWI unit operators are temporarily not accessible, the permittee shall follow the procedures in condition V.A.1.v below. [§62.14595(a)]
- n. Operator training and qualification must be obtained through a State-approved program or by completing the requirements included in condition V.A.1.o below. [§62.14595(b)]
- o. Training must be obtained by completing an incinerator operator-training course that includes, at a minimum, the three elements described in conditions V.A.1.o.1) through V.A.1.o.3) below. [§62.14595(c)]
- 1) Training on the thirteen subjects listed in conditions V.A.1.o.1)a) through V.A.1.o.1)m) below. [§62.14595(c)(1)]
 - a) Environmental concerns, including types of emissions;
 - b) Basic combustion principles, including products of combustion;
 - c) Operation of the specific type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures;
 - d) Combustion controls and monitoring;
 - e) Operation of air pollution control equipment and factors affecting performance (if applicable);
 - f) Inspection and maintenance of the incinerator and air pollution control devices;
 - g) Actions to correct malfunctions or conditions that may lead to malfunction;
 - h) Bottom and fly ash characteristics and handling procedures;
 - i) Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards;
 - j) Pollution prevention;
 - k) Waste management practices;
 - l) Recordkeeping requirements; and
 - m) Methods to continuously monitor CISWI unit and air pollution control device operating parameters and monitoring equipment calibration procedures (where applicable).
 - 2) An examination designed and administered by the instructor. [§62.14595(c)(2)]
 - 3) Written material covering the training course topics that may serve as reference material following completion of the course. [§62.14595(c)(3)]
- p. Operators shall obtain operator qualification by completing a training course that satisfies the criteria under condition V.A.1.n above. The operator-training course must be completed within: [§62.14600(a)(2); §62.14605(a)]
- 1) Six months after an employee assumes responsibility for operating the CISWI unit; or
 - 2) Six months after an employee assumes responsibility for supervising the operation of the CISWI unit.

- q. Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under condition V.A.1.o.2) above. [§62.14605(b)]
- r. To maintain qualification, the operator must complete an annual review or refresher course of at least four hours covering, at a minimum, the five topics described in conditions V.A.1.r.1) through V.A.1.r.5) below. [§62.14610]
- 1) Update of regulations;
 - 2) Incinerator operation, including start-up and shutdown procedures, waste charging, and ash handling;
 - 3) Inspection and maintenance;
 - 4) Responses to malfunctions or conditions that may lead to malfunction; and
 - 5) Discussion of operating problems encountered by attendees.
- s. An operator must renew a lapsed operator qualification by one of the two methods specified in conditions V.A.1.s.1) or V.A.1.s.2) below. [§62.14615]
- 1) For a lapse of less than 3 years, the operator must complete a standard annual refresher course described in condition V.A.1.r above.
 - 2) For a lapse of 3 years or more, the operator must repeat the initial qualification requirements in condition V.A.1.p above.
- t. The permittee must establish a program for reviewing the information listed in V.A.4.b below with each incinerator operator. [§62.14620(b)]
- u. The initial review of the information listed in condition V.A.4.b below must be conducted with each incinerator operator within two months after being assigned. Subsequent annual reviews of the information listed in condition V.A.4.b below must be conducted not later than 12 months following the previous review. [§62.14620(b)(1) & (2)]
- v. If all qualified operators are temporarily not accessible (i.e., not at the facility and not able to be at the facility within 1 hour), the permittee shall meet one of the two criteria specified in conditions V.A.1.v.1) and V.A.1.v.2) below, depending on the length of time that a qualified operator is not accessible. [§62.14625]
- 1) When all qualified operators are not accessible for more than 8 hours, but less than 2 weeks, the CISWI unit may be operated by other plant personnel familiar with the operation of the CISWI unit who have completed a review of the information specified in condition V.A.4.b below within the past 12 months. However, the permittee shall record the period when all qualified operators were not accessible and include this deviation in the annual report as specified under condition V.A.5.c below.
 - 2) When all qualified operators are not accessible for 2 weeks or more, the permittee shall take the two actions that are described in conditions V.A.1.v.2)a) and V.A.1.v.2)b) below.
 - a) Notify the Department of this deviation in writing within 10 days. The notice shall state what caused this deviation, what is being done to ensure that a qualified operator is accessible, and when it is anticipated that a qualified operator will be accessible.
 - b) Submit a status report to the Department every 4 weeks outlining what is being done to ensure that a qualified operator is accessible, stating when it is anticipated that a qualified operator will be accessible, and requesting approval from the Department to continue operation of the CISWI unit. The permittee must submit the first status report 4 weeks after notification of the Department of the deviation under condition V.A.1.v.2)a) above. If the Department notifies the permittee that the request to continue operation of the CISWI unit is disapproved, the CISWI unit may continue operation for 90 days, then must cease

operation. Operation of the unit may resume if the permittee meets the two requirements in conditions V.A.1.v.2)b)i) and V.A.1.v.2)b)ii) below.

- i) A qualified operator is accessible as required under condition V.A.1.k above.
 - ii) The permittee notifies the Department that a qualified operator is accessible and that operation is being resumed.
- w. The short-term emission limitations and operating limits in Table V-A-1 in condition V.A.1.h above, apply at all times except during CISWI unit startups, shutdowns, or malfunctions. The hourly and annual emissions limits apply at all times. [§62.14645(a); §2103.12.a.2.B]
- x. Each malfunction shall last no longer than 3 hours. [§62.14645(b)]
- y. Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions. [§62.14840]
- z. Shutdown means the period of time after all waste has been combusted in the primary chamber. [§62.14840]
- aa. Startup period means the period of time between the activation of the system and the first charge to the unit. [§62.14840]
- bb. The permittee shall use results of performance tests to demonstrate compliance with the emission limitations in condition V.A.1.h above. [§62.14655]
- cc. The opacity standard in condition V.A.1.g.2) above shall apply at all times except during periods of startup, shutdown, and malfunction. [§60.11(c); §2103.12.a.2.B]
- dd. At all times, including periods of startup, shutdown, and malfunction, the permittee shall maintain and operate the thermal oxidizer in a manner consistent with good air pollution control practice for minimizing emissions, including operation of the CISWI unit according to the conditions of this permit, regular maintenance in accordance with manufacturer specifications, and on-site maintenance of any manufacturer operating manuals or Operation & Maintenance Plan. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [§60.11(d); §2103.12.a.2.B]
- ee. The permittee shall only combust commercial grade natural gas in the polyester resin plant thermal oxidizer. [§2103.12.a.2.B]

2. Testing Requirements:

- a. The permittee shall conduct emission tests on the thermal oxidizer as follows:
 - 1) At least once every five (5) years from the most recent stack test, the permittee shall demonstrate compliance with the emission limitations in condition V.A.1.h above for particulate matter, PM₁₀, nitrogen oxides, carbon monoxide, volatile organic compounds, ethylene glycol, styrene, dioxins/furans, and opacity, as well as demonstrate compliance with the minimum VOC destruction efficiency, minimum residence time, and minimum operating

temperature specified in conditions V.A.1.c above and V.A.1.d above. [IP #0037-I001a, conditions V.A.2.a & b; RACT Order #227, §1.11; §2103.12.a.2.B; §2103.12.h]

- a) The above test shall be performed while the liquid waste flow is at or near a maximum flowrate and there is at or near a maximum VOC inlet concentration to the thermal oxidizer.
 - b) An analysis of the liquid waste for nitrogen, sulfur, total chlorides, mercury, lead and cadmium.
- 2) At least once every 12 consecutive months, the permittee shall demonstrate compliance with the emission limitations in conditions V.A.1.g.2) and V.A.1.h above for particulate matter, hydrogen chloride, and opacity, as well as demonstrate compliance with the minimum VOC destruction efficiency, minimum residence time, and minimum operating temperature specified in conditions V.A.1.c above and V.A.1.d above. [§62.14670(a); §62.14675; §2103.12.a.2.B]
 - 3) The permittee can test less often than specified in condition V.A.2.a.2) above for a given pollutant if there is test data for at least 3 years, and all performance tests for the pollutant (particulate matter, hydrogen chloride, or opacity) over 3 consecutive years show compliance with the emission limitation. In this case, the permittee does not have to conduct a performance test for that pollutant for the next 2 years. The permittee must conduct a performance test during the third year and no later than 36 months following the previous performance test. [§62.14680(a)]
 - 4) If the CISWI unit continues to meet the emission limitation for particulate matter, hydrogen chloride, or opacity, the permittee may choose to conduct performance tests for these pollutants every third year, but each test must be within 36 months of the previous performance test. [§62.14680(b)]
 - 5) If a performance test shows a deviation from an emission limitation for particulate matter, hydrogen chloride, or opacity, the permittee must conduct annual performance tests for that pollutant until all performance tests over a 3-year period show compliance. [§62.14680(c)]
 - 6) The performance tests shall be conducted using the test methods specified in condition V.A.2.i below and the procedures in conditions V.A.2.b through V.A.2.h below. Where not specified, the permittee shall use as reference methods and procedures the test methods in Appendix A of 40 CFR Part 60 or other methods and procedures as approved by the Department. [IP #0037-I001a, conditions V.A.2.a & b; §62.14670(a); §2103.12.a.2.B]
- b. All performance tests shall consist of a minimum of three test runs conducted under conditions representative of maximum normal operations. Aqueous waste shall be burned at a level at least 90% of the allowable 4.0 gallons per minute. [§62.14650(a); §2108.02]
 - c. All performance tests shall be conducted using the minimum run duration of one-hour sample time per test run with the exception of dioxins/furans which shall use a 4 hour minimum sample time per run. [§62.14650(c)]
 - d. Method 1 of 40 CFR 60, appendix A shall be used to select the sampling location and number of traverse points. [§62.14650(d)]
 - e. Method 3A or 3B of 40 CFR 60, appendix A of this part shall be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B of 40 CFR 60, appendix A of this part shall be used simultaneously with each method. [§62.14650(e)]
 - f. All pollutant concentrations, except for opacity, shall be adjusted to 7 percent oxygen using Equation 1 below: [§62.14650(f)]

$$C_{adj} = C_{meas} \times (20.9 - 7)/(20.9 - \%O_2) \quad (\text{Eq. 1})$$

Where:

C_{adj} = pollutant concentration adjusted to 7 percent oxygen;

C_{meas} = pollutant concentration measured on a dry basis;

(20.9-7) = 20.9 percent oxygen – 7 percent oxygen (defined oxygen correction basis);

20.9 = oxygen concentration in air, percent; and

$\%O_2$ = oxygen concentration measured on a dry basis, percent.

- g. The permittee shall determine dioxins/furans toxic equivalency by following the procedures in conditions V.A.2.g.1) through V.A.2.g.3). [§62.14650(g)]
- 1) Measure the concentration of each dioxin/furan tetra- through octa- chlorinated-congener emitted using EPA Method 23.
 - 2) For each dioxin/furan (tetra-through octa- chlorinated) congener measured in accordance with condition V.A.2.g.1) above, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 3 of 40 CFR 62, Subpart III.
 - 3) Sum the products calculated in accordance with condition V.A.2.g.2) above to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.
- h. The permittee shall document that the waste burned during the performance test is representative of the waste burned under normal operating conditions by maintaining a log of the quantity of waste burned (as required in condition V.A.4.d below and the types of waste burned during the performance test. [§62.14650(b); §2103.14.b; §2103.24.b]
- i. The performance tests specified for the listed pollutants shall be conducted using the test methods found in 40 CFR Part 60 Appendix A listed below and the procedures in conditions V.A.2.b through V.A.2.h above. [§2103.12.a.2.B; §62.14660; §62.14670(a)]
- 1) Cadmium, Method 29;
 - 2) Carbon Monoxide, Method 10, 10A or 10B;
 - 3) Dioxins/furans (toxic equivalency basis), Method 23;
 - 4) Hydrogen chloride, Method 26A;
 - 5) Lead, Method 29;
 - 6) Mercury, Method 29;
 - 7) Opacity, Method 9;
 - 8) Oxides of nitrogen, Method 7, 7A, 7C, 7D or 7E;
 - 9) Particulate matter, Method 5 or 29; and
 - 10) Sulfur dioxide, Method 6 or 6C.
- j. The permittee shall only burn the same types of waste used to establish operating limits during the performance test. [§62.14670(c)]
- k. The permittee may conduct a repeat performance test at any time to establish new values for the operating limits. The Department may request a repeat performance test at any time. [§62.14685(a)]
- l. The permittee shall repeat the performance test if the feed stream is different than the feed streams used during any performance test used to demonstrate compliance. [§62.14685(b)]
- m. The permittee shall determine compliance with the opacity standard in condition V.A.1.g.2) above by using a minimum total time of observations of 3 hours (30 6-minute averages) for the performance test. Opacity observations shall be conducted concurrently with the performance test.

