

West Virginia Department of Environmental Protection

Austin Caperton

Cabinet Secretary

Permit to Operate



Pursuant to
Title V
of the Clean Air Act

Issued to:

The Chemours Company FC, LLC

Belle Plant

(MMA/Higher Monomers)

R30-03900001-2019 (3 of 5)

A handwritten signature in blue ink, appearing to read "Laura M. Crowder".

Laura M. Crowder

Director, Division of Air Quality

Issued: October 1, 2019 • Effective: October 15, 2019
Expiration: October 1, 2024 • Renewal Application Due: April 1, 2024

Permit Number: **R30-03900001-2019 (3 of 5)**
Permittee: **The Chemours Company FC, LLC**
Facility Name: **Belle Plant**
Mailing Address: **901 W. DuPont Ave.**
Belle, WV 25015

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Belle, Kanawha County, West Virginia
Facility Mailing Address:	901 W. DuPont Ave. Belle, WV 25015
Telephone Number:	304-357-1000
Type of Business Entity:	Limited Liability Company
Facility Description:	Manufacture of various organic and agricultural chemicals
SIC Codes:	2869; 2821
UTM Coordinates:	451.90 km Easting • 4232.60 km Northing • Zone 17

Permit Writer: Mike Egnor

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Higher Monomers					
ACR001	553.010	Distillation apparatus	1936	<20,000 gal	None
ACR002	551.001	Distillation apparatus	1965	<20,000 gal	None
ACR003	552.009	Distillation apparatus	1970	<20,000 gal	None
ACR004	552.001	Distillation apparatus	1935/1973	<20,000 gal	None
ACR005	553.010	Heat exchanger	1936		None
ACR006	551.001	Heat exchanger	1965		None
ACR007	552.009	Heat exchanger	1960		None
ACR008	552.001	Heat exchanger	1956		None
ACR009	553.010	Heat exchanger	1942		None
ACR010	551.001	Heat exchanger	1965		None
ACR011	552.009	Heat exchanger	1965		None
ACR012	552.001	Heat exchanger	1941		None
ACR013	553.010	Vacuum equipment	1964	100 lb/hr dry air	None
ACR014	551.001	Vacuum equipment	1965	100 lb/hr dry air	None
ACR015	552.009	Vacuum equipment	1974	150 lb/hr dry air	None
ACR016	552.001	Vacuum equipment	1974	150 lb/hr dry air	None
ACR017	552.012	Storage tank	1942	<20,000 gal	None
ACR018	552.003	Storage tank	2014	<20,000 gal	None
ACR022	561.008	Storage tank	2017	<20,000 gal	None
ACR023	551.002	Storage tank	1936	<20,000 gal	None
ACR027	561.0013	Storage tank	2014	<20,000 gal	None
ACR030	554.008	Storage tank	1965	<20,000 gal	None
ACR031	554.004	Storage tank	1965	<20,000 gal	None
ACR032	554.002	Storage tank	1936	<20,000 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
ACR034	552.014	Storage tank	1940	<20,000 gal	None
ACR035	552.004	Storage tank	1940	<20,000 gal	None
ACR036	551.007	Storage tank	1965	<20,000 gal	None
ACR037	554.003	Storage tank	1965	<20,000 gal	None
ACR040A	565.009A	Storage tank	Modified 2008	50,000 gal	Internal Floating Roof ACRC2
ACR041	551.012	Storage tank	1940	<20,000 gal	None
ACR042	551.006	Storage tank	1959	<20,000 gal	None
ACR047	552.013	Storage tank	1939	<20,000 gal	None
ACR128	564.109	Storage tank	Rebuilt in 2013	>20,000 gal	None
MMA					
ACR201	561.005	Storage tank	1993	>20,000 gal	Internal Floating roof ACRC1
ACR202	525.002	Storage tank	1936	<20,000 gal	None
ACR203	525.003	Storage tank	1942	<20,000 gal	None
ACR204	525.004	Distillation apparatus	1943	<20,000 gal	None
ACR205	561.003/561.004	Jacketed pipe	1989	NA	None
ACR206	525.004	Heat exchanger	1940	NA	None
ACR207	525.004	Vacuum system	1989	NA	None
ACR208	561.003	Storage tank	1962	>20,000 gal	None
ACR210	581.001/581.002/ 581.003	Loading rack	NA	NA	None
Control Devices					
ACRC1	561.005	Floating Roof Tank	1993	> 151m ³	N/A
ACRC2	565.009A	Floating Roof Tank	2008	45,000 gallons	N/A

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-1002E	5/21/19
R13-1628A	7/17/07
R13-2742	4/1/08