If visibility or other conditions prevent the opacity observations from being conducted concurrently with the performance test, the permittee shall reschedule the opacity observations as soon after the performance test as possible, but not later than 30 days thereafter, and shall advise the Department of the rescheduled date. The rescheduled opacity observations shall be conducted (to the extent possible) under the same operating conditions that existed during the performance test. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity observations from being made concurrently with the performance test in accordance with procedures contained in Reference Method 9 of appendix B of 40 CFR 60. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The permittee shall make available, upon request by the Department, such records as may be necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification. [§60.11(b); §60.11(e)(1)]

- n. The permittee shall record the opacity of emissions, and shall report to the Department the opacity results along with the results of the performance test. The inability of the permittee to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the performance test. [§60.11 (e)(2)]
- o. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled “Emissions Testing.” [§2103.12.h.1]

3. Monitoring Requirements:

- a. The thermal oxidizer shall be equipped with instrumentation that continuously monitors and records the thermal oxidizer firebox temperature to within ½ °F. The permittee shall at all times properly maintain and calibrate the continuous temperature monitor and recorder and the aqueous waste flow meter in accordance with manufacturer’s specifications and good engineering practices. [IP #0037-I001a, condition V.A.1.g; §2103.12.a.2.B]
- b. The thermal oxidizer shall be equipped with instrumentation that continuously monitors the aqueous waste flow rate into the oxidizer to within 0.1 gallon/minute. [§2103.12.a.2.B; §2103.12.h.1; §2103.12.i]
- c. The thermal oxidizer and exhaust system shall be inspected visually for leaks as well as for integrity of the thermal oxidizer, process equipment, and gaseous collection systems by the permittee on a weekly basis. [IP #0037-I001a, condition V.A.3.a; §2103.12.a.2.B; §2103.12.i]
- d. The permittee shall have the following instrumentation properly installed, calibrated and operating with the specified accuracy: [IP #0037-I001a, condition V.A.3.a; §2103.12.a.2.B; §2103.12.i]
 - 1) The thermal oxidizer waste flow mass flow meter shall have an accuracy of plus or minus 0.20% for mass flow and plus or minus 0.02 g/cc for density. The meter shall be replaced every 12 consecutive months with a properly calibrated meter.
 - 2) The thermal oxidizer waste flow restriction orifice shall be sized to a flow of 4 gpm at a maximum and be replaced every 12 consecutive months with a properly calibrated orifice. [IP #0037-I001a, condition V.A.1.m; §62.14640]
 - 3) The temperature indicator shall have an accuracy of plus or minus 0.5% and be calibrated by the permittee every quarter.

- 4) The thermocouple calibration device shall have an accuracy and calibration frequency for type K thermocouples as follows:
 - a) Measure - plus or minus 0.5 °C (1yr), plus or minus 0.8°C (2yr)
 - b) Source - plus or minus 0.3 °C (1yr), plus or minus 0.4°C (2yr)
 - c) Calibration once every 12 consecutive months at a standards lab
 - 5) The thermal oxidizer thermocouples shall have an accuracy of plus or minus 2.0 °F or plus or minus 4% whichever is greater. The thermocouples shall be calibrated on a quarterly basis.
 - 6) The digital controller shall have an accuracy of 0.2% of full scale input and be calibrated by the permittee every quarter.
- e. The permittee shall perform a visual and olfactory inspection of reactors No. 41 & 42, condensers, cooling tanks V-857, V-858 & V-859, aqueous waste tank V-904, process vent systems, and ductwork on a semi-annual basis to ensure proper vapor collection. If found deficient, such equipment shall be repaired or replaced. [IP #0037-I001a, condition V.A.3.b]
 - f. The liquid level of the aqueous waste Tank V-904 shall be determined at least once per day and shall be able to be observed at all times. A control room high-liquid-level audible alarm shall be installed. [IP #0037-I001a, condition V.A.3.c]
 - g. Except for monitor malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), the permittee shall conduct all monitoring at all times the CISWI unit is operating. [§62.14695(a)]
 - h. The permittee shall not use data recorded during monitor malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of this permit, including data averages and calculations. The permittee shall use all the data collected during all other periods in assessing compliance with the operating limits. [§62.14695(b)]
 - i. The permittee shall continuously monitor the operating parameters established during the initial performance test per §62.14640, waste flow into the incinerator, and oxidizer combustion temperature. Operation above the established maximum or below the established minimum operating limits constitutes a deviation from the established operating limits. Three-hour rolling average values are used to determine compliance with the CISWI regulations unless a different averaging period was established for the initial performance test under §62.14640. Operating limits do not apply during performance tests. [§62.14670(b); §62.14640]
 - j. The permittee shall install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor compliance with the site-specific operating limits established during the initial performance test using the procedures §62.14640. [§62.14690(c); §62.14640]
 - k. The permittee shall take samples of the liquid waste into the incinerator twice per calendar quarter to analyze for lead, cadmium, mercury, and total chloride in accordance with the Waste Management Plan (WMP). Sampling shall be done at evenly spaced time frames during the monitoring periods. In accordance with the WMP and Compliance Monitoring Program (CMP), the permittee may petition the EPA and the Department to reduce the frequency of the liquid waste sampling and analysis. [§2103.12.a.2.B; §2103.12.i]
 - l. Samples of the liquid waste into the incinerator shall be analyzed for higher heating value, specific gravity and viscosity annually or more frequently if a process change occurs or if characteristics

are suspected of changing in a way that would affect the proper functioning of the incinerator. [§2103.12.a.2.B; §2103.12.i]

- m. Sampling, handling, preservation of liquid waste and chain of custody shall be conducted in accordance with Sections 4.1, 4.2 and 4.3 of the WMP with the exception of sampling during stack testing of the thermal oxidizer. Sampling of the liquid waste into the incinerator during any stack test for CISWI compliance shall consist of a minimum three representative samples of the liquid waste stream from tank V-904 during each stack test. The subsequent test reports shall include the methods and procedures taken to obtain representative samples. [§2103.12.a.2.B; §2103.12.i]
- n. Analytical methods use for the liquid waste analyses shall be in accordance with Section 5 of the WAP. [§2103.12.a.2.B; §2103.12.i]
- o. Analytical data validation for the liquid waste analyses shall be in accordance with Section 7.1 of the WMP with the following exception: a retest or re-sampling of the CISWI waste feed stream will not be considered valid unless the permittee submits the original test and sampling results, indicating an exceedance of the maximum theoretical concentration (MTC) to both the US EPA and the Department and demonstrates prior to re-sampling or testing that the same products and production rates will be utilized to the maximum extent practicable as when the exceedance of the MTC occurred, or such other conditions acceptable to both the EPA and the Department. [§2103.12.a.2.B; §2103.12.i]
- p. Any analytical results of the liquid waste analyses that are reported below the method detection limit will be assumed to be present at the full detection limit when calculating the theoretical emission concentrations. [§2103.12.a.2.B; §2103.12.i]
- q. The permittee shall calculate the maximum theoretical concentrations (MTCs) of lead, cadmium, mercury and hydrogen chloride allowed in the waste stream in order to demonstrate compliance with the CISWI emission limitations in condition V.A.1.h above. The permittee shall calculate the maximum theoretical concentrations (MTCs) of lead, cadmium, mercury, sulfur and hydrogen chloride allowed in the waste stream in order to demonstrate compliance with the hourly and annual emission limits in condition V.A.1.h above. MTC calculation shall be in accordance with Section 7.4.5 of the WMP and shall be conducted following each annual performance test specified in condition V.A.2.a.2) above. The calculated MTCs shall become effective on the day the permittee submits the stack test results to the EPA and the Department. The permittee shall be considered compliant with the emission standards for lead, cadmium, mercury, sulfur and hydrogen chloride in all instances when the analysis of the liquid waste is done in accordance with the WMP and the results are below the MTCs established for the sampling time frame. [§2103.12.a.2.B; §2103.12.h.1; §2103.12.i]
- r. At any time the permittee identifies a sample result from the liquid waste analyses that exceeds the MTC established as per condition V.A.3.q above for the sampling time frame, the permittee will have thirty (30) days from the date of receiving the sample result to notify the US EPA and the Department. The permittee will have ninety (90) days from the date of receiving the sample results to investigate and retest or resample the liquid waste to assure the EPA and Department a value less than the MTC was achieved. [§2103.12.a.2.B; §2103.12.h.1; §2103.12.i]
- s. For compliance purposes, all chlorine/chloride detected in the waste stream is converted to HCl emissions in the incinerator stack, unless the permittee demonstrates to the satisfaction of the EPA and the Department that for a particular product or group of products there is a correlation between

the liquid chlorine/chloride waste stream and HCl stack emissions. [§2103.12.a.2.B; §2103.12.i]

- t. The permittee shall evaluate all new raw materials to be introduced into the reactor processes or any other liquid that might be introduced into tank V-904 for combustion in the PR incinerator. The evaluation shall demonstrate that the recipe content of the new materials taken solely will not cause an exceedance of the MTC values for that time period. The evaluation shall be conducted in accordance with Section 2.5 of the continuous monitoring plan. [§2103.12.a.2.B; §2103.12.i]
- u. Should the permittee identify a new material which indicates based on recipe content that it would exceed the MTCs of the liquid waste stream, the permittee must first notify and receive approval from the EPA and the Department for use. To receive approval the permittee must provide material and processing information of sufficient proof to assure the EPA and the Department that the use of the material will not cause an exceedance of the MTCs for the liquid waste stream. [§2103.12.a.2.B; §2103.12.i]
- v. Recipe content means the material, based on the percentage of use, assumed to be diluted directly into the quantity of aqueous waste generated by that particular product recipe. [§2103.12.a.2.B; §2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data:
 - 1) Dates and results of all continuous monitoring and recording instrumentation and exhaust system inspections conducted under condition V.A.3.c above; [IP #0037-I001a, condition V.A.4.a]
 - 2) Dates and results of all continuous monitoring and recording instrumentation calibrations under condition V.A.3.c above; [IP #0037-I001a, condition V.A.4.a]
 - 3) Dates and results of all combustion chamber thermocouple calibrations under condition V.A.3.c above; [IP #0037-I001a, condition V.A.4.a]
 - 4) Dates and results of all inspections specified in condition V.A.3.e. [IP #0037- I001a, condition V.A.4.a]
 - 5) Polyester resins plant production for each type of polyester resin, name and amount of monomer introduced into the process and plant hours of operation (daily; monthly summary and 12-month rolling total); [IP #0037-I001a, condition V.A.4.b; §2103.12.a.2.B]
 - 6) Thermal oxidizer fuel usage (monthly, 12-month rolling total); [IP #0037-I001a, condition V.A.4.c]
 - 7) Amount of aqueous waste incinerated (daily, monthly, 12-month rolling total); [IP #0037-I001a, condition V.A.4.e]
 - 8) Flow rate of aqueous waste to the thermal oxidizer (hourly average, three hour rolling, daily) and thermal oxidizer firebox temperature (hourly average, three hour rolling); [IP #0037-I001a, condition V.A.4.e; §62.14700(b)(1)]
 - 9) Amount of ammonia or any other material used for neutralization of the aqueous waste (monthly, 12-month rolling total); [IP #0037-I001a, condition V.A.4.e]
 - 10) Dates of any filling of the aqueous waste tank above the upper limit warning (upon occurrence, monthly and 12-month summaries); [IP #0037-I001a, condition V.A.4.g]
 - 11) Records of operation, maintenance, inspection, calibration and/or replacement of process or control equipment other than that specified in conditions V.A.4.a.1) through V.A.4.a.4) above; and [§2103.12.a.2.B]
 - 12) Stack test and waste analyses protocols and reports. [§2103.12.a.2.B]
 - 13) New raw materials to be introduced into the reactor processes or any other liquid that might be

introduced into tank V-904 in accordance with condition V.A.3.t above and the evaluation demonstrating that there will be no exceedance of the MTCs. [§2103.12.a.2.B]