2.0 General Conditions

2.1 Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2 Acronyms

CAAA	Clean Air Act Amendments	NSPS	New Source Performance Standards
CBI	Confidential Business Information	PM	Particulate Matter
CEM	Continuous Emission Monitor	PM₁₀	Particulate Matter less than 10µm in diameter
CES	Certified Emission Statement	pph	Pounds per Hour
C.F.R. or CFR	Code of Federal Regulations	ppm	Parts per Million
CO	Carbon Monoxide	PSD	Prevention of Significant Deterioration
C.S.R. or CSR	Codes of State Rules	psi	Pounds per Square Inch
DAQ	Division of Air Quality	SIC	Standard Industrial Classification
DEP	Department of Environmental Protection	SIP	State Implementation Plan
FOIA	Freedom of Information Act	SO₂	Sulfur Dioxide
HAP	Hazardous Air Pollutant	TAP	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	TPY	Tons per Year
HP	Horsepower	TRS	Total Reduced Sulfur
lbs/hr or lb/hr	Pounds per Hour	TSP	Total Suspended Particulate
LDAR	Leak Detection and Repair	USEPA	United States Environmental Protection Agency
m	Thousand	UTM	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	VEE	Visual Emissions Evaluation
mm	Million	VOC	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
mmft³/hr or mmcf/hr	Million Cubic Feet Burned per Hour		
NA or N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

- 2.4.1. 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.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. 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 pursuant to 45CSR§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

- 2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

- 2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

- 2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

- 2.9.1. 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 the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:
- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
 - b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
 - c. The change shall not qualify for the permit shield.
 - d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
 - e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
 - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
 - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

- 2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

- 2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:
- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

- 2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:
- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
 - b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

- 2.16.1. 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. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

[45CSR§30-5.1.f.2.]

2.17. Emergency

- 2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

[45CSR§30-5.7.a.]

- 2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.

[45CSR§30-5.7.b.]

- 2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. The permitted facility was at the time being properly operated;
- c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

- d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

- 2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

[45CSR§30-5.7.d.]

- 2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

[45CSR§30-5.7.e.]

2.18. Federally-Enforceable Requirements

- 2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

- 2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

- 2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing 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 Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

- 2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.
[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.
[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.
[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.
[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

- b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
- c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1 Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. [45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. [45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. [40 C.F.R. §61.145(b) and 45CSR34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. [45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11. [45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. [W.Va. Code § 22-5-4(a)(14)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

- 3.1.9. The permitted facility shall be constructed and operated in accordance with information filed in Permit Applications R13-1002, R13-1002A, R13-1002B, R13-1002C, R13-1002D, R13-1002E, and R13-1628, and any amendments thereto. The Director may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to.

[45CSR13, Permit No. R13-1002 - (Condition 2.5.1.), Permit No. R13-1628 - (Condition C.3.)]

- 3.1.10. **Maintenance of Air Pollution Control Equipment.** The permittee shall install, operate, and maintain all pollution control equipment in accordance with the manufacturer's specifications so as to provide the guaranteed minimum control efficiency, or with any more stringent control requirements as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR§13-5.10, Permit No. R13-2742 - (Condition 4.1.2.)]

3.2. Monitoring Requirements

N/A

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:
 - a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
 - b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test

methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.

- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language.
 2. The result of the test for each permit or rule condition.
 3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A, 45CSR13, Permit No. R13-2742 – (Condition 4.4.1)]

- 3.4.2. **Retention of records.** 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 monitoring sample, measurement, report, application, or record creation date. 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 the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§30-5.1.c. State-Enforceable only.]

- 3.4.4. **Record of Maintenance of Air Pollution Control Equipment.**

- a. The permittee shall maintain maintenance records relating to the failure and/or repair of air pollution control devices and fugitive emissions control systems. Such records shall contain, at a minimum, the equipment ID number, a brief description of the equipment, the date of failure and/or repair, the nature of the problem, actions taken, and the name or initials of the person making the record entry. In the event of air pollution control equipment, fugitive emissions control system, or system failure, these records shall document the permittee's effort to maintain proper and effective operation of such equipment and/or systems.
- b. Air pollution control equipment maintenance records shall be retained on-site for a period of five (5) years. Certified records, signed by a Responsible Official or an Authorized Representative shall be made available to the Secretary or a duly authorized representative upon request; and
- c. Maintenance records required by this section may be kept in electronic format. The document(s) shall be printed and certified by a Responsible Official or Authorized Representative upon request.

[45CSR§30-5.1.c]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

[45CSR§§30-4.4. and 5.1.c.3.D.]

- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

[45CSR§30-5.1.c.3.E.]