- b. Documentation shall be available at the facility and readily accessible for all CISWI unit operators that addresses the ten topics described in conditions V.A.4.b.1) through V.A.4.b.10) below. The permittee shall maintain this information and the training records required by this condition in a manner that can be readily accessed and are suitable for inspection upon request. [§62.14620(a)]
- 1) Summary of the applicable standards under 40 CFR 62 Subpart III;
 - 2) Procedures for receiving, handling, and charging waste;
 - 3) Incinerator startup, shutdown, and malfunction procedures;
 - 4) Procedures for maintaining proper combustion air supply levels;
 - 5) Procedures for operating the incinerator and associated air pollution control systems within the standards established under 40 CFR 62 Subpart III;
 - 6) Monitoring procedures for demonstrating compliance with the incinerator operating limits;
 - 7) Reporting and record-keeping procedures;
 - 8) The waste management plan required under conditions V.A.1.k and V.A.1.l above;
 - 9) Procedures for handling ash; and
 - 10) A list of the wastes burned during the performance test.
- c. The permittee shall also maintain the information specified in conditions V.A.4.c.1) through V.A.4.c.3) below. [§62.14620(c)]
- 1) Records showing the names of CISWI unit operators who have completed review of the information in condition V.A.4.b above as required by condition V.A.1.t above, including the date of the initial review and all subsequent annual reviews.
 - 2) Records showing the names of the CISWI operators who have completed the operator training requirements under conditions V.A.1.m, V.A.1.n & V.A.1.o above, met the criteria for qualification under conditions V.A.1.p & V.A.1.q above, and maintained or renewed their qualification under condition V.A.1.r above or condition V.A.1.s above. Records must include documentation of training, the dates of the initial and refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.
 - 3) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.
- d. The permittee shall maintain the items as specified in conditions V.A.4.d.1) through V.A.4.d.11) below for a period of at least 5 years: [§62.14700]
- 1) Calendar date of each record. [§62.14700(a)]
 - 2) Identification of calendar dates and times for which monitoring systems used to monitor operating limits were inoperative, inactive, malfunctioning, or out of control (except for downtime associated with zero and span and other routine calibration checks). Identify the operating parameters not measured, the duration, reasons for not obtaining the data, and a description of corrective actions taken. [§62.14700(c)]
 - 3) Identification of calendar dates, times, and durations of malfunctions, and a description of the malfunction and the corrective action taken. [§62.14700(d)]
 - 4) Identification of calendar dates and times for which data show a deviation from operating limits established for the initial performance test per §62.14640 with a description of the deviations, reasons for such deviations, and a description of corrective actions taken. [§62.14700(e)]
 - 5) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating limits, as applicable. Retain a copy of the complete test report including calculations. [§62.14700(f)]
 - 6) Records showing the names of CISWI unit operators who have completed review of the

- information in condition V.A.4.b above as required by condition V.A.1.t above, including the date of the initial review and all subsequent annual reviews. [§62.14700(g)]
- 7) Records showing the names of the CISWI operators who have completed the operator training requirements under conditions V.A.1.m, V.A.1.n & V.A.1.o above, met the criteria for qualification under conditions V.A.1.p & V.A.1.q above, and maintained or renewed their qualification under condition V.A.1.r above or condition V.A.1.s above. Records must include documentation of training, the dates of the initial and refresher training, and the dates of their qualification and all subsequent renewals of such qualifications. [§62.14700(h)]
 - 8) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours. [§62.14700(i)]
 - 9) Equipment vendor specifications and related operation and maintenance requirements for the incinerator, emission controls, and monitoring equipment. [§62.14700(k)]
 - 10) The information listed in condition V.A.4.b above. [§62.14700(l)]
 - 11) On a daily basis, keep a log of the quantity of waste burned and the types of waste burned (always required). [§62.14700(m)]
- e. The permittee shall maintain the following records of the sampling procedures used for waste samples required by condition V.A.3.k above: [§2103.12.a.2.B; §2103.12.j]
- 1) Name of individual collecting the sample;
 - 2) Dates and time the sample is collected;
 - 3) Sampling point location;
 - 4) Sample identification number; and
 - 5) Sample distribution and transportation
- f. The permittee shall maintain a database of all analytical results of the liquid waste analyses. [§2103.12.a.2.B; §2103.12.j]
- g. The Waste Management Plan (WMP) shall be maintained at the facility in accordance with Section 8 of the WMP. [§2103.12.a.2.B; §2103.12.j]
- h. All records shall be available onsite in either paper copy or computer-readable format that can be printed upon request. [§62.14705]
- i. The permittee shall record all instances of non-compliance with the conditions of this permit and corrective action taken to restore compliance, upon occurrence. [§2103.12.a.2.B; IP #0037-I001a, condition V.A.4.a]
- j. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2; IP #0037-I001a, condition V.A.4.d]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department (condition V.A.5.a.5) to the Department and EPA) in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k.1; IP #0037-I001a, conditions V.A.5.a, b, c & d; §2103.12.a.2.B]
- 1) Monthly and 12-month data required to be recorded by conditions V.A.4.a.5), V.A.4.a.6); V.A.4.a.7), V.A.4.a.8), V.A.4.a.9) & V.A.4.a.10) above;
 - 2) All stack tests;

- 3) Non-compliance information required to be recorded by V.A.4.i above;
 - 4) Monitoring records, reports, emission test results, calibration records, control equipment and production data and compliance status reports as requested by the Department; and
 - 5) All new raw materials introduced into the reactor processor and any other liquid that might be introduced into tank V-904 in accordance with condition V.A.3.t above and the evaluation demonstrating that there will be no exceedance of the MTCs.
- b. The permittee must submit the complete test report for performance test results obtained under condition V.A.2.a above to the Department and EPA no later than 60 days following a performance test. All reports must be signed by the facility's manager. [§62.14720; §2103.12.a.2.B; §2103.14.b; §2103.24.b]
- c. The permittee shall submit a report the Department and EPA every 12 months. The annual report shall include the items listed in conditions V.A.5.c.1) through V.A.5.c.8) below. If there is a deviation from the operating limits or the emission limitations, the permittee shall also submit deviation reports as specified in conditions V.A.5.d, V.A.5.e, V.A.5.f, V.A.5.g and V.A.5.h below. [§62.14725; §62.14730]
- 1) Company name and address.
 - 2) Statement by a responsible official, with that official's name, title, and signature certifying the accuracy of the content of the report.
 - 3) Date of report and beginning and ending dates of the reporting period.
 - 4) If no deviation from any emission limitation or operating limit that applies to the unit has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period, and that no monitoring system used to determine compliance with the operating limits was inoperative, inactive, malfunctioning or out of control.
 - 5) The highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported.
 - 6) Information recorded under condition V.A.4.d.2) above through V.A.4.d.4) above for the calendar year being reported.
 - 7) If a performance test was conducted during the reporting period, the results of that test.
 - 8) Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours, but less than 2 weeks.
- d. The permittee shall submit a deviation report to the Department and EPA if any recorded 3-hour average parameter level is above the maximum operating limit or below the minimum operating limit established in this permit, or if a performance test was conducted that deviated from any emission limitation. [§62.14735(a)]
- e. The deviation report must be submitted to the Department and EPA in accordance with General Condition III.15 above. [§62.14735(b)]
- f. In each report required under condition V.A.5.d above, for any pollutant or parameter that deviated from the emission limitations or operating limits specified in this permit, the permittee shall include the six items described in conditions V.A.5.f.1) through V.A.5.f.6) below. [§62.14740]
- 1) Dates and times of deviation;
 - 2) Averaged and recorded data for those dates;
 - 3) Duration and causes of each deviation and the corrective actions taken;
 - 4) Copy of operating limit monitoring data during each deviation and any test reports that document the emission levels;
 - 5) Dates, times, and causes for monitor downtime incidents (other than downtime associated with

- zero, span, and other routine calibration checks); and
- 6) Whether each deviation occurred during a period of startup, shutdown, or malfunction.
- g. If all qualified operators are not accessible for 2 weeks or more, the permittee shall take the two actions in conditions V.A.5.g.1) and V.A.5.g.2) below: [§62.14745(a)]
- 1) Submit a notification of the deviation to the Department and EPA within 10 days that includes the three items in conditions V.A.5.g.1)a) through V.A.5.g.1)c) below.
 - a) A statement of what caused the deviation.
 - b) A description of what is being done to ensure that a qualified operator is accessible.
 - c) The date when it is anticipated that a qualified operator will be available.
 - 2) Submit a status report to the Department and EPA every 4 weeks that includes the three items in conditions V.A.5.g.2)a) through V.A.5.g.2)c) below.
 - a) A description of what is being done to ensure that a qualified operator is accessible.
 - b) The date when it is anticipated that a qualified operator will be accessible.
 - c) Request approval from the Department to continue operation of the CISWI unit.
- h. If the CISWI unit was shut down by the Department under the provisions of condition V.A.1.v.2)b) above due to a failure to provide an accessible qualified operator, the permittee shall notify the Department and EPA that operation is being resumed once a qualified operator is accessible. [§62.14745(b)]
- i. The permittee shall submit notifications as provided by 40 CFR 60, Subpart A, §60.7 to the Department and EPA. [§62.14750]
- j. Reporting instances of non-compliance in accordance with condition V.A.5.a.3) above and/or a startup, shutdown malfunction plan, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

6. Work Practice Standard:

None except as provided elsewhere.

B. Process P001a: Polyester Resins Plant Batch, Blend, Thin & Weigh Tanks

Process Description:	Polyester Resin Plant Batch, Blend, Thin Tanks & Weigh Tanks
Facility ID:	Batch tanks V-872 to V-879 & V-930 to V-933 & V-935, blend tanks V-880 to V-888, thin tanks V-860, V-861 & V-862 and weigh tanks V-865 to V-870
Temperature:	Batch and blend tanks -77 °F to 99 °F (daily average); thin tanks -37 °F to 160 °F; weigh tanks -56 °F to 333 °F
Raw Materials:	Polyester resin, styrene, vinyl toluene and methyl methacrylate
Control Device:	None

1. Restrictions:

- a. The permittee shall not operate or allow to be operated the polyester resin plant unless batch tanks V-872 to V-879 & V-930 to V-933 & V-935 are operated according to the following conditions: [§2103.12.a.2.B]
- 1) The throughputs of styrene, vinyl toluene, and methyl methacrylate monomers shall be limited to 42,000,000 lbs, 5,175,000 lbs and 794,000 lbs respectively in any consecutive 12-month period;
 - 2) The combined maximum addition rate of monomer to the subject batch tanks is limited to 150 gpm at any time;
 - 3) The daily average temperature of the material in the batch tanks shall not exceed 99 °F except as specified in condition V.B.1.b below. The daily average temperature is determined by averaging the individual batch tank temperatures for each day. The lowest daily average temperature and the highest daily average temperature each month may be used to estimate monthly batch tank VOC and HAP emissions; and
 - 4) Only styrene, vinyl toluene and methyl methacrylate monomers shall be used in the batch tanks at any time. Additional monomers used require submittal of a SDS along with potential emission calculations demonstrating compliance with the emission limits in condition V.B.1.c below.
- b. When the daily average temperature exceeds 99 °F as specified in condition V.B.1.a.3) above, the VOC and HAP emissions shall be calculated from the batch tank data and material properties and include VOC and HAP emissions from working losses and losses due to heating of the material in the batch. [§2103.12.a.2.B]
- c. Combined emissions from batch tanks V-872 to V-879 & V-930 to V-934 shall not exceed the emissions limitations in Table V-B-1 below: [§2103.12.a.2.B]

TABLE V-B-1: Batch Tank Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	2.42
Total HAP	2.42
Styrene	0.79
Methyl methacrylate	1.52

* A year is defined as any consecutive 12-month period.