- 3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air Section (3ED21)
1650 Arch Street
Philadelphia, PA 19103-2029

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

¹For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status reports, Initial Notifications, etc.

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.
[45CSR§30-8.]

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. Deviations.

- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
 1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.
 2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
 4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.

[45CSR§30-5.1.c.3.B.]

- 3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.

[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

N/A

3.7. Permit Shield

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.
- 3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

N/A

4.0 (MMA/Higher Monomers)

4.1. Limitations and Standards

4.1.1. Emissions to the atmosphere from the following emission points shall not exceed the following:

Emission Unit ID	Emission Point ID	Process Unit	Pollutant	Maximum Emissions Rate	
				Lbs/hr	TPY
ACR201	561.005	42A Tank	MMA*	0.19	0.505
ACR203	525.003	372 Tank	MMA	2.0	0.02
ACR202	525.002	48-2 Tank	MMA	1.0	0.43
ACR208	561.003	#1 MMA Tank	MMA	0.38	1.67
ACR204	525.004	Stripper	MMA	0.089	0.39
ACR210	581.001, 581.002, and 581.003	Shipping	MMA	9.0	11.00

* Methyl Methacrylate (CAS 80-62-6)
 [45CSR13, Permit No. R13-1002 - (Condition 4.1.1.) (ACR201, ACR203, ACR202, ACR208, ACR204, ACR210)]

4.1.2. The Permittee shall not exceed a throughput of 211 production units per year of Methyl Methacrylate, based on a rolling 12 month average.
 [45CSR13, Permit No. R13-1002 - (Condition 4.1.2.) (ACR201, ACR203, ACR202, ACR208, ACR204, ACR210)]

4.1.3. Volatile organic compound emissions to the atmosphere shall not exceed 0.19 lbs/hr and 0.505 tons per year for the methyl methacrylate storage tank (ACR201).
 [45CSR13, Permit No. R13-1628 - (Condition A.1.) (ACR201)]

4.1.4. The Permittee shall maintain a TRE index value greater than 1.0 without use of VOC emission control devices.
 [45CSR16, 40CFR§60.662(c) (ACR204)]

4.1.5. The Permittee shall comply with the following limitations:

Emission Unit ID	Emission Point ID	Process Unit	Maximum Theoretical Emissions (MTE) of the Source (lbs/hr)	Control Device Description	Efficiency of Control Device	Maximum Allowable Hours of Operations (hrs/yr)	Maximum Allowable VOC Emissions	
							lb/hr	TPY
ACR201	561.005	42A Tank	19.0	FP/FS*	98.9%	8760	0.19	0.505
ACR040A	565.009	Tank (009)	10.0	----	----	8760	10.0	1.42

FP -- Floating Roof Primary Seal

FS -- Floating Roof Secondary Seal

[CO-R21-97-31, Condition III.1. (ACR201, ACR040A) (State Enforceable Only)]

4.1.6. The Permittee shall implement and maintain LDAR programs for the reduction of fugitive VOC emissions in all facility manufacturing process units subject to 45CSR§21-40 producing a product or products intermediate or final, in excess of 1000 megagrams (1100 tons) per year in accordance with 45CSR§21-37 or alternative procedures approved by the Director. This requirement shall apply to all units irrespective of whether or not such units produce as intermediates or final products, substances on the lists contained within 40CFR Part 60, 61, or 63.

[CO-R21-97-31, Condition III.2. and CO-R21-C-2001-10A(97), Condition III.1. (Fugitive) (State-Enforceable Only)]

4.1.7. The methyl methacrylate storage tank 42A (Emission Unit ID – ACR201, Emission Point ID – 561.005) shall be equipped as follows:

(1) A fixed roof in combination with an internal floating roof meeting the following specifications:

(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

- (C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.
- (iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
 - (iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.
 - (v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.
 - (vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.
 - (vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.
 - (viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.
 - (ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

[45CSR16, 40CFR§60.112b(a)(1), 45CSR13, Permit No. R13-1628 - (Condition B.1.) (ACR201 and ACRC1)]

- 4.1.8. Storage Tank identified as 3A Foreshots Tank (ACR040A) shall be operated and maintained in accordance with the following:
- a. The internal floating roof shall be equipped with a closure device consisting of a metallic shoe seal between the wall of the storage vessel and the floating roof edge.
[45CSR34, 40CFR §§63.2470(a), 63.1063(a)(1)(i)(B), and 65.43(a)(2)(ii), 45CSR13, Permit No. R13-2742 - (Condition 4.1.1.a.) (ACR040A and ACRC2)]
 - b. Deck Fittings. Openings through the deck of the floating roof shall be equipped as described in the following:
 - i. Each opening except those for automatic bleeder vents and rim space vents shall have its lower edge below the surface of the stored liquid;
 - ii. Each opening except those for automatic bleeder vents and rim space vents and deck drains shall be equipped with a deck cover. The deck cover shall be equipped with a gasket between the cover and the deck;
 - iii. Each automatic bleeder vents and rim space vents shall be equipped with a gasketed lid, pallet, flapper, or other closure device;

- iv. Each opening for a sample well or deck drain (that empties into the stored liquid) may be equipped with a slit fabric seal or similar device that covers at least 90 percent of the opening, instead of a deck cover; and
- v. Each cover on access hatches and gauge floats wells shall be designed to be bolted or fastened when closed.
[45CSR34, 40CFR§§63.1063(a)(2)(i) through (iii), (v), and (vi) 45CSR13, Permit No. R13-2742 - (Condition 4.1.1.b.) (ACR040A and ACRC2)]
- c. The floating roof shall float on the stored liquid at all times while the vessel is in service;
[45CSR34, 40CFR§63.1063(b)(1), 45CSR13, Permit No. R13-2742 - (Condition 4.1.1.c.) (ACR040A and ACRC2)]
- d. When the vessel is in service, but the liquid is insufficient to float the roof, the process of filling the tank to the point of refloating shall be continuous and shall be performed as soon as practical;
[45CSR34, 40CFR§63.1063(b)(2), 45CSR13, Permit No. R13-2742 - (Condition 4.1.1.d.) (ACR040A and ACRC2)]
- e. Each cover over an opening in the floating roof, except for automatic bleeder vents (vacuum breaker vents) and rim space vents, shall be closed at all times, except when the cover must be open for access;
[45CSR34, 40CFR§63.1063(b)(3), 45CSR13, Permit No. R13-2742 - (Condition 4.1.1.e.) (ACR040A and ACRC2)]
- f. Each automatic bleeder vent (vacuum breaker vent) and rim space vent shall be closed at all times, except when required to be open to relieve excess pressure or vacuum, in accordance with the manufacturer's design;
[45CSR34, 40CFR§63.1063(b)(4), 45CSR13, Permit No. R13-2742 - (Condition 4.1.1.f.) (ACR040A and ACRC2)]
- g. Each unslotted guidepole cap shall be closed at all times except when gauging the liquid level or taking samples;
[45CSR34, 40CFR§63.1063(b)(5), 45CSR13, Permit No. R13-2742 - (Condition 4.1.1.g.) (ACR040A and ACRC2)]
- h. Conditions that cause inspection failures under Condition 4.2.6 shall be repaired as specified:
 - i. If the inspection is performed while the storage vessel is not storing liquid, repairs shall be completed before the refilling of the storage vessel with liquid; or
 - ii. If the inspection is performed while the storage vessel is storing liquid, repairs shall be completed or vessel removed from service within 45 days. If a repair cannot be completed and the vessel cannot be emptied within 45 days, the permittee may use up to 2 extensions of up to 30 additional days each. Documentation of a decision to use an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the equipment will be repaired or the vessel will be completely emptied as soon as practical.
[45CSR34, 40CFR§§63.1063(e)(1) and (2), 45CSR13, Permit No. R13-2742 - (Condition 4.1.1.h.) (ACR040A and ACRC2)]

4.2. Monitoring Requirements

- 4.2.1. Compliance with the emissions limits set forth in Condition 4.1.5. shall be demonstrated by test or monitoring data, approved emission factors, material balances, and/or representative calculations in accordance with 45 CSR21.
[CO-R21-97-31, Condition III.1. (State-Enforceable Only)]
- 4.2.2. The owner or operator shall keep copies of all records required by 4.2.4. for at least 2 years. The record required by 4.2.3. will be kept for the life of the source.
[45CSR16, 40CFR§60.116b(a) (ACR201 and ACRCD1)]
- 4.2.3. The owner or operator of each storage vessel as specified in 4.2.2 of this permit shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.
[45CSR16, 40CFR§60.116b(b), 45CSR13, Permit No. R13-1628 - (Condition B.2.) (ACR201 and ACRCD1)]
- 4.2.4. Except as provided in 40 CFR§60.116b(f) and (g), the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.
[45CSR16, 40CFR§60.116b(c) (ACR201 and ACRCD1)]
- 4.2.5. For purposes of complying with Condition 4.1.4., the owner or operator of a facility affected by this subpart shall calculate the TRE index value of the vent stream using the equation for incineration in Equation 1 of this Condition for halogenated vent streams. The owner or operator of an affected facility with a nonhalogenated vent stream shall determine the TRE index value by calculating values using both the incinerator equation in Equation 1 and the flare equation in Equation 2 of this Condition and selecting the lower of the two values.