- d. The permittee shall not operate or allow to be operated the polyester resin plant unless blend tanks V-880 to V-888 are operated according to the following conditions: [§2103.12.a.2.B]
- 1) The throughputs of styrene, vinyl toluene and methyl methacrylate monomers shall be limited to 42,000,000 lbs, 5,175,000 lbs and 794,000 lbs respectively in any consecutive 12-month period;
 - 2) The combined maximum addition rate of monomer to the subject blend tanks is limited to 150 gpm at any time;
 - 3) The daily average temperature of the material in the blend tanks shall not exceed 99 °F except as specified in condition V.B.1.e below. The daily average temperature is determined by averaging the individual blend tank temperatures for each day. The lowest daily average temperature and the highest daily average temperature each month may be used to estimate monthly blend tank VOC and HAP emissions; and
 - 4) Only styrene, vinyl toluene and methyl methacrylate monomers shall be used in the blend tanks at any time. Additional monomers used require submittal of a SDS along with potential emission calculations demonstrating compliance with the emission limits in condition V.B.1.f below.
- e. When the daily average temperature exceeds 99 °F as specified in condition V.B.1.d.3) above, the VOC and HAP emissions shall be calculated from the blend tank data and material properties and include emissions from working losses and losses due to heating of the material in the batch. [§2103.12.a.2.B]
- f. Combined emissions from blend tanks V-880 to V-888 shall not exceed the emissions limitations in Table V-B-2 below: [§2103.12.a.2.B]

TABLE V-B-2: Blend Tank Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	1.23
Total HAP	1.23
Styrene	0.71
Methyl methacrylate	0.39

* A year is defined as any consecutive 12-month period.

- g. The permittee shall not operate or allow to be operated the polyester resin plant unless thin tanks V-860, V-861 & V-862 are operated according to the following conditions: [§2103.12.a.2.B]
- 1) The throughputs of styrene and vinyl toluene monomers shall be limited to 42,000,000 lbs and 5,175,000 lbs. respectively in any consecutive 12-month period;
 - 2) The combined maximum addition rate of monomer to the subject thin tanks is limited to 150 gpm at any time;
 - 3) The maximum temperature range of the material in any one batch for the thin tanks shall not exceed 37 °F to 160 °F at any time except as specified in condition V.B.1.h below; and
 - 4) Only styrene and vinyl toluene monomers shall be used in the thin tanks. Additional monomers used require submittal of a SDS along with potential emission calculations demonstrating compliance with the emission limits in condition V.B.1.i below.
- h. The VOC and HAP emissions for any one batch that occurs above the maximum temperature

specified in condition V.B.1.g.3) above shall be calculated from the thin tank data and material properties, and shall include working losses and losses from the thin tank due to heating of the material in the batch. [§2103.12.a.2.B]

- i. Combined emissions from thin tanks V-860, V-861 & V-862 shall not exceed the emissions limitations in Table V-B-3 below: [§2103.12.a.2.B]

TABLE V-B-3: Thin Tank Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	2.23
Total HAP	2.23
Styrene	2.10

* A year is defined as any consecutive 12-month period.

- j. Combined emissions from weigh tanks V-865 to V-870 shall not exceed the emissions limitations in Table V-B-4 below: [§2103.12.a.2.B]

TABLE V-B-4: Weigh Tank Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	0.77
Total HAP	0.71
Maleic Anhydride	0.066
Phthalic Anhydride	0.63

* A year is defined as any consecutive 12-month period.

- k. The Department reserves the right to require calculation of emissions from the batch, blend, and thin tanks using another more accurate method than that specified above. [§2103.12.h.1]

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled "Emissions Testing." [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall monitor and record each batch and blend tank operating temperatures once each day. [§2103.12.i]
- b. The permittee shall monitor each thin tank operating temperature continuously. [§2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain records of the following: [§2103.12.h.1; §2103.12.a.2.B]
- 1) Amount and type of all monomer throughput in plant production records (type of batch, monthly totals, 12-month totals);
 - 2) Manufacturer's pump rate specifications demonstrating compliance with conditions V.B.1.a.2), V.B.1.d.2) above, and V.B.1.g.2) above;
 - 3) Each batch and blend tank operating temperature used to determine the daily average temperatures specified in conditions V.B.1.a.3) and V.B.1.d.3) and the maximum thin tank operating temperature in V.B.1.g.3) above; (daily);
 - 4) Lowest daily average temperature and highest daily average temperature for each month for the combined batch tanks;
 - 5) Lowest daily average temperature and highest daily average temperature for each month for the combined blend tanks;
 - 6) Emission calculations as specified in conditions V.B.1.b, V.B.1.e and V.B.1.h above;
 - 7) Average monthly operating temperatures for combined batch tanks;
 - 8) Average monthly operating temperatures for combined blend tanks;
 - 9) All instances when the temperature deviates from the range specified in condition V.B.1.g.3) above; and
 - 10) Records of all inspections, maintenance, repairs and replacements.
- b. The permittee shall record all instances of non-compliance with the conditions of this permit and corrective action taken to restore compliance, upon occurrence. [§2103.12.h.1]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report rolling 12 month VOC and HAP emissions of the batch, blend and thin tanks to the Department in accordance with General Condition III.15 above. [§2103.12.k]
- b. The permittee shall report non-compliance information required to be recorded by V.B.4.b above to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report. [§2103.12.h.1; §2103.12.k]
- c. Reporting instances of non-compliance in accordance with condition V.B.5.a above, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

6. Work Practice Standard:

None except as provided elsewhere.

C. Process P001c: Polyester Resins Plant Loading Operations

Process Description:	Polyester Resin Plant Loading Operations
Facility ID:	Resin drum, tank truck & rail car out-loading; distributed (unprocessed) styrene & propylene glycol in-loading and out-loading propylene glycol in loading & out-loading
Materials Loaded:	Resin with styrene, vinyl toluene & methyl methacrylate and unprocessed styrene & propylene glycol
Loading Temperature:	Range: 56.1 °F (propylene glycol) to 130 °F (all other monomers)
Control Device:	None

1. Restrictions:

- a. The permittee shall not operate or allow to be operated the polyester resin plant loading equipment unless they are operated according to the following conditions: [§2103.12.a.2.B]
- 1) The throughputs of styrene, vinyl toluene and methyl methacrylate monomer due to resin out loading shall be limited to 42,000,000 lbs, 5,175,000 lbs and 794,000 lbs respectively in any consecutive 12-month period;
 - 2) The throughput of distributed styrene shall be limited to 38,000,000 lbs in any consecutive 12-month period;
 - 3) The maximum pump rate for distributed styrene in-loading & out-loading shall not exceed 150 gpm at any time;
 - 4) The maximum pump rates for resin (product) drum, tank truck & rail car out-loading shall not exceed 95 gpm at any time; and
 - 5) The loading temperatures of styrene, vinyl toluene and methyl methacrylate monomer due to resin out loading shall not exceed 99 °F on an average daily basis or 130 °F at any time. The loading temperature of distributed styrene shall not exceed 77 °F on a monthly average basis.
- b. The combined emissions from resin drum, tank truck & rail car out-loading shall not exceed the emissions limitations in Table V-C-1 below: [§2103.12.a.2.B]

TABLE V-C-1: PR Plant Outloading Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	2.99
Total HAP	2.99
Styrene	2.22
Methyl methacrylate	0.19

* A year is defined as any consecutive 12-month period.

- c. The emissions from unprocessed styrene in-loading & out-loading shall not exceed 2.35 lbs/hour or 0.30 tons per year. [§2103.12.g; §2103.12.h.1]
- d. Emissions from loading may be calculated as follows: [§2103.12.a.2.B]

$$12.46 \times V_p \times S \times MW \div R = \text{Loading losses in lbs/1000 gallons loaded}$$

- V_p = vapor pressure (psi) of volatile being loaded.
 S = 1.45 for product (splash loading); 0.5 for distributed monomer (bottom loading)
 MW = molecular weight of volatile being loaded.
 R = temperature of loading in degrees Rankine.

- e. The Department reserves the right to require calculation of emissions using another more accurate method than that specified in condition V.C.1.d above.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled "Emissions Testing." [§2103.12.h.1]

3. Monitoring Requirements:

None except as provided elsewhere.

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for the subject loading operations: [§2103.12.h.1; §2103.12.a.2.B]
- 1) Amount and type of monomer or material throughput (monthly, 12-month);
 - 2) Daily temperature of styrene tank V-2002, and the daily temperature of each batch, blend and thin tank (Since the maximum temperature occurs at the Batch and Blend Tanks, records required by condition V.B.4 above may be used.);
 - 3) Average vapor pressure and molecular weight of each resin monomer and single component material throughput (monthly, 12-month);
 - 4) All instances when the temperature deviates from the range specified in condition V.C.1.a.5); and
 - 5) Manufacturer's pump rate specifications, as specified in conditions V.C.1.a.3) and V.C.1.a.4) above.
- b. The permittee shall record all instances of non-compliance with the conditions of this permit and corrective action taken to restore compliance, upon occurrence. [§2103.12.h.1]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report rolling 12 month emissions due to the Polyester Resins Plant loading operations to the Department in accordance with General Condition III.15 above. [§2103.12.k]
- b. The permittee shall report non-compliance information required to be recorded by condition V.C.4.b above to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report. [§2103.12.h.1]
- c. Reporting instances of non-compliance in accordance with condition V.C.5.b above, does not

relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

6. Work Practice Standards:

None except as provided elsewhere.

D. Process P001d: Polyester Resin Plant Hot Oil Heater

Process Description: Polyester Resin Plant Hot Oil Heater
Facility ID: B-003
Max. Heat Input: 16.5 MMBtu/hr
Fuels: Natural gas
Control Device: None

1. Restrictions:

- a. At no time shall the permittee operate the hot oil heater unless the subject unit is properly operated and maintained according to good engineering practice. This includes but is not limited to: [RACT Order #227, §1.2; §2103.12.a.2.B]
 - 1) Performance of regular maintenance in accordance with manufacturer's recommendations;
 - 2) On-site maintenance of any manufacturer operating manuals or Operation & Maintenance Plan; and
 - 3) Operation according to the applicable terms and conditions of this permit.
- b. Particulate matter emissions when combusting natural gas only in the hot oil heater shall not exceed 0.008 lb/MMBTU. [§2104.02.a.1.A]
- c. Natural gas usage in the hot oil heater shall not exceed 15,720 scfh in any consecutive twelve-month period. [§2103.12.h.1]
- d. Nitrogen oxide (NO_x) emissions shall not exceed 0.43 lb/hr or 1.916 tons per year. [§2103.12.h.1]
- e. Only natural gas shall be fired in the Hot Oil heater at any time. All natural gas combusted shall be commercial pipeline quality gas. [§2103.12.h.1]

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled "Emissions Testing." [§2103.12.h.1]

3. Monitoring Requirements:

None except as provided elsewhere.