(1) The equation for calculating the TRE index value of a vent stream controlled by an incinerator is as follows:

Equation 1:

$$TRE = \frac{1}{E_{TOC}} \left[a + b(Q_s) + c(Q_s)^{0.88} + d(Q_s)(H_T) + e(Q_s)^{0.88}(H_T)^{0.88} + f(Y_s)^{0.5} \right]$$

(i) where for a vent stream flow rate (scm/min) at a standard temperature of 20 °C that is greater than or equal to 14.2 scm/min:

TRE=TRE index value.

Q_s=Vent stream flow rate (scm/min) at a standard temperature of 20 °C.

H_T=Vent stream net heating value (MJ/scm), where the net enthalpy per mole of vent stream is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C as in the definition of Q_s.

Y_s=Q_s for all vent stream categories listed in Table 1 except for Category E vent streams where

Y_s=(Q_s) (H_T)/3.6.

E_{TOC}=Hourly emissions of TOC reported in kg/hr.

a, b, c, d, e, and f are coefficients.

The set of coefficients that apply to a vent stream can be obtained from Table 1.

Table 1 - Total Resource Effectiveness Coefficients for Vent Streams Controlled by an Incinerator Subject to the New Source Performance Standards for Reactor Processes

	a	b	c	d	e	f
DESIGN CATEGORY A1. FOR HALOGENATED PROCESS VENT STREAMS, IF $0 \leq \text{NET HEATING VALUE (MJ/scm)} \leq 3.5$: Q_s = Vent Stream Flow Rate (scm/min)						
$14.2 \leq Q_s \leq 18.8$	19.1837	0.2758	0.75762	-0.13064	0	0.01025
$18.8 < Q_s \leq 699$	20.0056	0.2758	0.30387	-0.13064	0	0.01025
$699 < Q_s \leq 1,400$	39.8702	0.29973	0.30387	-0.13064	0	0.01449
$1,400 < Q_s \leq 2,100$	59.7348	0.31467	0.30387	-0.13064	0	0.01775
$2,100 < Q_s \leq 2,800$	79.5994	0.32572	0.30387	-0.13064	0	0.02049
$2,800 < Q_s \leq 3,500$	99.464	0.33456	0.30387	-0.13064	0	0.02291
DESIGN CATEGORY A2. FOR HALOGENATED PROCESS VENT STREAMS, IF NET HEATING VALUE (MJ/scm) > 3.5: Q_s = Vent Stream Flow Rate (scm/min)						
$14.2 < Q_s \leq 18.8$	18.8447	0.26742	-0.20044	0	0	0.01025
$18.8 < Q_s \leq 699$	19.6666	0.26742	-0.25332	0	0	0.01025
$699 < Q_s \leq 1,400$	39.1921	0.29062	-0.25332	0	0	0.01449
$1,400 < Q_s \leq 2,100$	58.7177	0.30511	-0.25332	0	0	0.01775
$2,100 < Q_s \leq 2,800$	78.2432	0.31582	-0.25332	0	0	0.02049
$2,800 < Q_s \leq 3,500$	97.7688	0.32439	-0.25332	0	0	0.02291
DESIGN CATEGORY B. FOR NONHALOGENATED PROCESS VENT STREAMS, IF $0 \leq \text{NET HEATING VALUE (MJ/scm)} \leq 0.48$: Q_s = Vent Stream Flow Rate (scm/min)						
$14.2 \leq Q_s \leq 1,340$	8.54245	0.10555	0.0903	-0.17109	0	0.01025
$1,340 < Q_s \leq 2,690$	16.9439	0.1147	0.0903	-0.17109	0	0.01449

2,690<Q _s ≤4,040	25.3453	0.12042	0.0903	-0.17109	0	0.01775
DESIGN CATEGORY C. FOR NONHALOGENATED PROCESS VENT STREAMS, IF 0.48<NET HEATING VALUE (MJ/scm)≤1.9: Q_s = Vent Stream Flow Rate (scm/min)						
14.2≤Q _s ≤1,340	9.25233	0.06105	0.31937	-0.16181	0	0.01025
1,340<Q _s ≤2,690	18.3636	0.06635	0.31937	-0.16181	0	0.01449
2,690<Q _s ≤4,040	27.4749	0.06965	0.31937	-0.16181	0	0.01775
DESIGN CATEGORY D. FOR NONHALOGENATED PROCESS VENT STREAMS, IF 1.9<NET HEATING VALUE (MJ/scm)≤3.6: Q_s = Vent Stream Flow Rate (scm/min)						
14.2≤Q _s ≤1,180	6.67868	0.06943	0.02582	0	0	0.01025
1,180<Q _s ≤2,370	13.2163	0.07546	0.02582	0	0	0.01449
2,370<Q _s ≤3,550	19.754	0.07922	0.02582	0	0	0.01755
DESIGN CATEGORY E. FOR NONHALOGENATED PROCESS VENT STREAMS, IF NET HEATING VALUE (MJ/scm)>3.6: Y_s = Dilution Flow Rate (scm/min) = (Q_s) (H_T)/3.6						
14.2≤Y _s ≤1,180	6.67868	0	0	-0.00707	0.0222	0.01025
1,180<Y _s ≤2,370	13.2163	0	0	-0.00707	0.02412	0.01449
2,370<Y _s ≤3,550	19.754	0	0	-0.00707	0.02533	0.01755

(ii) For a vent stream flow rate (scm/min) at a standard temperature of 20 °C that is less than 14.2 scm/min:

TRE=TRE index value.

Q_s=14.2 scm/min.

H_T=(FLOW)(HVAL)/14.2.

where the following inputs are used:

FLOW=Vent stream flow rate (scm/min), at a standard temperature of 20 °C.
 HVAL=Vent stream net heating value (MJ/ scm), where the net enthalpy per mole of vent stream is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C as in definition of Q_s.

Y_s=14.2 scm/min for all vent stream categories listed in Table 1 except for Category E

vent streams, where $Y_s=(14.2)(H_r)/3.6$.
 E_{roc} =Hourly emissions of TOC reported in hg/hr.
 a, b, c, d, e, and f are coefficients.

The set of coefficients that apply to vent stream can be obtained from Table 1.

(2) The equation for calculating the TRE index value of a vent stream controlled by a flare is as follows:

$$TRE = \frac{1}{E_{roc}} \left[a(Q_s) + b(Q_s)^{0.8} + c(Q_s)(H_r) + d(E_{roc}) + e \right]$$

where:

TRE=TRE index value.
 E_{roc} =Hourly emission rate of TOC reported in kg/hr.
 Q_s =Vent stream flow rate (scm/min) at a standard temperature of 20 °C.
 H_r =Vent stream net heating value (MJ/scm) where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C as in the definition of Q_s .
 a, b, c, d, and e are coefficients.

The set of coefficients that apply to a vent stream shall be obtained from Table 2.

Table 2 - Total Resource Effectiveness Coefficients for Vent Streams Controlled by a Flare Subject to the New Source Performance Standards for Reactor Processes

	a	b	c	d	e
$H_r < 11.2$ MJ/scm	2.25	0.288	-0.193	-0.0051	2.08
$H_r \geq 11.2$ MJ/scm	0.309	0.0619	-0.0043	-0.0034	2.08

[45CSR16, 40CFR§60.664(f) (ACR204)]

- 4.2.6. For the purpose of ensuring compliance with the emission standards for Group 1 Storage Tank of Table 4 to Subpart FFFF of Part 63 and Condition 4.1.8 of this permit, the permittee shall inspect the internal floating roof before initial filling and thereafter as stipulated in the items a and b. Such inspections shall be conducted in accordance with the following:
- a. Top side inspections shall be conducted once per year for items identified in c.i. through c.iii.;
 - b. Each time the vessel is completely emptied and degassed, or every 10 years, whichever occurs first, items identified in c.i. through c.iv. shall be inspected; and
 - c. The inspection shall be conducted by visually inspecting the floating roof deck, deck fitting, and rim seals from within the storage vessel. The inspection may be performed entirely from the top side of the floating roof, as long as there is visual access to all deck components specified in Condition 4.1.8 of this permit. If any of the following conditions exists during an inspection, this condition constitutes as an inspection failure.
 - i. Stored liquid on the floating roof;

- ii. Floating roof deck, deck fittings, or rim seals that are not functioning as designed (as specified in Condition 4.1.8.);
 - iii. Failure to comply with the operational requirements of Conditions 4.1.8.c through g; and
 - iv. Gaps of more than 0.32 cm (1/8 inch) between any deck fitting gasket, seal, or wiper (as required in Conditions 4.1.8.a and b) and any surface that it is intended to seal.
- [45CSR34, 40CFR§§63.1063(d)(1)(i), and (d)(1)(iii) through (d)(1)(v), 45CSR13, Permit No. R13-2742 - (Condition 4.2.1.) (ACR040A and ACRC2)]**