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for the hot oil heater: [RACT Order #227, §1.8; §2103.12.a.2.B; §2103.12.j; §2105.06]
 - 1) Fuel consumption (monthly, and 12-month), type of fuel consumed and suppliers' certification of sulfur content, and heating value;
 - 2) Cold starts (date, time and duration of each occurrence); and
 - 3) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon

occurrence along with corrective action taken to restore compliance. [§2103.12.j]

- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k]
 - 1) Monthly and 12-month data required to be recorded by condition V.D.4.a above;
 - 2) Cold start information: equipment and fuel(s) involved and the expected time and duration of the startup;
 - 3) Non-compliance information required to be recorded by V.D.4.a above.
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24-hours in advance in accordance with §2108.01.d is waived and the permittee may report all cold starts in accordance with Condition V.D.5.a above. [§2108.01.d; §2103.12.k]
- c. Reporting instances of non-compliance in accordance with condition V.D.5.a.3) above, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.k]

6. Work Practice Standards:

None except as provided elsewhere.

E. Process P001e: Polyester Resin Plant Pumps, Valves, etc.

Process Description: Polyester Resin Plant Pumps, Valves, etc
Major Emissions: Styrene, ethylene glycol, phthalic anhydride and maleic anhydride.
Control Device: None

1. Restrictions:

- a. Combined Emissions from all pumps, valves, connectors, etc. shall not exceed the emissions limitations in Table V-E-1 below: [§2103.12.a.2.B]

TABLE V-E-1: PR Plant Component Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Total VOCs	4.01
Total HAPs	2.17
Ethylene glycol	0.12
Maleic anhydride	0.05
Phthalic anhydride	0.036
Styrene	1.96

* A year is defined as any consecutive 12-month period.

- b. The permittee shall install a second valve, blind flange, plug, cap, or other equivalent sealing system on all open ended lines, except those equipped with safety pressure relief valves. [§2103.12.a.2.B]

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled "Emissions Testing." [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall develop and implement a leak detection and repair procedures for all pumps, valves, compressors, and safety pressure relief valves in VOC service collectively referred to as components. The leak detection and repair procedures shall include, at a minimum, the following: [§2103.12.a.2.B; §2103.12.i]
- 1) All components shall be inspected at a minimum once every 12-months by sight, sound, or smell for the occurrence of leaks. This condition in no way precludes the use of detection methods referenced in §2107.04 of Article XXI;
 - 2) Repair and reinspection of each leaking component within 15 days of detection or as soon as possible if a shutdown is required to make the repair;
 - 3) A leak check of each safety/relief valve associated with the batch reactors and cooling tanks

within 24 hours after such valve has been vented to the atmosphere, by sight, sound, or smell. This condition in no way precludes the use of detection methods referenced in §2107.04 of Article XXI.

- 4) Initiation of records of all components failing a leak inspection. Such records shall contain, at a minimum, the following:
 - a) The identification of each component;
 - b) The date on which each component was found leaking;
 - c) The identification and work order number of each component found leaking;
 - d) The location of each leaking component;
 - e) The type of each leaking component (for example: valve, seal, etc.);
 - f) The date of each repair; and
 - g) A descriptor indicating that the component cannot be repaired until the next process shutdown.

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain records required by Condition V.E.3.a.4) above. [§2103.12.a.2.B; §2103.12.j]
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with the corrective action taken to restore compliance. [§2103.12.a.2.B; §2103.12.j]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k]
 - 1) Summary of any exceptions to the repair and re-inspection requirements of V.E.3.a above. Summaries shall include each record of leak occurrence from condition V.E.3.a.4) above; and
 - 2) Non-compliance information required to be recorded by V.E.4.b above.
- b. Reporting instances of non-compliance, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.a.2.B; §2103.12.k]

6. Work Practice Standards:

None except as provided elsewhere.

F. Process P001f: Polyester Resin Plant Cooling Tower

Process Description: Polyester resin plant cooling tower
Facility ID: CT001a
Average Throughput: 3,000 gallons/minute
Control Device: None

1. Restrictions:

- a. The permittee shall properly maintain and operate the cooling tower at all times according to the following conditions: [Installation Permit #0037-I005, condition V.A.1.a; §2105.03]
 - 1) The cooling tower shall use municipal water at all times;
 - 2) Recirculating water flow rate shall not exceed 3,000 gpm;
 - 3) Total dissolved solids (TDS) concentration shall not exceed 3,500 mg/l at any time.
- b. Emissions from the polyester resin plant cooling tower shall not exceed the emissions limitations in Table V-F-1 below: [IP #0037-I005, condition V.A.1.b; §2103.12.a.2.B]

TABLE V-F-1: Cooling Tower Emission Limitations

POLLUTANT	lbs/hr	tpy *
Particulate Matter	0.26	1.14
Particulate Matter <10 µm	0.26	1.14
Particulate Matter <2.5 µm	0.26	1.14

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled “Emissions Testing.” [§2103.12.h.1]

3. Monitoring Requirements:

The permittee shall determine the total dissolved solids concentration of the circulating cooling tower water, monthly. [IP #0037-I005, condition V.A.3; §2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall record the monthly average recirculating water flowrate used in the cooling tower and the monthly total dissolved solids concentration measurements required by condition V.F.3 above. [IP #0037-I005, condition V.A.4.a; §2103.12.j]
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0037-I005, condition V.A.4.b; §2103.12.j]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made

available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall submit reports to the Department semiannually in accordance with General Condition III.15. The semiannual report shall include the following information: [IP #0037-I005, condition V.A.5.a; §2103.12.k]
 - 1) Monthly average recirculating water flowrate required under condition V.F.4.a;
 - 2) Any exceedances of the monthly TDS concentration required under condition V.F.1.a.3) above; and
 - 3) Instances of noncompliance and the reasons for such noncompliance with this permit.
- b. Reporting instances of non-compliance in accordance with condition V.F.5.a.3), does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 if appropriate. [§2103.12.k]

6. Work Practice Standards:

None except as provided elsewhere.

G. Process P001g: Polyester Resin Plant Storage Tanks

Process Description:	Above ground volatile organic storage tanks for raw material storage
Facility ID:	V-2002, V-300, V-650, V-651, V-847, V-846, V-848, V-849, V-850, V-851, V-852, & V-916
Capacity:	Various: 11,000 gallons to 550,000 gallons
Materials Stored:	Styrene, vinyl toluene, dicyclopentadiene, ethylene glycol, propylene glycol, diethylene glycol, dipropylene glycol, neopentyl glycol, & 2-ethyl hexanol
Tank Temperature:	Ambient with the exceptions of V-2002 styrene tank which stays below 77 °F (monthly average) between May and September, and V-850 neo-pentyl glycol tank which remains a constant 144 °F
Control Device:	Chiller on V-2002 only; nitrogen blanketing on V-650 & V-651

1. Restrictions:

- a. The permittee shall not place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure of 1.5 psia or greater under actual storage conditions in tanks V-300, V-650, V-651, V-847, V-846, V-849, V-850, V-851, & V-916 unless there is in operation on such tank pressure relief valves which are set to release at the higher of 0.7 psig of pressure or 0.3 psig of vacuum or at the highest possible pressure and vacuum in accordance with state or local fire codes, National Fire Prevention Association guidelines, or other national consensus standard approved in writing by the Department. [Installation Permit #0037-I006, condition V.A.1.a; §2105.12.a]
- b. The permittee shall not place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure greater than 1.5 psia under actual storage conditions in tanks V-2002 & V-848, unless the tanks are equipped with internal floating roofs meeting the requirements of Article XXI conditions §2105.12.b and 2105.12.c. [§2105.12.b.1]
- c. The permittee shall not place or store, or allow to be placed or stored, styrene as a raw material in any tank other than tank V-2002. Styrene shall not be stored in tank V-2002 unless a tank chiller is in operation at all times during May through September of every calendar year. Only styrene shall be stored in tank V-2002. The contents of the subject tank shall not exceed a temperature of 77 °F on a monthly average basis. [§2103.12.a.2.B]
- d. The combined emissions from storage tanks V-2002, V-300, V-650, V-651, V-847, V-846, V-848, V-849, V-850, V-851, V-852, & V-916 shall not exceed the emissions limitations in Table V-G-1 below: [IP #0037-I006, condition V.A.1.b; §2103.12.a.2.B]

TABLE V-G-1: PR Plant Storage Tank Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	1.42
Hazardous Air Pollutants	1.18
Styrene	1.14

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled "Emissions Testing." [§2103.12.h.1]

3. Monitoring Requirements:

The temperature of tank V-2002 contents shall be monitored continuously to within 3°F. Such instrumentation shall be calibrated at least once every two years. [§2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for each tank: [IP #0037-I006, condition V.A.4.a; §2103.12.a.2.B; §2103.12.j]
 - 1) Type, amount, and period of storage of each volatile organic liquid stored (monthly and 12-month);
 - 2) Daily temperature of tank V-2002;
 - 3) Average monthly true vapor pressure of each liquid as-stored; and
 - 4) Readily accessible records, showing the dimension of each subject storage vessel and an analysis showing the capacity of each storage vessel. These records shall be kept for the life of the subject tanks.
- b. Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below. [IP #0037-I006, condition V.A.4.b; §2103.12.a.2.B; §2103.12.j]
 - 1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature.
 - 2) For volatile liquids the vapor pressure:
 - a) May be obtained from standard reference texts, or
 - b) Determined by ASTM Method D2879–83 (incorporated by reference – see 40 CFR §60.17); or
 - c) Measured by an appropriate method approved by the Department; or
 - d) Calculated by an appropriate method approved by the Department.
- c. The permittee shall record all instances of non-compliance with the conditions of this permit and corrective action taken to restore compliance, upon occurrence. [§2103.12.j]
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0037-I006, condition V.A.5.a; §2103.12.k]
 - 1) Data required to be recorded by conditions V.G.4.a.1) and V.G.4.a.2) above; and
 - 2) Non-compliance information required to be recorded by V.G.4.c above.

- b. Reporting instances of non-compliance in accordance with condition V.G.5.a above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above if appropriate. [§2103.12.k.1]

6. Work Practice Standards:

None except as provided elsewhere.

H. Process P002 & P004: Plasticizer Terminal Loading Operations

Process Description: Plasticizer Terminal Loading and Distribution Operations
Facility ID: Plasticizer Distribution (P002), 2-Ethyl Hexanol Distribution (P004)
Materials Loaded: Plasticizer, 2-ethyl hexanol
Loading Temperature: 316 °F (P002), 77 °F (P004)
Control Device: None

1. Restrictions:

- a. The permittee shall not operate or allow to be operated the Plasticizer Terminal loading equipment unless they are operated according to the following conditions: [§2103.12.a.2.B]
 - 1) The throughput of plasticizer shall be limited to 600,000,000 lbs in any consecutive 12-month period;
 - 2) The throughput of 2-ethyl hexanol shall be limited to 394,200,000 lbs in any consecutive 12-month period;
 - 3) The maximum pump rate for distributed plasticizer or 2-ethyl hexanol shall not exceed 134 gpm at any time;
 - 4) The loading temperature of plasticizer shall not exceed 316 °F on an average monthly basis;
 - 5) The permittee may use the pre-heat temperature as the maximum loading temperature of plasticizer and 2-ethyl hexanol required under conditions V.H.1.a.4) through V.H.1.a.5) above.
- b. Solids charging and blending in the plasticizer distribution process shall be limited to 150,000 lbs per 12-month period of topanol. Temperature during blending shall not exceed 212 °F. [§2103.12.a.2.B]
- c. The emissions from plasticizer distribution shall not exceed the emissions limitations in Table V-H-1 below: [§2103.12.a.2.B]

TABLE V-H-1: Plasticizer Distribution Emission Limitations

POLLUTANT	Short-Term Emission Limit (lb/hr)	Annual Emission Limit (tons/year)*
Particulate Matter	0.17	0.75
Particulate Matter <10 µm	0.17	0.75
Particulate Matter <2.5 µm	0.17	0.75
Volatile Organic Compounds	0.42	1.98

* A year is defined as any consecutive 12-month period.