4.3. Testing Requirements

- 4.3.1. The permittee shall comply with paragraphs (1), (2), (3), and (4) of this condition.
- (1) The permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.
 - (2) The permittee shall visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in 40CFR§60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.
 - (3) The permittee shall visually inspect storage tank #42A (ACR201)
 - (i) at least every 5 years; or
 - (ii) as specified in paragraph (2) of this Condition.
 - (4) The permittee shall visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (2) and (3)(ii) of this condition and at intervals no greater than 5 years in the case of vessels specified in paragraph (3)(i) of this condition.
- [45CSR16, 40CFR§60.113b(a)(1), (2), (3), and (4) (ACR201 and ACRC1)]**

4.4. Recordkeeping Requirements

- 4.4.1. Each owner or operator of an affected facility subject to the provisions of Subpart NNN (Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing

Industry Distillation Operations) and seeking to demonstrate compliance with 4.1.4 of this permit shall keep up-to-date, readily accessible records of:

- (1) Any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal or addition of recovery equipment or a distillation unit;
- (2) Any recalculation of the TRE index value performed pursuant to 40CFR§60.664(g) or Condition 4.4.4. Condition 4.2.5; and
- (3) The results of any performance test performed pursuant to the methods and procedures required by 40CFR§60.664(e).

[45CSR16, 40CFR§60.665(h) (ACR204)]

- 4.4.2. For the purposes of determining compliance with Condition 4.1.2. based on production rates, the Permittee shall maintain daily and monthly records of throughput of the MMA Refining Unit. The monthly records shall include the rolling twelve (12) month total throughput for the MMA Refining Unit.
[45CSR13, Permit No. R13-1002 (Condition 4.4.1.) (ACR201, ACR203, ACR202, ACR208, ACR204, ACR210)]
- 4.4.3. For storage tank #42A (ACR201), the Permittee shall keep a record of each inspection performed as required by Condition 4.3.1. Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).
[45CSR16, 40CFR§60.115b(2) (ACR201 and ACRC1)]
- 4.4.4. In order to show compliance with Condition 4.1.4. of this Permit, the Permittee shall recalculate the TRE index value whenever process changes are made. Examples of process changes include changes in production capacity, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. The TRE index value shall be recalculated based on test data, or on best engineering estimates of the effects of the change to the recovery system.

Where the recalculated TRE index value is less than or equal to 1.0, the owner or operator shall notify the Administrator within 1 week of the recalculation and shall conduct a performance test according to the methods and procedures required by 40CFR§60.664 in order to determine compliance with 40CFR§60.662(a). Performance tests shall be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

Where the initial TRE index value is greater than 8.0 and the recalculated TRE index value is less than or equal to 8.0 but greater than 1.0, the Permittee shall conduct a performance test in accordance with 40CFR§60.8 and 40CFR§60.664 and shall comply with 40CFR§60.663, 40CFR§60.664, and 40CFR§60.665.

Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

[45CSR16, 40CFR§60.664(g) (ACR204)]

- 4.4.5. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment associated with Storage Tank ACR040A, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit No. R13-2742 (Condition 4.4.2.) (ACR040A and ACRC2)]
- 4.4.6. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment associated with Storage Tank ACR040A, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, Permit No. R13-2742 (Condition 4.4.3.) (ACR040A and ACRC2)]

- 4.4.7. The permittee shall keep records of the dimensions of the storage vessel, an analysis of the capacity of the storage vessel, and an identification of the liquid stored in the 3A Foreshots Tank (ACR040A). Such records shall be maintained as long as liquid is stored in the tank.

[45CSR34, 40CFR§63.1065(a), 45CSR13, Permit No. R13-2742 - (Condition 4.4.4.) (ACR040A and ACRC2)]

- 4.4.8. The permittee shall keep records of the inspection results. Records of passing inspections shall include items a and b of this condition. Records of inspection failures shall be included in the items a through e of this condition. All records shall be maintained in accordance with Condition 3.4.2. of this permit.

- a. Identification of the storage tank that was inspected;
- b. Date of the inspection;
- c. A description of all inspection failures;
- d. A description of all repairs and the dates such repairs were made; and
- e. The date the storage tank was removed from service, if applicable.

[45CSR34, and 40CFR§63.1065(b)(1), 45CSR13, Permit No. R13-2742 (Condition 4.4.5.) (ACR040A and ACRC2)]

- 4.4.9. The Permittee shall keep records of the information specified in paragraphs i through iv of this Condition for each process with Group 2 batch process vents or uncontrolled hydrogen halide and halogen HAP emissions from the sum of all batch and continuous process vents less than 1,000 lb/yr:

- i. A record of the day each batch was completed and/or the operating hours per day for continuous operations with hydrogen halide and halogen emissions.
- ii. A record of whether each batch operated was considered a standard batch.
- iii. The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch.