- d. The emissions from 2-ethyl hexanol distribution shall not exceed 0.24 lbs/hour or 0.88 tons per year of VOC. [§2103.12.a.2.B]
- e. Emissions from loading may be calculated as follows: [§2103.12.a.2.B]

$$12.46 \times V_p \times S \times MW \div \text{°R} = \text{Loading losses in lbs/1000 gallons loaded}$$

V_p = vapor pressure (psi) of volatile being loaded.

- S = 1.45 for splash loading; 0.5 for bottom loading
MW = molecular weight of volatile being loaded.
R = temperature of loading in degrees Rankine.

- f. The Department reserves the right to require calculation of emissions using another more accurate method than that specified in condition V.H.1.e above. [§2103.12.a2.B; §2103.12.h.1]

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled “Emissions Testing.” [§2103.12.h.1]

3. Monitoring Requirements:

None except as provided elsewhere.

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for the subject loading operations: [§2103.12.h.1; §2103.12.a.2.B]
- 1) Amount and type of material throughput (monthly, 12-month); and
 - 2) Amount of topanol added to plasticizer tanks (monthly, 12-month).
- b. In lieu of keeping molecular weight and vapor pressure records, the permittee may use the molecular weight and vapor pressure found on the supplier safety data sheets. [§2103.12.h.1]
- c. The permittee shall record all instances of non-compliance with the conditions of this permit and corrective action taken to restore compliance, upon occurrence. [§2103.12.h.1]
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report rolling 12 month emissions due to the Plasticizer Distribution and 2-Ethyl Hexanol Distribution operations to the Department in accordance with General Condition III.15 above. [§2103.12.k]
- b. The permittee shall report non-compliance information required to be recorded by condition V.H.4.b above to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report. [§2103.12.h.1]
- c. Reporting instances of non-compliance in accordance with condition V.H.5.b above, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

6. Work Practice Standards:

None except as provided elsewhere.

I. Process P002d: Maleic Anhydride Storage Tanks

Process Description: Above ground volatile organic storage tanks for raw material and product storage
Facility ID: F-4506 and F-4602,
Capacity: 20,000 gallons and 150,000 gallons, respectively
Materials Stored: Refined maleic anhydride
Tank Temperature: 149 °F maximum,
Control Device: None

1. Restrictions:

- a. The permittee shall not place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure of 1.5 psia or greater under actual storage conditions in tank F-4506, unless there is in operation on such tank pressure relief valves which are set to release at the higher of 0.7 psig of pressure or 0.3 psig of vacuum or at the highest possible pressure and vacuum in accordance with state or local fire codes, National Fire Prevention Association guidelines, or other national consensus standard approved in writing by the Department. [§2105.12.a; §2103.12.a.2.B]
- b. The permittee shall not place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure greater than 1.5 psia under actual storage conditions in tank F-4602, unless the conditions of Article XXI, §2105.12.b & c for floating roofs are met. [§2105.12.b]
- c. Maleic anhydride shall only be stored in tanks F-4506 and F-4602 at or below 149 °F. [§2105.12.b]
- d. Throughput of maleic anhydride shall be limited to 74,000,000 lbs in any consecutive 12-month period. [§2103.12.a.2.B]
- e. The combined emissions from storage tanks F-4506 and F-4602 shall not exceed the emissions limitations in Table V-I-1 below: [§2103.12.a.2.B]

TABLE V-I-1: MA Storage Tank Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	0.43
Hazardous Air Pollutants	0.43

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled "Emissions Testing." [§2103.12.h.1]

3. Monitoring Requirements:

Instrumentation shall be provided on tanks F-4506 and F-4602 to continuously measure the temperature of each tank's contents to within 3 °F, in accordance with condition V.I.1.c above. Such instrumentation shall

be calibrated at least once every two years. [§2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for each subject tank: [§2103.12.a.2.B; §2103.12.j]
 - 1) Type, amount and period of storage of each volatile organic liquid stored (monthly and 12-month);
 - 2) Maximum true vapor pressure of each liquid as stored (monthly); and
 - 3) Readily accessible records, showing the dimension of each subject storage vessel and an analysis showing the capacity of each storage vessel. These records shall be kept for the life of the subject tanks. [§63.123(a)]
- b. Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below. [§2103.12.a.2.B; §2103.12.j]
 - 1) The maximum true vapor pressure shall be calculated based upon average monthly tank temperature.
 - 2) For volatile liquids the vapor pressure:
 - a) May be obtained from standard reference texts, or
 - b) Determined by ASTM Method D2879–83 (incorporated by reference—see 40 CFR 60.17); or
 - c) Measured by an appropriate method approved by the Department; or
 - d) Calculated by an appropriate method approved by the Department.
- c. The permittee shall record all instances of non-compliance with the conditions of this permit and corrective action taken to restore compliance, upon occurrence. [§2103.12.j]
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k]
 - 1) Data required to be recorded by conditions V.I.4.a.1) and V.I.4.a.2) above; and
 - 2) Non-compliance information required to be recorded by V.I.4.c above.
- b. Reporting instances of non-compliance in accordance with condition V.I.5.a.2) above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. (§2103.12.k.1)

6. Work Practice Standards:

None except as provided elsewhere.

J. Process P005: Maleic Anhydride Pastillation

Process Description: Pastillation of Maleic Anhydride
Max. Design Rate: 15,000,000 pounds per year
Raw Materials: Maleic Anhydride
Control Device: Dust Collector and Vertical Packed Bed Scrubber

1. Restrictions:

- a. The permittee shall not operate or allow to be operated the maleic anhydride pastillation process unless emissions are captured and directed to a baghouse at all times during operation. [Installation Permit #0037-I011, condition V.A.1.a; §2103.12.a.2.D]
- b. The permittee shall not operate or allow to be operated the maleic anhydride pastillation process unless all emissions are controlled by a wet scrubber system meeting the following conditions: [IP #0037-I011, condition V.A.1.b; §2103.12.a.2.D; §2103.12.a.2.B]
 - 1) The minimum control efficiency shall be 95%
 - 2) The maximum acid strength shall be no more than 40% by weight;
- c. The throughput of Maleic Anhydride through the pastillator belt shall be limited to 15,000,000 lbs/year. [IP #0037-I011, condition V.A.1.c]
- d. The differential pressure drop across the baghouse compartment shall be maintained at less than 6 inches w.c. at all times while the baghouse is in operation. [IP #0037-I011, condition V.A.1.d; §2103.12.a.2.D]
- e. The baghouse shall operate at or above a minimum control efficiency of 99.99% [IP #0037-I011, condition V.A.1.e; §2103.12.a.2.D]
- f. Emissions from the baghouse shall not exceed the limits in Table V-J-1 at any time: [IP #0037-I011, condition V.A.1.f; §2103.12.a.2.D; §2103.12.a.2.B]

TABLE V-J-1: Maleic Anhydride Pastillation PM Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.01	0.04
PM ₁₀	0.01	0.04
PM _{2.5}	0.01	0.04

* A year is defined as any consecutive 12-month period.

- g. Emissions from the wet scrubber stack shall not exceed the limits in Table V-J-2 at any time: [IP #0037-I011, condition V.A.1.g; §2103.12.a.2.D; §2103.12.a.2.B]

TABLE V-J-2: Maleic Anhydride Pastillation VOC Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	0.429	1.88
Maleic Anhydride	0.429	1.88

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with IV.13. [IP #0037-I011, condition V.A.2.d; §2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall provide instrumentation to monitor and record the differential pressure drop across the baghouse to within 1/10 of an inch w.c. The instrumentation shall be maintained in good working condition at all times and be located in an easily accessible location. [IP #0037-I011, condition V.A.3.a; §2103.12.a.2.D; 2103.12.i]
- b. The permittee shall perform monthly preventative maintenance inspections for the baghouse. Inspections shall include but not be limited to: (2105.03)
 - 1) Inspection of filter media for blinding, leakage, wear, slack, bag tension, loose bag clamps, or discoloration.
 - 2) Inspection of the overall collector and compartment housings, hooding, and connecting ductwork for leakage, corrosion, or dust accumulation. Inspect for erosion or dust buildup in the housing.
 - 3) Inspection of all solenoid-operated pneumatic damper actuators, airlocks, and valves for proper seating, dust accumulation, leakage, synchronization, and operation.
 - 4) Compare frequency of cleaning with that recommended by the manufacturer.
 - 5) Inspection of access doors for leaks due to faulty gaskets or warping of doors and/or frames.
 - 6) Bags shall be replaced and repairs shall be made as necessary.
- c. The scrubber shall be equipped with instrumentation that shall monitor the following at all times during operation of the maleic anhydride pastillation process: [IP #0037-I011, condition V.A.3.c; §2103.12.a.2.D; §2103.12.i]
 - 1) scrubbing liquid flowrate to within 1 gallon per minute;
 - 2) differential pressure to within ½" w.c. of the actual pressure drop;
- d. The permittee shall inspect the baghouse and wet scrubber system weekly to ensure that there is no evidence of chemical attack on the structural integrity. Immediate repairs shall be made to correct any failures or deficiencies observed in the system. [IP #0037-I011, § condition V.A.3.d; 2103.12.a.2.D; §2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall maintain a maintenance log for the baghouse. The records shall contain at a minimum: (2103.12.h.1.; 2103.12.j)

- 1) The date and result of inspections required by Condition V.J.3.b.
 - 2) The date of the last bag (or cartridge) replacement.
 - 3) Any mechanical repairs or adjustments made.
 - 4) All records of the differential pressures while the source is in operation.
- b. The permittee shall keep and maintain the following records for the maleic anhydride pastillation process: [IP #0037-I011, condition V.A.4.b; §2103.12.a.2.D; §2103.12.j]
- 1) Process throughput (monthly, 12-month);
 - 2) Scrubbing liquid flowrate (monthly, 12-month);
 - 3) Differential pressure to within ½" w.c. of the actual pressure drop (daily, monthly, 12-month);
 - 4) Records of weekly inspections required under condition V.J.3.d above;
 - 5) Records of operation, maintenance, calibration, and/or replacement of process or control equipment;
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence, along with corrective action taken to restore compliance. [IP #0037-I011, condition V.A.4.c; §2103.12.a.2.D; §2103.12.a.2.B]
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [IP #0037-I011, condition V.A.4.d; §2103.12.j.2]

5. Reporting Requirements:

- a. For the baghouse, the permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15. The reports shall contain the following information: [IP #0037-I011, condition V.A.5.a; §2103.12.k]
- 1) Excursions outside the differential pressures specified in Condition V.J.1.d above.
 - 2) Records of maintenance performed as a result of inspections required by V.J.3.b above.
- b. For the wet scrubber, the permittee shall report the following information semiannually to the Department in accordance with General Condition III.15 above. The reports shall contain the following information: [IP #0037-I011, condition V.A.5.b; §2103.12.a.2.D; §2103.12.k]
- 1) Dates of the reporting period;
 - 2) Process throughput required to be recorded by condition V.J.4.b.1) above
 - 3) Monthly minimum, average, and maximum values for the data required to be recorded by conditions V.J.4.b.2) through 4) above;
 - 4) Records of any maintenance and/or corrective action performed as a result of the inspections required by condition V.J.3.d above for the reporting period;
 - 5) Non-compliance information required to be recorded by condition V.J.4.c above;
- c. Reporting instances of non-compliance in accordance with V.J.4.c above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [IP #0037-I011, condition V.A.5.c; §2103.12.a.2.D; §2103.12.k]

6. Work Practice Standard:

- a. The permittee shall do the following for the Maleic Anhydride Pastillation process and associated equipment: [IP #0037-I011, condition V.A.6.a; §2105.03]

- 1) Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures; and
 - 2) Keep records of any maintenance;
- b. The permittee shall maintain on site all operating and maintenance manuals and equipment specifications for the wet scrubber system for the life of the equipment. [IP #0037-I011, condition V.A.6.b; §2105.03]
- c. The permittee shall maintain on site all operating and maintenance manuals and equipment specifications for the baghouse for the life of the equipment. [IP #0037-I011, condition V.A.6.c; §2105.03]

K. Tanks D002, D008, & D009: Plasticizer Terminal Storage Tanks

Process Description: Above ground volatile organic storage tanks for storage and transfer
Facility ID: T-11 to T-17, T-22, T-201, T-203, T-204, T-205, T-208 to T-211, T-222, T-227 to T-232, T-501, T-511 to T-517, T-521 to T-525, T-531 to T-534, T-540 to T-543, T-551, & T-552 (D002)
 T-109 to T-113, T-119 to T-122 (D008)
 MF-402C (D009)
Capacity: Various: 10,000 gallons to 500,000 gallons
Materials Stored: Plasticizer (D002), 2-ethyl hexanol (D008), phthalic anhydride (D009)
Tank Temperature: Ambient
Control Device: none

1. Restrictions:

- a. The throughput of phthalic anhydride shall be limited to 36,000,000 lbs in any consecutive 12-month period.
- b. The permittee shall not place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure of 1.5 psia or greater under actual storage conditions in tanks T-121, T-122, T-208 to T-211, T-222, T-501, T-511 to T-516, T-521 to T-524, T-531, T-532, & T-534 unless there is in operation on such tank pressure relief valves which are set to release at the higher of 0.7 psig of pressure or 0.3 psig of vacuum or at the highest possible pressure and vacuum in accordance with state or local fire codes, National Fire Prevention Association guidelines, or other national consensus standard approved in writing by the Department. [§2105.12.a]
- c. The permittee shall not place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure greater than 1.5 psia under actual storage conditions in tanks T-11 to T-17, T-22, T-109 to T-113, T-119, T-120, T-201, T-203, T-204, T-205, T-227 to T-232, T-517, T-525, T-533, T-540 to T-543, T-551, T-552, & MF-402C unless the tanks are equipped with internal floating roofs meeting the requirements of Article XXI conditions §2105.12.b and 2105.12.c. [§2105.12.b.1]
- d. The combined emissions from storage tanks T-11 to T-17, T-22, T-201, T-203, T-204, T-205, T-208 to T-211, T-222, T-227 to T-232, T-501, T-511 to T-517, T-521 to T-525, T-531 to T-534, T-540 to T-543, T-551, & T-552 shall not exceed the emissions limitations in Table V-K-1 below: [§2103.12.a.2.B]

TABLE V-K-1: Plasticizer Storage Tank Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	0.71

* A year is defined as any consecutive 12-month period.

- e. The combined emissions from storage tanks T-109 to T-113, T-119 to T-122 shall not exceed the emissions limitations in Table V-K-2 below: [§2103.12.a.2.B]

TABLE V-K-2: 2-Ethyl Hexanol Storage Tank Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	0.26

* A year is defined as any consecutive 12-month period.

- f. The emissions from tank MF-402C shall not exceed the emissions limitations in Table V-K-3 below: [§2103.12.a.2.B]

TABLE V-K-3: Phthalic Anhydride Storage Tank Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	1.86
HAP	1.86

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled “Emissions Testing.” [§2103.12.h.1]

3. Monitoring Requirements:

None, except as provided elsewhere.

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for each tank: [§2103.12.a.2.B; §2103.12.1]
- 1) Type, amount, and period of storage of each volatile organic liquid stored (monthly and 12-month); and
 - 2) Readily accessible records, showing the dimension of each subject storage vessel and an analysis showing the capacity of each vessel. These records shall be kept for the life of the subject tanks.
- b. In lieu of keeping molecular weight and vapor pressure records, the permittee may use the molecular weight and vapor pressure found on the supplier safety data sheets. [§2103.12.h.1]
- c. Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below. [§2103.12.a.2.B; §2103.12.j]
- 1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature.

- 2) For volatile liquids the vapor pressure:
 - a) May be obtained from standard reference texts, or
 - b) Determined by ASTM Method D2879–83 (incorporated by reference – see 40 CFR §60.17); or
 - c) Measured by an appropriate method approved by the Department; or
 - d) Calculated by an appropriate method approved by the Department.
- d. The permittee shall record all instances of non-compliance with the conditions of this permit and corrective action taken to restore compliance, upon occurrence. [§2103.12.j]
- e. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k]
 - 1) Data required to be recorded by condition V.K.4.a.1) above; and
 - 2) Non-compliance information required to be recorded by V.K.4.d above.
- b. Reporting instances of non-compliance in accordance with condition V.K.5.a.2) above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 if appropriate. [§2103.12.k.1]

6. Work Practice Standards:

None, except as provided elsewhere.

L. Boilers B004, B005, & B006: Cleaver Brooks 10.206 MMBtu/hr Boilers

Process Description: Boilers
 Facility ID: B004, B005, & B006
 Max. Design Rate: 10.206 MMBtu/hr per boiler
 Primary Fuel: natural gas
 Secondary Fuel: none
 Control: low-NO_x burners

1. Restrictions

- a. At no time shall the permittee operate Boilers B004, B005, or B006 using fuel other than utility-grade natural gas. [Installation Permit #0037-I008, condition V.A.1.a; §2103.12.a.2.D]
- b. Heat input shall be limited to 10.206 MMBtu/hr per boiler. [IP #0037-I008, condition V.A.1.b; §2103.12.a.2.D]
- c. Emissions of particulate matter from each boiler shall not exceed 0.008 lb/MMBtu. [IP #0037-I008, condition V.A.1.c; §2103.12.a.2.D]
- d. Emissions of carbon monoxide from each boiler shall not exceed 50 ppm_{vd} at 3% O₂. [IP #0037-I008, condition V.A.1.d; §2103.12.a.2.D]
- e. Emissions of nitrogen oxides from each boiler shall not exceed 20 ppm_{vd} at 3% O₂. [IP #0037-I008, condition V.A.1.e; §2103.12.a.2.D]
- f. Emissions from B004, B005, and B006 shall not exceed the limitations in Table V-L-1 at any time: [IP #0037-I008, condition V.A.1.f; §2103.12.a.2.D]

TABLE V-L-1: Boiler B004, B005, & B006 Emission Limitations

Pollutant	Short-Term Limits Per Boiler (lb/hr)	Long-Term Limits Per Boiler (tpy)*	Long-Term Limits Total (tpy)*
Particulate Matter	0.082	0.324	1.073
PM ₁₀	0.082	0.324	1.073
PM _{2.5}	0.082	0.324	1.073
Nitrogen Oxides	0.244	1.068	3.202
Sulfur Oxides	0.007	0.029	0.088
Carbon Monoxide	0.377	1.653	4.959
VOCs	0.062	0.269	0.808
CO _{2e}	1,194	5,231	15,691

* A year is defined as any consecutive 12-month period.

2. Testing Requirements

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [IP #0037-I008, condition V.A.2; §2103.12.h.1]

3. Monitoring Requirements

The permittee shall install and maintain the necessary meter(s) to determine and to record the monthly amount of fuel usage. [IP #0037-I008, condition V.A.3; §2103.12.i]

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following data: [IP #0037-I008, condition V.A.4.a; §2103.12.j; §60.48c(g)(2)]
 - 1) Fuel consumption (monthly, and 12-month totals);
 - 2) Cold starts (date, time and duration of each occurrence); and
 - 3) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0037-I008, condition V.A.4.b; §2103.12.j]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [IP #0037-I008, condition V.A.4.c; §2103.12.j.2; §60.48c(i)]

5. Reporting Requirements

- a. The permittee shall submit semiannual reports to the Department in accordance with General Condition III.15. [IP #0037-I008, condition V.A.5.b; §2103.12.k]
- b. The semiannual report shall include the following information: [IP #0037-I008, condition V.A.5.c; §2103.12.k; §60.48c(g)(2)]
 - 1) Calendar dates covered in the reporting period;
 - 2) Records of fuel combustion required under condition V.L.4.a.1) above;
 - 3) Cold start information; and
 - 4) Reasons for any noncompliance with the emission standards.
- c. The permittee shall submit copies of all requests, reports, applications, submittals, and other communications to both EPA and the Department. [IP #0037-I008, condition V.A.5.d; §2103.12(j); §60.48c(j)]
- d. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with Site Level Condition IV.9 is waived and the permittee may report all cold starts in the semiannual report required under condition V.L.5.a above. [IP #0037-I008, condition V.A.5.e; §2103.12.k; §2108.01.d]
- e. Reporting instances of non-compliance in accordance with condition V.L.5.b.4) above, does not

relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [IP #0037-I008, condition V.A.5.f; §2103.12.k]

6. Work Practice Standard

- a. Each boiler shall be properly installed, maintained, and operated at all times consistent with good air pollution control practice, with the exception of activities to mitigate emergency conditions. [IP #0037-I008, condition V.A.6.a; §2105.03]
- b. Each boiler shall be properly operated and maintained according to manufacturer's specifications. The manufacturer's specification and operation & maintenance manuals shall be kept on site at all times for the life of the boiler. [IP #0037-I008, condition V.A.6.b; §2102.04.e]

M. Boilers B007: York Shipley Boiler

Facility ID: B007
 Max. Design Rate/Units: 28.8 MMBtu/hr
 Raw Materials: Natural Gas
 Control Device(s): Ultra-Low NO_x Burners

The permittee is also subject to the following conditions:

1. Restrictions

- a. Only pipeline-quality natural gas shall be combusted in the boiler. [IP #0037-I010, condition V.A.1.a; §2103.12.a.2.D]
- b. Heat input shall be limited to 28.8 MMBtu/hr. [IP #0037-I010, condition V.A.1.b; §2103.12.a.2.D]
- c. The amount of natural gas combusted per boiler shall not exceed 27,430 scf per hour or 240.3 mmscf in any consecutive 12-month period. [IP #0037-I010, condition V.A.1.c; §2103.12.a.2.D]
- d. Emissions of particulate matter shall not exceed 0.008 lb/MMBtu. [IP #0037-I010, condition V.A.1.d; §2103.12.a.2.D]
- e. Emissions of carbon monoxide shall not exceed 50 ppm_{vd} at 3% O₂. [IP #0037-I010, condition V.A.1.e; §2103.12.a.2.D]
- f. Emissions of nitrogen oxides shall not exceed 9 ppm_{vd} at 3% O₂. [IP #0037-I010, condition V.A.1.f; §2103.12.a.2.D]
- g. Emissions from B007 shall not exceed the following at any time: [IP #0037-I010, condition V.A.1.g; §2103.12.a.2.D]

TABLE V-M-1 – Boiler B007 Emission Limitations

Pollutant	Short-Term Emissions (lb/hr)	Long-Term Emissions (tpy) ²
Particulate Matter ¹	0.23	1.01
PM ₁₀ ¹	0.23	1.01
PM _{2.5} ¹	0.23	1.01
Nitrogen Oxides	0.32	1.39
Sulfur Oxides	0.02	0.08
Carbon Monoxide	1.07	4.67
Volatile Organic Compounds	0.12	0.51

1. Includes both filterable and condensable particulate.

2. A year is defined as any consecutive 12-month period.

2. Testing Requirements

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [IP #0037-I010, condition V.A.2; §2103.12.h.1]

3. Monitoring Requirements

The permittee shall install and maintain the necessary meter(s) to determine and to record the amount of natural gas combusted. [IP #0037-I010, condition V.A.3; §2103.12.i]

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following records: [IP #0037-I010, condition V.A.4.a; §2103.12.j]
 - 1) Monthly natural gas consumption; [§60.47c(g)(2)]
 - 2) Cold starts (date, time, and duration of each occurrence); and
 - 3) Records of operation, maintenance, inspection, calibration, tune-ups, and/or replacement of equipment.
- b. As an alternative to recording the natural gas consumption of B007 as required under conditions V.M.3 and V.M.4.a.1) above, the permittee may elect to keep and maintain records of the total amount of natural gas used by all steam-generating units at the facility. [IP #0037-I010, condition V.A.4.b; §60.47c(g)(3)]
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0037-I010, condition V.A.4.c; §2103.12.a.2.D]
- d. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [IP #0037-I010, condition V.A.4.d; §2103.12.j.2; §60.47c(i)]