- iv. Records of the daily 365-day rolling summations of emissions, or alternative records that correlate to the emissions (e.g., number of batches), calculated no less frequently than monthly.

[45CSR34; 40CFR§63.2525(e)(4)]

4.5. Reporting Requirements

- 4.5.1. If an owner or operator elects at a later date to use an alternative provision of 40 CFR§60.662 with which he or she will comply, then the Administrator shall be notified by the owner or operator 90 days before implementing a change and, upon implementing the change, a performance test shall be performed as specified by 40CFR§60.664 within 180 days.
[45CSR16, 40CFR§60.665(a) (ACR204)]
- 4.5.2. Each owner or operator that seeks to comply with the requirements of Subpart NNN (Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry Distillation Operations) by complying with the requirements of 40CFR§60.660(c)(4), (c)(5), or (c)(6) or Condition 4.1.4 shall submit to the Administrator semiannual reports of the following recorded information:
Any recalculation of the TRE index value, as recorded under Condition 4.4.1.
[45CSR16, 40CFR§60.665(i)(7) (ACR204)]
- 4.5.3. If any of the conditions described in Condition 4.3.1.(2) are detected during the annual visual inspection required by Condition 4.3.1.(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
[45CSR16, 40CFR§60.115b(a)(3) (ACR201 and ACRC1)]
- 4.5.4. After each inspection required by Condition 4.3.1.(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 4.3.1.(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of 40CFR§60.112b(a)(1) or Condition 4.3.1.(3), and list each repair made.
[45CSR16, 40CFR§60.115b(a)(4) (ACR201 and ACRC1)]
- 4.5.5. The permittee shall provide the Director the opportunity to have an observer present during the inspection of the storage tank. The permittee shall notify the Director and/or Administrator at least 30 days before an inspection required by Condition 4.2.6. (40CFR§§63.1063(d)(1) or (d)(3)). If an inspection is unplanned and the permittee could not have known about the inspection 30 days in advance, then the permittee shall notify the Director at least 7 days before the inspection. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, the notification including written documentation may be made in writing and sent so that it is received by the Director at least 7 days before the inspection.
[45CSR34, 40CFR§63.1066(b)(1), 45CSR13, Permit No. R13-2742 - (Condition 4.5.1.) (ACR040A and ACRC2)]
- 4.5.6. The permittee shall submit to the Director a copy of the inspection record (as required in Condition 4.4.8.) within 45 days after an inspection failure occurs.
[45CSR34, 40 CFR§63.1066(b)(2), 45CSR13, Permit No. R13-2742 – (Condition 4.5.2.) (ACR040A and ACRC2)]

- 4.5.7. Request for extension under Condition 4.1.8.(h)(ii) shall be submitted to the Director in accordance with and contain the documentation per the mentioned condition.
[45CSR34, 40CFR§63.1063(e)(2), 45CSR13, Permit No. R13-2742 - (Condition 4.5.3.) (ACR040A and ACRC2)]
- 4.5.8. **40CFR63, Subpart FFFF Requirements for Group 2 Emission Points with a TRE index value greater than 1.9.** If a Group 2 emission point becomes a Group 1 emission point after the compliance date for the affected source, the emission point must comply with the Group 1 requirements beginning on the date the switch occurs. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs.
[45CSR34; 40CFR§63.2445(d)]
- 4.5.9. **40CFR63, Subpart FFFF Requirements for Notification of Process Change.** Except as specified in 4.5.9.2 below, whenever a process change is made or any change to the information submitted in the notification of compliance status report or a previous compliance report that is not within the scope of an existing operating scenario, the change must be documented in the compliance report. A process change does not include moving within a range of conditions identified in the standard batch and a nonstandard batch does not constitute a process change.
- 4.5.9.1 The notification must include all of the following information:
- (A) A description of the process change.
 - (B) Revisions to any of the information reported in the original notification of compliance status report under 40CFR§63.2520(d).
 - (C) Information required by the notification of compliance status report under 40CFR§63.2520(d) for changes involving the addition of processes or equipment at the affected source.
- 4.5.9.2 You must submit a report 60 days before the scheduled implementation date of any of the changes identified below:
- (A) Any change to the information contained in the precompliance report.
 - (B) A change in the status of a control device from small to large.
 - (C) A change from Group 2 to Group 1 for any emission point except for batch process vents that meet the conditions specified in 40CFR§63.2460(b)(6)(i).
[45CSR34; 40CFR§63.2520(e)(10)]

4.6. Compliance Plan

N/A