5. Reporting Requirements

- a. The permittee shall submit semiannual reports to the Department in accordance with General Condition III.15. [IP #0037-I010, condition V.A.5.a; §2103.12.k; §60.47c(j)]
- b. The semiannual report shall include the following information: [IP #0037-I010, condition V.A.5.b; §2103.12.k]
 - 1) Calendar dates covered in the reporting period;
 - 2) The fuel combustion records required under condition V.M.4.a above;
 - 3) Cold start information; and
 - 4) Reasons for any noncompliance with the conditions in this permit.
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [IP #0037-I010, condition V.A.5.c; §2103.12.k.1]
- d. Until terminated by written notice from the Department, the requirement for the permittee to report

cold starts 24 hours in advance in accordance with Site Level Condition IV.9 is waived and the permittee may report all cold starts in the semi-annual report required under condition V.M.5.b above. [IP #0037-I010, condition V.A.5.d; §2103.12.k]

6. Work Practice Standard

- a. The permittee shall perform an annual adjustment or tune-up on the boilers to include at a minimum: [IP #0037-I010, condition V.A.6.a; §2105.03]
 - 1) Inspection, adjustment, cleaning, or replacement of fuel-burning equipment, including the burners and moving parts necessary for proper operation as specified by the manufacturer;
 - 2) Inspection of the flame pattern or characteristics and adjustments necessary to minimize total emissions of NO_x, and to the extent practicable, minimize the emissions of CO; and
 - 3) Inspection of the air-to-fuel ratio, control system, and adjustment necessary to insure proper calibration and operation as specified by the manufacturer.

- b. The permittee shall record each adjustment conducted under the procedures in condition V.M.6.a above in a permanently bound log book or other method approved by the Department which contains at a minimum: [IP #0037-I010, condition V.A.6.b; §2105.03]
 - 1) The date of the adjustment procedure;
 - 2) The name of the service company and technicians;
 - 3) Type of fuel combusted during the tune-up procedure;
 - 4) The operating rate or load after adjustment;
 - 5) The CO and NO_x emission rates before and after adjustment; and
 - 6) The excess oxygen rate before and after adjustment.

- c. The permittee shall keep all manufacturers' specifications and operation manuals on-site and available for Department inspection and copying for the life of the equipment. [IP #0037-I010, condition V.A.6.c; §2103.12.j]

N. Boilers B008 & B009: Cleaver Brooks 20.085 MMBtu/hr Boilers

Facility ID: B008 & B009
 Max. Design Rate/Units: 20.085 MMBtu/hr
 Raw Materials: Natural Gas
 Control Device(s): Low NO_x Burners

The permittee is also subject to the following conditions:

1. Restrictions

- a. Only commercial-quality natural gas shall be combusted in the boilers. [Installation Permit #0037-I011, condition V.B.1.a; §2103.12.a.2.D]
- b. Heat input shall be limited to 20.085 MMBtu/hr for each boiler based on the higher heating value of the fuel being combusted. [IP #0037-I011, condition V.B.1.b; §2103.12.a.2.D]
- c. The amount of natural gas combusted shall not exceed 175.945 mmscf in any consecutive 12-month period. [IP #0037-I011, condition V.B.1.c; §2103.12.a.2.D]
- d. Emissions of particulate matter shall not exceed 0.008 lb/MMBtu. [IP #0037-I011, condition V.B.1.d; §2103.12.a.2.D]
- e. Emissions of nitrogen oxides shall not exceed 9 ppm_{vd} at 3% O₂. [IP #0037-I011, condition V.B.1.e; §2103.12.a.2.D]
- f. Emissions from B008 and B009 shall not exceed the following at any time: [IP #0037-I011, condition V.B.1.f; §2103.12.a.2.D]

TABLE V-N-1 – Boiler B008 & B009 Emission Limitations

Pollutant	Short-Term Limits Per Boiler (lb/hr)	Long-Term Limits Per Boiler (tpy)*	Long-Term Limits Total (tpy)*
Particulate Matter	0.16	0.70	1.40
PM ₁₀	0.16	0.70	1.40
Nitrogen Oxides	0.21	0.92	1.83
Sulfur Oxides	0.012	0.052	0.105
Carbon Monoxide	0.75	3.29	6.57
VOCs	0.072	0.31	0.63

1. Includes both filterable and condensable particulate.
2. A year is defined as any consecutive 12-month period.

2. Testing Requirements

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [IP #0037-I011, condition V.B.2; §2103.12.h.1]

3. Monitoring Requirements

The permittee shall install and maintain the necessary meter(s) to determine and to record the monthly amount of natural gas combusted. [IP #0037-I011, condition V.B.3; §2103.12.i]

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following records: [IP #0037-I011, condition V.B.4.a; §2103.12.j]
 - 1) Monthly natural gas consumption; [§60.47c(g)(2)]
 - 2) Cold starts (date, time, and duration of each occurrence); and
 - 3) Records of operation, maintenance, inspection, calibration, tune-ups, and/or replacement of equipment.
- b. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [IP #0037-I011, condition V.B.4.b; §60.47c(i)]

5. Reporting Requirements

- a. The permittee shall submit semiannual reports to the Department in accordance with General Condition III.15. [IP #0037-I011, condition V.B.5.a; §2103.12.k; §60.47c(j)]
- b. The semiannual report shall include the following information: [IP #0037-I011, condition V.B.5.b; §2103.12.k]
 - 1) Calendar dates covered in the reporting period;
 - 2) The fuel combustion records required under condition V.N.4.a above;
 - 3) Cold start information; and
 - 4) Reasons for any noncompliance with the conditions in this permit.
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [IP #0037-I011, condition V.B.5.c; §2103.12.k.1]

6. Work Practice Standard:

- a. Boilers B008 and B009 shall be: [§2103.12.a.2.D; §2105.03]
 - 1) Operated in such a manner as not to cause air pollution;
 - 2) Operated and maintained in a manner consistent with good operating and maintenance practices; and
 - 3) Operated and maintained in accordance with the manufacturer's specifications and the applicable terms and conditions of this permit.

7. Additional Requirements:

- a. **Particulate Matter – Aggregation [§2104.02.a.5]**
If one or more fuel burning or combustion emissions units are vented into a common flue, such emissions units shall be considered one emissions unit and allowable particulate matter emissions shall be determined on the basis of total heat input to all emissions units vented to such common flue.

- b. **Sulfur Oxides – Aggregation [§2104.03.b]**
For purpose of §2104.03(a) only, if one or more fuel-burning or combustion emissions units are vented into a common flue, such emissions units shall be considered one emissions unit and allowable emissions shall be determined on the basis of total heat input to all emissions units vented to such common flue.

VI. MISCELLANEOUS

A. Process P001h: Polyester Resin Plant Resin Recovery Areas

Process Description: Polyester Resin Plant Resin Recovery Areas
Facility ID: S-11a & S-11b
Surface Area: 11a = 6 ft² & 11b = 3 ft²
Sump Temperature: Annual average 99 °F each
Control Device: None

1. **Restrictions:**

- a. The permittee shall not operate or allow to be operated the polyester resin plant unless the resin recovery areas S-11a & 11b are operated according to the following conditions: [2103.12.a.2.B]
- 1) The maximum exposed surface area of S-11a & S-11b shall not exceed 6 ft² & 3 ft² respectively; and
 - 2) The temperature of each area shall not exceed an annual average temperature of 99 °F.

2. **Testing Requirements:**

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.13 entitled "Emissions Testing." [§2103.12.h.1]

3. **Monitoring Requirements:**

The permittee shall inspect the areas daily for compliance with conditions VI.A.1.a.1) and VI.A.1.a.2) above and to ensure that lids are closed at all times except during transfers and draining of hoses. [§2103.12.a.2.B]

4. **Record Keeping Requirements:**

None except as provided elsewhere.

5. **Reporting Requirements:**

- a. The permittee shall report non-compliance information to the Department semiannually in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k]
- b. Reporting instances of non-compliance in accordance with condition VI.A.5.a above, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

6. **Work Practice Standards:**

None except as provided elsewhere.

B. G005: Polyester Resins Plant Solids Charging

Process Description: Reactor No. 42 Weigh Hopper, Blend Tanks Weigh Hopper, Isophthalic Acid Silo, Fumed Silica Silo

Raw Materials: solid isophthalic acid, fumed silica, other solid additives

Control Device: Enclosed System

1. Restrictions:

- a. The Permittee shall at no time, conduct or allow to be conducted, weigh hopper and silo operations unless the silos are completely enclosed at all times except for material loading and unloading and the subject process units pollution control systems are properly maintained and operated. [§2103.12.a.2.B]

2. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data: [§2103.12.j]
 - 1) Weigh hopper and silo throughput (monthly, and 12-month);
 - 2) Records of operation, maintenance, inspection, calibration and/or replacement of equipment.
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

3. Reporting Requirements:

- a. The permittee shall report non-compliance information required to be recorded by VI.B.2.b above semiannually to the Department within thirty days of the end of each calendar half. The reports shall contain all required information for the time period of the report. [§2103.12.k]
- b. Reporting instances of non-compliance in accordance with condition VI.B.3.a above, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

4. Work Practice Standards:

None except as provided elsewhere.

C. Sources of Minor Significance

The following table summarizes the processes and/or activities conducted at Ashland LLC that were determined to be of minor significance:

TABLE VI-C-1: Sources of Minor Significance

Facility ID	Source Description	Basis for Exemption
--	Polyvinyl Acetate (PVA) Beads	Total PTE is <0.6 tpy of PM ₁₀
D001	Gasoline Tank V-963	Total PTE is <0.15 tpy of VOC
F001	Roads and Vehicles	Total PTE is <1.8 tpy of PM and <0.34 tpy of PM ₁₀
G001	Laboratory Emission Sources	Laboratory equipment used exclusively for chemical or physical analyses with minimal VOC emissions
G002	Painting Operations	Total PTE is <0.5 tpy of VOC
G003	Parts Cleaning	Only non-VOC/non-HAP solvents are used
G004	Turnaround Maintenance	Total PTE is <5 lbs/yr of PM and < 3 lbs/yr of PM ₁₀
G006	Sandblasting	Total PTE is <0.2 tpy of PM ₁₀

1. Restrictions:

The permittee shall not use any VOC or HAP-containing solvents for parts cleaning operations at any time. [§2103.12.a.2.B]

2. Record Keeping Requirements:

Material safety data sheets for all parts cleaning solvents used at the facility shall be kept at the facility and be made available to the Department upon request for inspection and copying. [§2103.12.j]

VII. ALTERNATIVE OPERATING SCENARIOS

No alternative operating scenarios exist for this facility.

VIII. EMISSIONS LIMITATIONS SUMMARY

[This section is provided for informational purposes only and is not intended to be an applicable requirement.]

The tons per year emission limitations for the Ashland LLC Neville Island facility are summarized in the following table:

**TABLE VIII-1
Emission Limitations**

Pollutant	Annual Emission Limit (tons/year)*
Particulate Matter	8.406
PM₁₀	6.945
PM_{2.5}	6.945
Nitrogen Oxides (NO_x)	44.61
Sulfur Oxides (SO_x)	2.27
Carbon Monoxide (CO)	35.19
Volatile Organic Compounds (VOC)	35.51
Vinyl Toluene	0.44
Total HAPs	17.94
Styrene	8.92
Phthalic Anhydride	2.52
Maleic Anhydride	2.93
Methyl Methacrylate	2.1
Ethylene Glycol	0.48

* A year is defined as any consecutive 12-month period.